



# business models for shared value

Main Report



Network for  
Business Sustainability

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Prepared by  
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We suggest these new business models — where stakeholders replace shareholders as the focus of value maximization — could empower capitalism to address overwhelming global concerns.<sup>1</sup>

**MUHAMMAD YUNUS, BERTRAND MOINGEON, & LAURENCE LEHMANN-ORTEGA**

1 Yunus, M., Moingeon, B., & Lehmann-Ortega, L. 2010. Building social business models: Lessons from the Grameen experience. *Long Range Planning*, 43: 308–325.

Are ... companies truly transforming their business models in a deep and meaningful way? I have not seen that evidence.<sup>2</sup>

ERNST LIGTERINGEN, FORMER CEO OF GLOBAL REPORTING INITIATIVE

<sup>2</sup> The Economist Intelligence Unit. 2014. *New business models: Shared value in the 21st century*. London, UK: The Economist.

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Prepared by Florian Lüdeke-Freund, Lorenzo Massa, Nancy Bocken, Alan Brent, & Josephine Musango

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Dear reader:

We are pleased to share with you this report on business models for shared value. Many managers have recognized the financial benefits of responding to societal issues for some time. But the concept of shared value resulted in more managers fully embracing social action. Advocates of shared value are now leading a revolution in strategic management and innovation, urging business to find ways to create economic value in a way that also benefits society.

This report provides a state-of-the-art overview of research and practice in this area. It recognizes both the contributions of shared value and the ways in which the approach builds on earlier and more established concepts, in particular corporate sustainability.

For researchers, the report provides a comprehensive overview of the area and new avenues for future exploration. For managers, the content offers guidance, showing how businesses can strategically move toward shared value models. Managers may also wish to explore the Business Models for Shared Value [Executive Guide](#) and [Primer](#).

This research was inspired by the Leadership Council of the Network for Business Sustainability South Africa. Sustainability challenges in South Africa can make the need for shared value business approaches particularly acute. This report draws on the South African context, particularly in its geographically diverse case studies. However, the lessons of shared value apply worldwide.

This project was conducted by Florian Lüdeke-Freund (University of Hamburg, Germany) together with Lorenzo Massa (Vienna University of Economics and Business, Vienna, and École Polytechnique Fédérale de Lausanne, Switzerland), Nancy Bocken (TU Delft, The Netherlands, and University of Cambridge, United Kingdom), and Alan Brent and Josephine Musango (Stellenbosch University, South Africa). The

research also benefited from valuable insights from the team's Guidance Committee, which included Brian Chicksen (AngloGold Ashanti); Christopher Whitaker (Barloworld); Jannette Horn and Pieter van der Walt (Altron); Stephen Elliott-Wetmore (WWF); Sue Lund (Transnet); and Ralph Hamann, Kristy Faccer, and Nicola Ehrlich (NBS South Africa).

This systematic review is one of many that form the backbone of NBS. We are proud of our systematic reviews. Systematic reviews were popularized in the field of medicine as a research method to systematically and rigorously review the body of evidence from both academia and practice on a topic. The results of NBS's systematic reviews are authoritative accounts of the strategies and tactics of managing sustainably, as well as the gaps for further research. We hope this report will help you understand how you and your organizations can enhance your business model to reach more sustainable outcomes.

Sincerely,



Ralph Hamann, PhD  
Academic Director, Network for Business Sustainability South Africa  
Professor, University of Cape Town Graduate School of Business



Tima Bansal, PhD  
Executive Director, Network for Business Sustainability  
Professor, Richard Ivey School of Business

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# 1. introduction

## 1.1 Purpose of this Report

Over the past decade, the debate around the purpose of business (Handy, 2002) and the ability of capitalism to foster prosperity (Jackson, 2011) has intensified dramatically. The dominant market logic of free trade and maximizing shareholder value, perhaps best epitomized in Milton Friedman's famous 1970 *New York Times Magazine*<sup>3</sup> article, has been variously accused of being outdated, insufficient to create value for society, and perhaps even undesirable. Politicians and business leaders, consumers, academics, and grassroots activists increasingly realize that focusing on short-term financial performance is hampering the private sector's ability to provide innovations that allow both business and society to prosper, while simultaneously preserving environmental integrity.

Within this discussion, a new concept has been proposed and quickly moved up on business leaders' agendas: Michael Porter and Mark Kramer's notion of "shared value." It appeared originally in an article published in 2006 and was featured a few years later on the cover page of *Harvard Business Review*, where it was introduced as "the big idea" of "how to fix capitalism" (Porter and Kramer, 2006, 2011). Shared value proposes to redefine the purpose of business as "creating economic value in a way that also creates value for society by addressing its needs and challenges" (Porter and Kramer, 2011, p. 64).

Against this background, the purpose of this Network for Business Sustainability South Africa (NBS-SA) report is to offer an initial answer to the question:

### **How are innovative business models creating shared value?**

The focus on business models in relation to shared value is promising and challenging at the same time. While shared value can be achieved in many ways, including the general adoption of more or less innovative business policies and operating practices, markets create structural barriers to more radical solutions and to the ability of companies to fully align their search for profits with societal progress. Testimony to this fact is the tendency of social entrepreneurs — who rely on firms and

markets as vehicles for addressing social and environmental issues — to experiment with radically novel ways of doing business, often leading to the emergence of hybrid organizations (Battilana, Lee, Walker, & Dorsey, 2012; Florin & Schmidt, 2011). Hybrid organizations can be defined as organizations that mix elements such as value systems and action logics of various sectors of society into their business models, often exhibiting qualities of both non-profit and for-profit enterprises (e.g. Pache & Santos, 2013). They can be understood as representing the middle ground between pure non-profit organizations surviving on philanthropy and grants on one end, and pure for-profit organizations with little or no social mission on the other end (Haigh, Walker, Bacq, & Kickul, 2015). Hybridity exists because of a tension inherent in markets between financial profitability and environmental and social value creation.

Generally speaking, unregulated markets are quite inefficient in valuing environmental and social value creation. As a consequence, the rewards of green and social business initiatives are often ambiguous (Vogel, 2005). Corporate initiatives that create environmental and social value may result in advantages such as improved corporate reputation (Hart, 1995; Lozano, 2015; Russo & Fouts, 1997), enhanced learning capabilities (Shrivastava, 1995), or the ability to attract talented employees, but it often takes a long time before these effects occur. As a consequence, firms face structural impediments to fully embrace shared value. A growing number of authors suggest that one promising way to overcome the barriers to simultaneously being profitable and benefiting the natural environment and society is to adopt innovative business models, which means to develop new architectures of organizational value creation, delivery, and capture (e.g. Massa and Tucci, 2014; Schaltegger, Hansen, & Lüdeke-Freund, 2016).

This report builds on this emergent line of inquiry. Its primary purpose is to provide an overview of the state of the art of research at the nexus of business models and shared value and related business practice. More specifically, NBS-SA sought answers to these two questions:

### **What are leading examples of novel business models that create shared value and what do they have in common?**

<sup>3</sup> Friedman, M. 1970. The social responsibility of business is to increase its profits. *The New York Times Magazine*, September 13: 173–178.

## How can businesses learn from the experiences of those at the vanguard of sustainable business model innovation?

These questions resonate with the emerging field of research on business models for sustainability (Boons & Lüdeke-Freund, 2013; Bocken, Short, Rana, & Evans, 2014) as well as companies' increasing need to adopt effective sustainability innovation approaches (Adams, Jeanrenaud, Bessant, Denyer, & Overy, 2015), and finally to engage in shared value creation (Porter & Kramer, 2011). Therefore, this report focuses on three interlinked concepts and phenomena: business model innovation, corporate sustainability, and shared value creation. The report also pays specific attention to the reality of South Africa's sustainability challenges, which are to eliminate social inequality and move towards a green economy (Von Bormann & Gulati, 2014). However, the implications of this review should be of general interest to a broader audience of business practitioners and researchers.

The authors of this report decided to focus on business models for sustainability as the reference body of work. The reason for this decision is threefold:

- First, as noted above, shared value is a relatively recent concept. The literature on shared value, and in particular the scientific literature on business models for shared value, is scant.
- Second, the concept of shared value overlaps significantly with more mature concepts (Crane, Palazzo, Spence, & Matten, 2014), most notably corporate social responsibility (CSR) in its original meaning and corporate sustainability (see Appendix III for a comparison of CSR, corporate sustainability, and shared value). This overlap offers an opportunity to draw insights from these more established and mature research fields and further advance the notion of shared value.
- Third, these more mature concepts have already passed the test of market implementation. Therefore, they are to a lesser extent subject to the over-enthusiastic expectations that often accompany new management concepts (cf. Abrahamson, 1996 on "Management Fashion").

In a nutshell, the received literature on business and society in general, and sustainability in particular, offers an opportunity to take, we hope, a balanced perspective and avoid some of the mistakes incurred in the past with conceptually similar notions that became victims of management fashion.

Our literature review and interviews with practitioners and thought leaders revealed several insights related to the idea of business models for shared value, including:

**A view of business as an engine of societal progress.** The concept of shared value recognizes that societal contributions of companies are not limited to paying taxes, creating employment, or devising useful products. Business also has the potential, resources, and capabilities to develop innovative solutions that turn environmental and social issues (read: problems) into market opportunities. The idea of shared value, as put forward by Porter and Kramer (2011), is to increase the size of the pie for all, rather than reallocate the given. According to some of the practitioners interviewed for this report, this approach offers an evolution of their understanding of the role of business in society, emphasizing that they are not only economic agents but also drivers of societal progress. According to them, the concept of shared value motivates the search for opportunities to integrate business success (value creation for companies) with societal progress (value creation for society).

**A broader notion of value — from primarily economic to also social and environmental.** Consistent with the first point, shared value offers an extended interpretation of value creation resembling a triple bottom line approach integrating people, planet, and profit (Elkington, 1998). At the core, the notion of shared value implicitly points to a fundamental question: What is value? In many of the writings on shared value, it is explicitly recognized that value is something beyond economic value and can refer to environmental, social, and economic forms. Thus, it resonates to some degree with the triple bottom line idea put forward in the field of corporate sustainability. Although Porter and Kramer argue that shared value is different and "more" than sustainability, we emphasize the overlap of both concepts, rather than their (debatable) conceptual differences. In this report, we use corporate sustainability to refer to an integration of business activities with environmental and social management to create economic value, healthy ecosystems, and strong communities (NBS, 2015). If successfully implemented, corporate sustainability leads to shared value creation.

**A system-level perspective on value creation — from being predominantly centred on customers and shareholders to embracing firm's stakeholders.** Our review reveals a holistic and systemic perspective on value creation that is embedded in the very concept of sharing. The act of sharing necessarily requires the identification of the parties who



are sharing. When thinking about sustainable business models for shared value, a fundamental question emerges: For whom is value created and by whom? We find that shared value creation with innovative business models often involves an articulated value creation architecture, or business activity system, in which value is simultaneously created for the benefit of several stakeholders.

In this report, we start from the expectations for business models for sustainability and shared value and briefly present the major topics found in the literature. With the goal of offering a language and a way of thinking to support the identification of opportunities for shared value and to support the design of innovative business models, we introduce two frameworks. The Hourglass Model synthesizes and structures the most important elements of sustainability-oriented and shared value creation on a systems level (Section 4). A more general Roadmap Model links strategic considerations with opportunity identification (by means of a dedicated tool, the Sustainability Strategic Roadmap), while it supports corresponding business model innovation (by means of another dedicated tool, Business Model Thinking) (Section 5). Section 6 presents “archetypes” to support such innovation processes by offering role models to draw on, and Section 7 has a special focus on social enterprise business models. Finally, Section 8 takes a comprehensive perspective on the conditions needed to develop business models for sustainability and shared value, the general managerial challenges related to managing business model innovation in a shared value context, and a selection of tools available to help overcome these challenges.

## 1.2 Research Approach

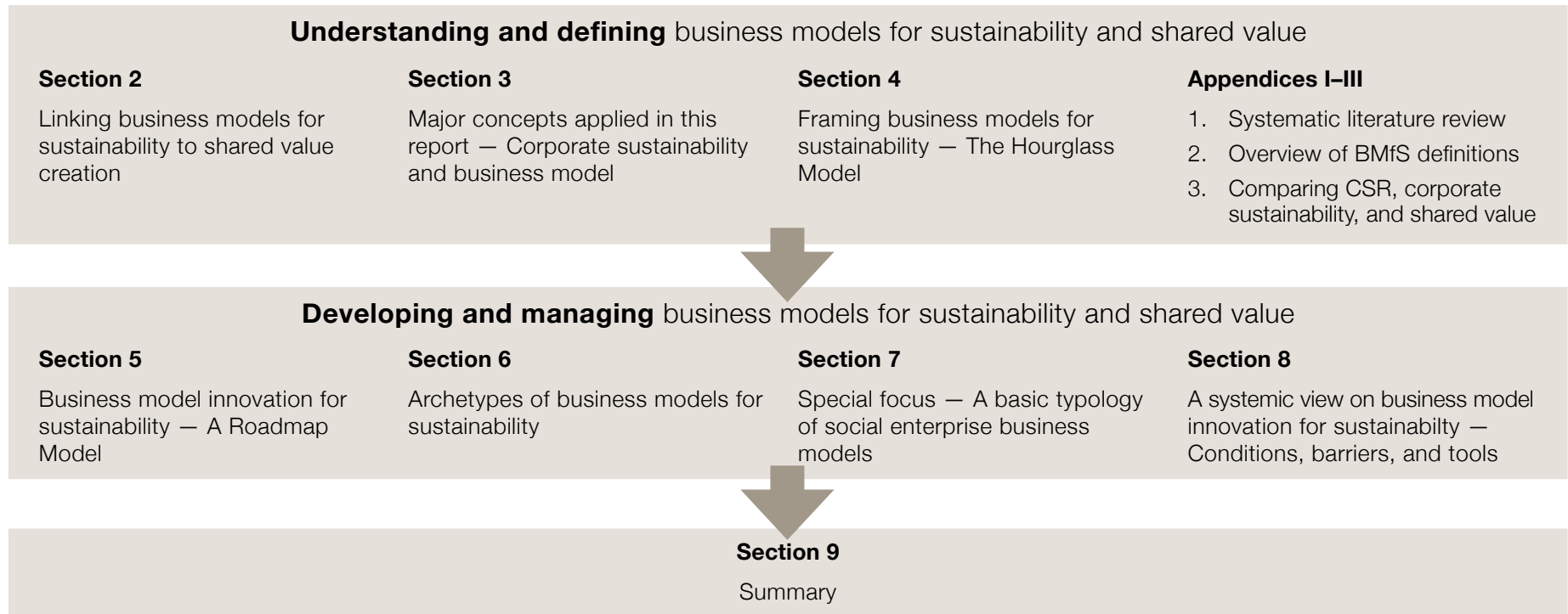
Our approach to compiling this report can be described as **learning from the literature**, rather than reporting from the literature. Considering the mixed audience of this report, who are business practitioners and academics, our aim is to build on the rich body of literature to provide concepts and frameworks that integrate the bits and pieces found in academic publications and develop these further, instead of merely reporting what we found. Therefore, we merged our insights from a systematic view of the literature with an overall framework rationale that tries to integrate **the big picture to help understand and define business models for sustainability and shared value** (Sections 2, 3, and 4) with more **practical issues of their development and management** (Sections 5, 6, 7, and 8) (Figure 1 on following page).

This report builds on a systematic literature review methodology (Fink, 2013), which is detailed in Appendix I. Our keyword search in three major publication databases led to an initial sample of 1,724 peer-reviewed scientific journal articles, of which 180 were identified as relevant to review the state of the art of research on sustainable business models. We also used nine relevant articles and reports from the grey literature published by think tanks, non-governmental organizations (NGOs), and institutions such as the Organisation for Economic Co-operation and Development (OECD).

Articles and other publications contained in our review were chosen mainly according to five criteria (Figure 2 on following page). First, the business model should be defined as a **central** theoretical framework or concept — that is, more than a mere buzzword. Second, the business model should be understood as an **entrepreneurial or managerial concept**, e.g. to realize strategies, to improve the market performance of innovations, or support organizational change (as opposed to concepts focusing on units of analysis other than organizations or companies, such as industry). This focus is different from information technology or operations management interpretations referring to business models as information technology (IT) architectures, enterprise or process models, which were among the major reasons to exclude some initially identified articles. Third, business activities should be understood as a **central means to address sustainability issues**, while, fourth, sustainability should be defined according to a **triple bottom line** or comparable perspective that integrates business interests with issues related to the natural environment, societal development, cultural, or other social concerns. And fifth, the articles should **focus on both** the business model concept and sustainability issues.

We did not systematically search for publications in the related fields of research on shared value and sustainability innovation because excellent and up-to-date reviews on these topics are currently available (Adams, Jeanrenaud, Bessant, Denyer, & Overy, 2015; Dembek, Singh, & Bhakoo, 2016; see also the NBS reviews *Innovating for Sustainability* (Adams, Jeanrenaud, Bessant, Overy, & Denyer, 2012) and *Measuring and Valuing Social Capital* (Acquaah, Amoako-Gyampah, & Nyathi, 2014)). In the course of this review, we highlight and explain the interrelations between sustainable business models and shared value creation based on our review and the works of Adams, Dembek, and their colleagues, while our focus remains on business models and their relevance for corporate sustainability.

**FIGURE 1: OVERVIEW OF REPORT STRUCTURE AND CONTENT**



**FIGURE 2: CRITERIA TO IDENTIFY RELEVANT LITERATURE ON BUSINESS MODELS FOR SUSTAINABILITY**



## 1.3 Scope and Limitations of this Report

### **This report takes a business and not a public policy perspective.**

That is, societal challenges and potential solutions are described from the point of view of business organizations, taking public policy and other forms of governmental intervention as given contingencies. Acknowledging that businesses are influenced and even shaped by laws and public policy, and vice versa, we focus on businesses and their value creation models as primary unit of analysis. However, dealing with sustainability and shared value creation inevitably requires an understanding of environmental and societal issues, and thus to a certain degree public policy frameworks, laws, and other governmental interventions.

**This report asks how companies create value for themselves and their stakeholders.** Extending classic business model theory, this report is basically about business model design that “yields value propositions that are compelling to customers, achieve advantageous cost and risk structures, and enable significant value capture” (Teece, 2010, p. 174) **and** does so with positive effects beyond a company’s boundaries for the benefit of financial and non-financial stakeholders, as well as the natural environment. The business perspective of this report (see previous point) allows a more detailed analysis of the core functions of business models – that is, creating, delivering, and capturing value by means of relevant value propositions (Zott, Amit, & Massa, 2011). However, a more inclusive perspective on value creation is required when it comes to business models for sustainability. The Hourglass Model intends to account for this fact.

**This report differentiates between value and values.** We use value mainly in terms of the outputs and outcomes of business activities. Applying more differentiated notions of value and values reveals two facets (Breuer and Lüdeke-Freund, 2017a, 2017b): first, value as forms of **expected output and outcome**, such as financial revenues or reduced social and environmental impacts (Ernst & Young [EY] and International Integrated Reporting Council [IIRC], 2013); and second, values as **subjective notions of the desirable** that are expressed as beliefs, attitudes, and behaviours (Schwartz, 2012). As such, values are fundamental criteria for individual, organizational, and societal evaluations and decision-making. If not stated otherwise, we use the notion of value to refer to the valuable outputs and outcomes of business activities.

**Some cases in this report take a South African perspective.** South Africa is the only country worldwide with a constitution that recognizes sustainable development as a human right (Du Plooy, 2006). Publicly listed companies are obligated to report in detail on their sustainability activities and performance. However, South Africa’s society and its development path indicate unsustainable patterns, environmentally, socially, and economically (Department of Environmental Affairs [DEA] and United Nations Environment Programme [UNEP], 2013). As a result, South African companies face diverse and interlinked business and societal challenges in terms of sustainable and shared value creation. Studying these companies offers insights into challenges and solutions that companies around the world can learn from.

Some South African companies have found ways to contribute to the country’s overall development through their business activities, namely by creating business cases, and maybe even business models, for sustainability. Some of these companies are presented in this report. But while obvious forms of social value creation are well aligned with companies’ self-interests, such as employment and access to products and services, deeper-rooted problems, such as the polarized education system, HIV/AIDS, insufficient public infrastructure, and the unequal distribution of wealth between (predominantly) black and white South Africans, are much harder to tackle from a business perspective. Entrepreneurs and managers must consider the ecological and social foundations of human existence. From a corporate sustainability and shared value perspective, thoughtless economic growth is not an option. WWF South Africa describes the tensions between the country’s necessary transition towards a green economy and the need to integrate it with socio-economic progress (WWF South Africa, 2013).

This report aims to identify current best practices in terms of business model innovation to help companies solve these problems and create shared value through their own business models for sustainability.

## 2. linking business models for sustainability to shared value creation

Shared value results from “policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates” (Porter & Kramer, 2011, p. 66). According to its originators, the idea of shared value is different from concepts such as CSR, corporate sustainability, business ethics, or values-based leadership. Furthermore, “shared value is not social responsibility, philanthropy, or even sustainability, but a new way to achieve economic success. It is not on the margin of what companies do but at the centre” (Porter & Kramer, 2011, p. 64). Porter and Kramer identify its next of kin as CSR, to which they add a strategy perspective (see also Porter & Kramer, 2006). According to them, traditional CSR implies contradictions and trade-offs between the manifold needs of society and the particular interests of companies. Often, CSR and sustainability initiatives are detached from business strategies and serve “window dressing” purposes with limited societal impact (e.g. Crilly, Zollo, & Hansen, 2012; Fiss & Zajac, 2006). Porter and Kramer propose shared value as a bridge between the self-interest of companies and societal progress. A firm’s business interests become a lever to enhance environmental and social well-being, achieved through redefining markets, revising value creation processes, and renewing business–community relationships. The former two aspects directly speak to business model innovation (Section 3.2.4).

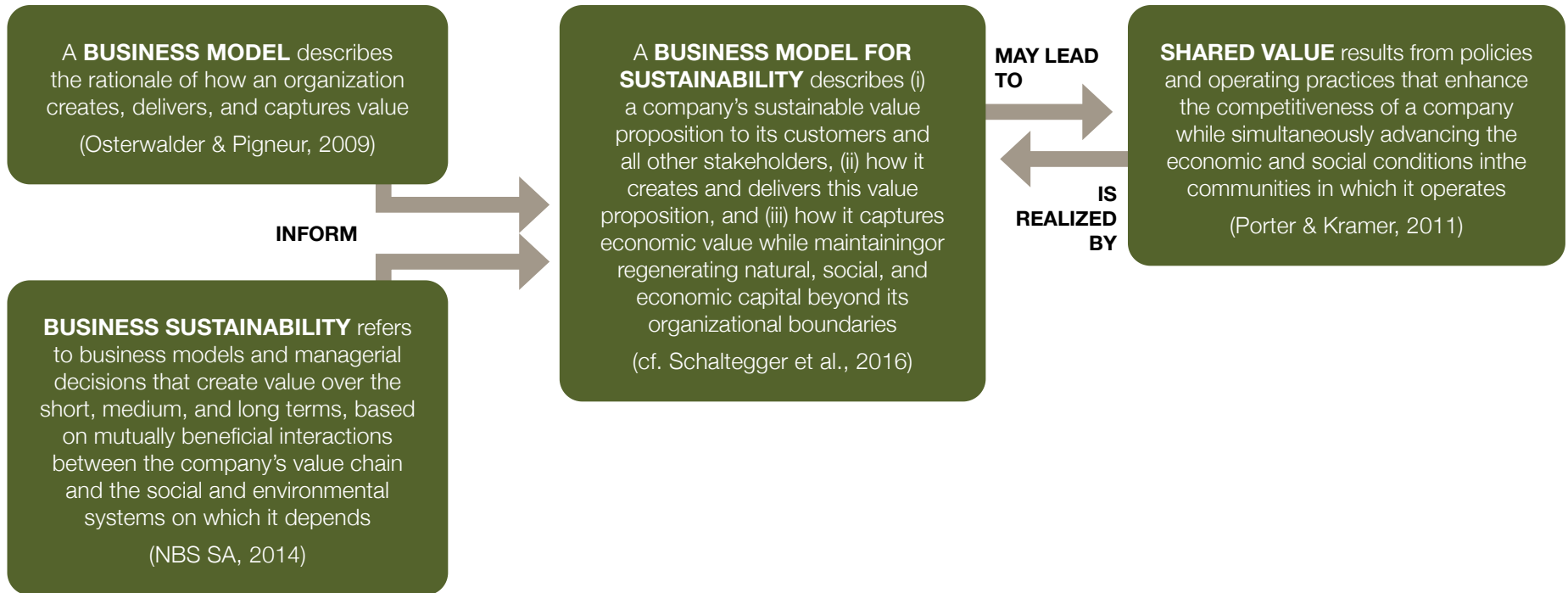
While we fully acknowledge the overarching question and intention motivating this review report — **How are innovative business models creating shared value?** — we see that the received literature in CSR and sustainability has much to offer. First, shared value is a young concept and the business model literature dedicated to it is scant. Second, shared value is characterized by a significant conceptual overlap with the more mature notions of CSR (e.g. Carroll, 1979; Carroll & Shabana, 2010; Davis, 1960) and corporate sustainability (e.g. Gladwin, Kenelly, & Krause, 1995; Montiel, 2008). Such overlaps offer opportunities in terms of cross-fertilizing insights and drawing from more established and mature research fields.<sup>4</sup> Third, and related, we are careful not to fall into line with the spreading use of Porter and Kramer’s concept in spaces where CSR

<sup>4</sup> See Appendix III for a comparison of CSR, corporate sustainability, and shared value.

or corporate sustainability have been, and still are, helpful in analyzing and organizing the role of business in society — despite their particular shortcomings, which we also have to accept.

This is not about preserving (academic) tradition. Rather it is about acknowledging the original contributions and meaning of overlapping concepts. At the same time, our approach is the manifestation of prudence, the desire to avoid over-enthusiasm for a particular management fashion. Here, we listen to the critique of Crane, Palazzo, Spence, and Matten (2014), who argue that shared value is an instrumental concept that subscribes to a “reductionist view of the purpose of business” (p. 143), namely to create economic value only, and adds the strategic search for win–win potentials with societal development. Shared value is thus an instrumental approach that does not redefine or broaden the purpose of business in society, but seeks profit-driven win–win situations. This critique is also associated with the concept of corporate sustainability (cf. Crane, Palazzo, Spence, & Matten, 2014; Hahn, Figge, Pinkse, & Preuss, 2010; see Section 8.1 for further motivations to engage in corporate sustainability beyond instrumentalism). However, decades of CSR and corporate sustainability research and practice have provided theories and concepts that aid us in answering the question of how innovative business models can change the way companies create value.

**FIGURE 3: CONCEPTUAL INTERRELATIONS BETWEEN BMFS AND SHARED VALUE CREATION**



We connect the notion of “business model for sustainability,” or BMfS, to the shared value concept as shown in Figure 3. The conventional business model concept, here following Osterwalder and Pigneur (2009), must be extended to acknowledge the particular normative goals of corporate sustainability. Based on the resulting definition of a BMfS, one could argue that it supports shared value as it strives for multiple value creation (Section 3.2.2), which is another way of referring to creating shared value for business and society.

However, while every BMfS potentially creates shared value, not every shared value initiative builds on a BMfS. This is because of the specific focus of the business model concept. While initiatives to increase worker safety, employee skills, or reduced resource use might lead to forms of shared value (cf. Porter & Kramer, 2011), these do not necessarily touch a company's business model or involve business model innovation, as is shown by the case of Nestlé in South Africa (Case box 1).



## CASE BOX 1: NESTLÉ, SOUTH AFRICA

### NESTLÉ: CREATING SHARED VALUE THROUGH COLLABORATIVE RESOURCE MANAGEMENT

Nestlé is recognized as a global supplier of food products. Their aim is to be a global leader in “nutrition, health, and wellness.” Through their products and services, employment, extensive supplier networks, and global economic contributions, Nestlé affects the lives of millions. In fact, 4.1 million families around the world earn a living because of Nestlé, including many rural smallholders in developing countries. In 2014, the company supported the livelihoods of 695,000 farmers and directly employed 339,456 people across 200 countries. Of these, more than 3,500 were employed in eight factories situated in rural and peri-urban areas of South Africa (Nestlé, 2014).

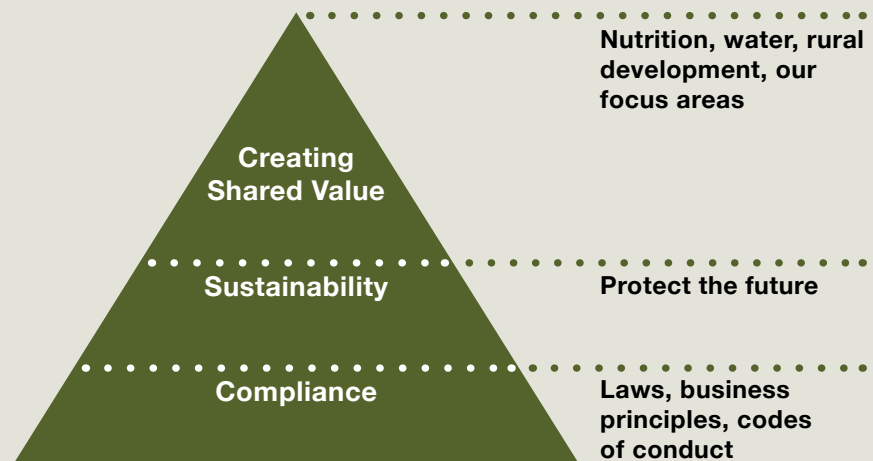
“We believe that for a company to be successful over the long term and create value for shareholders, it must create value for society” (Nestlé, 2014). For Nestlé, this commitment manifests in their 10 corporate business principles focused on consumers, human rights, and labour practices; Nestlé’s people, suppliers, and customers; and the environment.

Naturally, the socio-economic value creation described above is a basic requirement for successful business. However, being a global leader brings Nestlé not only a duty to operate responsibly but also an opportunity to create long-term positive value for society. In line with Porter and Kramer’s concept (2011), Nestlé refers to this approach as “creating shared value” (CSV). They aim to embed CSV firmly in holistic management thinking across all business sectors (illustrated in the CSV hierarchy below). Thus, they seek to find better ways to collaborate and secure collective action, which is key in addressing society’s most critical challenges and for maximizing a company’s potential shared value creation. Nestlé’s 10 corporate business principles also highlight areas in which they strive to create shared value: nutrition, health, and wellness; water; and agriculture and rural development.

These three areas represent the pinnacle of CSV because they have an instrumental influence on Nestlé’s core business. In the South African context, nutrition, rural development, and water are top priorities, representing business opportunities and operational challenges.

Water and energy shortages have severely impacted Nestlé’s production activities in South Africa, making these factors a business imperative. In response, Nestlé is active at different levels in the country. Nestlé engages with government authorities through a public–private partnership called the Strategic Water Partners Network. This partnership works collectively with local stakeholders, creating shared value. At the local level, Nestlé’s Mossel Bay factory is implementing their own “Zer-Eau” water withdrawal initiative, which seeks to achieve zero municipal water use for factory processes (on the sustainability level of the CSV hierarchy). In addition, in its local milk supply chain, the company promotes smarter water monitoring and management techniques to dairy farmers to help protect the local water catchments from overuse. Nestlé worked with a leading NGO, Conservation South Africa, to produce The Sustainable Dairy Handbook, a guideline to help dairy farmers implement best practices in sustainable agriculture and resource conservation.

#### CREATING SHARED VALUE



Nestlé’s CSV hierarchy (source: Nestlé, 2014, p. 4).

# 3. major concepts applied in this report — corporate sustainability and business model

This section presents the foundations required to understand and define business models for sustainability (BMfS) and shared value. It introduces central concepts — corporate sustainability and business model — and synthesizes these by briefly discussing the major features of BMfS and business model innovation for sustainability and shared value.

## 3.1 Corporate Sustainability

Although we see some commonalities between corporate sustainability and shared value, and know that the latter is more appealing to companies in practice, we perceive a lack of conceptual guidance on the side of shared value. In practice, this gap can be closed with corresponding business consulting concepts. But in academic research, to which this report belongs, this lack of guidance is critical. Therefore, we decided to focus our review on publications that are mainly located at the intersections of business model and sustainability research.

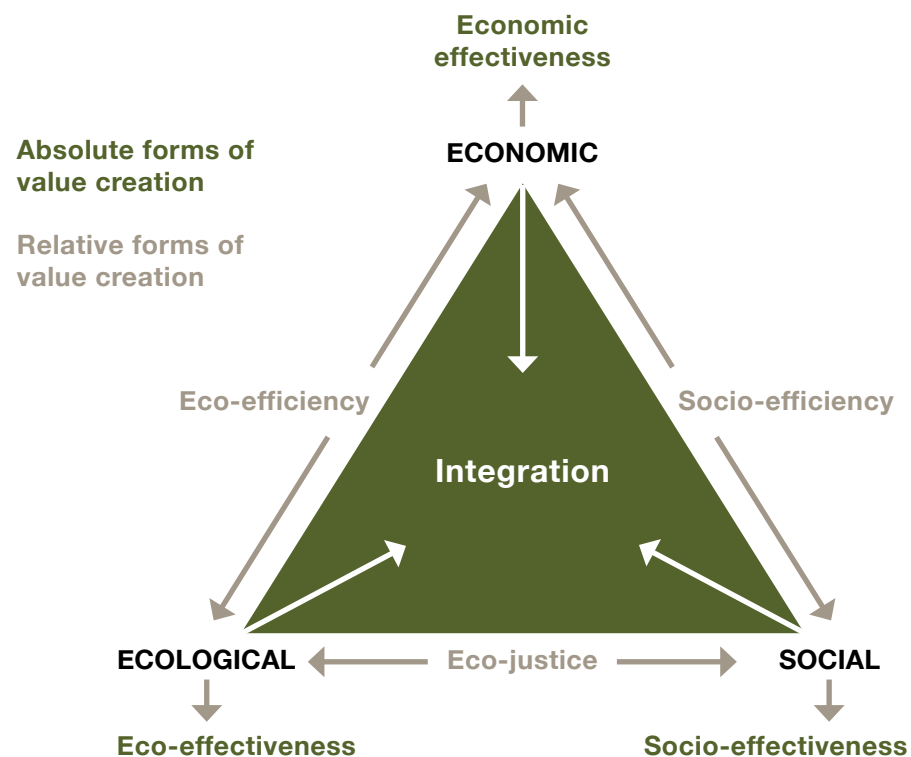
The conceptual framework underpinning this report builds on the notion of business sustainability put forward by NBS (2015) as “business models and decisions that create economic value and that benefit the world today and tomorrow.” Adding some more detail to this definition, we can say that “business sustainability refers to business models and managerial decisions that create value over the short, medium and long term, based on mutually beneficial interactions between the company’s value chain and the social and environmental systems on which it depends” (NBS-SA, 2014, p. 3). Business sustainability, used synonymously with “corporate sustainability” in this report (cf. Schaltegger & Burritt, 2005), poses various challenges for entrepreneurs and managers in general, and for the development and management of business models in particular.

### 3.1.1 MAJOR CHALLENGES

The challenges of corporate sustainability can be structured according to the three spheres of sustainable development — natural environment,

society, and economy — and absolute and relative business contributions to these spheres (Schaltegger, 2013). Figure 4 summarizes these challenges and defines their integration as the overarching goal of corporate sustainability management — i.e. to achieve positive contributions in all three spheres through business activities. The literature proposes various key performance indicators and accounting systems to manage a company’s effectiveness and efficiency. These can be classified according to the illustration shown in Figure 4.

**FIGURE 4: MAJOR CHALLENGES OF CORPORATE SUSTAINABILITY (BASED ON SCHALTEGGER, 2013)**



Concepts at the three corners represent a company's **effectiveness** in terms of positive contributions to the ecological, social, and economic spheres. Effectiveness is measured in absolute terms (e.g. tons of waste avoided, additional income in poor regions) and indicates improvements in a single sphere (e.g. the natural environment), contributing to the overall goal of economic value creation, healthy ecosystems, and strong communities (cf. NBS, 2015).

- Ecological effectiveness (eco-effectiveness) represents absolute reductions of a company's negative impact on the environment and absolute improvements of the state of the natural environment. It relates to corporate environmental management.
- Social effectiveness (socio-effectiveness) represents absolute performance with regard to social and cultural demands and to maintaining and enhancing the legitimacy of business activities. It relates to corporate social management.
- Economic effectiveness represents the traditional aim of business management, economic success. Sustainability managers are challenged to support economic effectiveness and help business leaders with the other two spheres.

Business managers are used to working with different kinds of relative measures indicating the **efficiency** of their activities. Efficiency measures can be used to describe the relationship between the absolute achievements in the different spheres of corporate sustainability:

- Ecological efficiency (eco-efficiency) measures the relative proportions of an economic and a physical measure (e.g. revenues to tons of waste). It can be defined as the ratio of economic value added to environmental impact added.
- Social efficiency (socio-efficiency) measures the relative proportions of an economic and a social measure (e.g. revenues to number of staff accidents). Societal development in a broader sense can also be measured (e.g. additional income per unit of turnover).
- Ecological justice (eco-justice) reflects the relationships of ecological and social objectives and indicators (e.g. environmental impacts relative to poverty). Eco-justice addresses, inter alia, questions of a just distribution of common natural resources.

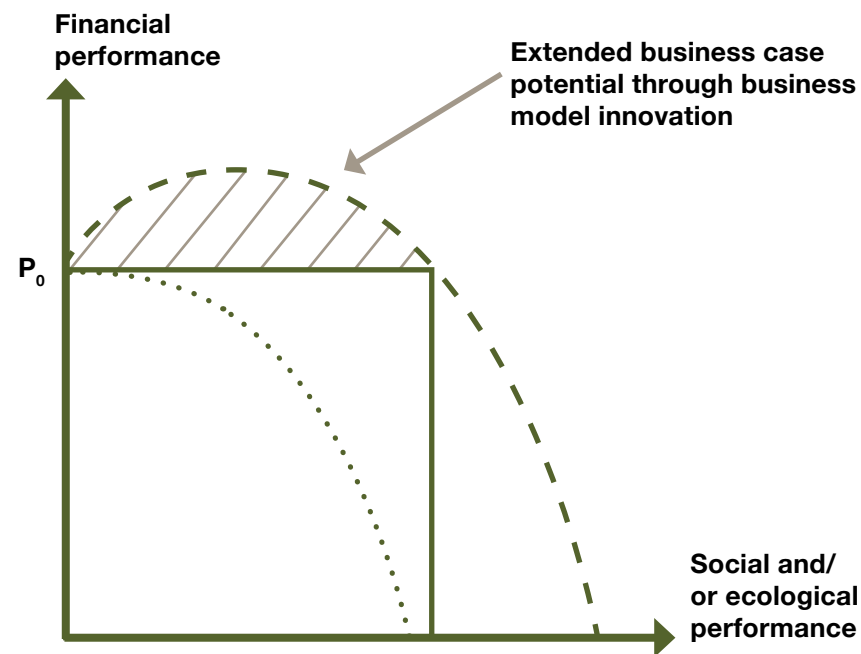
Our review identifies a variety of cases and concepts of business model innovation dealing with the challenges of being effective and efficient in the multiple spheres of corporate sustainability. As shown in Appendix I,

two major fields in which sustainable business model innovation plays an increasingly prominent role are “base of the pyramid” (BoP) approaches addressing social issues in developing countries, and green and technology-driven innovations to support cleaner production and consumption.

### 3.1.2 IN SEARCH OF STRONG BUSINESS CASES

Corporate sustainability management aims to deal with the challenges described above in a way that contributes to business success **and** societal progress. If both are achieved in concert, so-called **business cases for sustainability** will result (Schaltegger, Lüdeke-Freund, & Hansen, 2012; Willard, 2012). However, existing research comes to one conclusion: business cases for sustainability do not just happen; they have to be actively created. Theory and practice show that most companies have the potential to create business cases for sustainability, but this potential is often neglected because of distorted accounting and management systems.

**FIGURE 5: TRAJECTORIES OF CORPORATE DEVELOPMENT (BASED ON SCHALTEGGER & BURRITT, 2005)**



The particular approach that motivated this report is **business model innovation**, which has only recently been understood as a means to enhance and capitalize on companies' potential to create business cases for sustainability (Lüdeke-Freund, 2013). Of course, business model innovation does not automatically offer "ready-made" business cases. But understanding its particular levers to align a company's value creation with societal needs is a promising way to tackle sustainability challenges **through** business activities. Therefore, aligning interests, thinking systemically, and purposely addressing environmental and societal needs are crucial for the development and management of BMfS (Bocken, Rana, & Short, 2015; Bocken, Short, Rana, & Evans, 2013; Stubbs & Cocklin, 2008).

But not all business cases are equal. Figure 5 distinguishes weak and strong forms (see Neumayer, 2013, for a discussion of weak and strong sustainability). When a company improves its ecological and/or social performance at the cost of its financial performance (which actually would not qualify as a "business" case), or vice versa, it is on a trajectory towards weakly sustainable corporate development (indicated by the lower dotted curve). Strong cases, on the other hand, integrate ecological, social, **and** economic performance (indicated by the upper dashed curve and the hatched area). Ideally, real BMfS allow companies to create strongly sustainable business cases (cf. Upward & Jones, 2016), i.e. movements towards the upper right in Figure 5.

In a broader sense, we could also subsume hybrid forms of organizations that merge profit and non-profit "cases" under BMfS (e.g. social enterprise business models; Section 7). The more we relieve the profit motive and leave the instrumental perspective of corporate sustainability behind, the more we approach the area of organizational hybridization and enter the field of new business ventures and corporate spin-offs that experiment with non-traditional business rationales (e.g. Florin & Schmidt, 2011; Grassl, 2012; Michelini & Fiorentino, 2012). As we show in Section 3.2, such approaches are an important and dynamically growing part of the wider field of research on BMfS and shared value creation.

## 3.2 From Business Model to Business Model for Sustainability (BMfS)

The second foundation of this report is the business model concept, which is generally used to describe the way a company does business. Its most prominent definition, according to our review, is the one by

Osterwalder and Pigneur (2009, p. 14): "A business model describes the rationale of how an organization creates, delivers, and captures value." Although this is a useful starting point, further conditions must be defined for business models for sustainability. In the following, we introduce the business model concept in general (Section 3.2.1) and then move on to the idea of business models for sustainability (Section 3.2.2).

### 3.2.1 THE BUSINESS MODEL CONCEPT

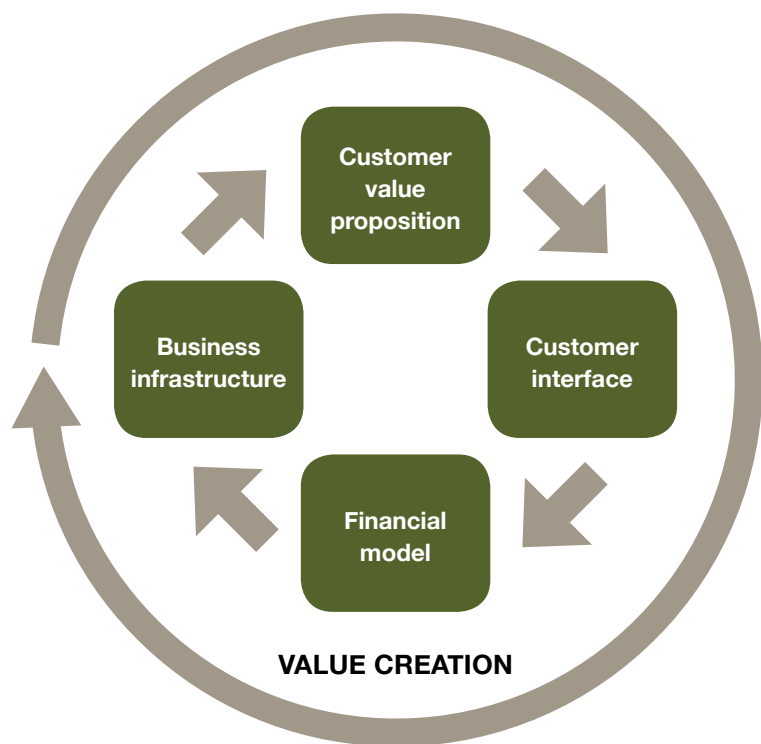
The International Integrated Reporting Council (IIRC) identifies five major applications of the business model concept in practice. While the classification is useful for several reporting purposes, we focus on its function as a representation of organizational value creation (Table 1). Despite varying definitions, there is agreement that the business model can be used to describe, analyze, communicate, and design the value creation, delivery, and capture infrastructure of a business (for reviews see Wirtz, Pistoia, Ullrich, & Göttel, 2016; Zott, Amit, & Massa, 2011). These functions apply to different scales, ranging from individual entrepreneurs to business units and whole industries (Hemphill, 2013; Svejnova, Planellas, & Vives, 2010).

**TABLE 1: APPROACHES TO BUSINESS MODEL REPORTING IN PRACTICE IDENTIFIED BY THE IIRC (IN CHARTERED INSTITUTE OF MANAGEMENT ACCOUNTANTS, INTERNATIONAL FEDERATION OF ACCOUNTANTS, AND PRICEWATERHOUSECOOPERS, 2013, P. 4)**

Organizational aspect	Description
Organizational overview	What the entity does, how it is structured, or where it operates.
Business strategy	Key aspects of an organization's strategy.
Value chain	Place in the value chain and dependencies on key inputs.
Financial performance	How the business model drives profitability or revenue generation.
Value creation	How the organization's inputs, activities, and relationships lead to value and desired outcomes.

A well-designed and successfully implemented business model creates value for the company and its customers, as well as stakeholders such as suppliers and business partners. Therefore, the business model attempts to explain how resources, capabilities, and activities are geared to providing a **customer value proposition**, which represents the benefits offered to customers through products and services. Figure 6, which is based on the most general business model elements defined by Osterwalder and Pigneur (2009), shows that a **business infrastructure** is required to make and deliver the customer value proposition (based on own and partner resources, capabilities, and activities), which is communicated and delivered through **customer interfaces** (based on customer relationships and channels). The underlying **financial model** defines capital and revenue sources to cover the costs associated with the other business model elements, aiming to generate a financial surplus.

**FIGURE 6: BUSINESS MODELS DESCRIBE HOW VALUE IS CREATED (BASED ON OSTERWALDER & PIGNEUR, 2009)**



Financial profits are required to maintain and improve a company’s business model. Therefore, Figure 6, which is our modified version of the Osterwalder and Pigneur (2009) concept, indicates a quasi-circular value flow. The main goal is to support a company’s value creation by modelling the interplay of the above-mentioned elements. Their interplay creates value for different business model stakeholders, such as suppliers (within the business infrastructure), customers (within the customer interface), owners, and shareholders (within the financial model). The value for these stakeholders is delivered through multiple channels (e.g. supply contracts for partners, shops for customers, or dividend payments for shareholders), and captured in diverse forms (e.g. payments for suppliers, use value for customers, or profits for shareholders). Figure 6 expresses this more holistic view by embedding all business model elements within the overall function of value creation.

The quasi-circular value flow indicates that a company’s value creation has its foundation in a business infrastructure and that part of the value created is retained through the company’s financial model, in order to sustain its operations. This company-focused perspective, which is representative of traditional business model concepts, will be extended in the following discussion. An alternative representation (i.e. the Hourglass Model) is proposed in Section 4.

This approach to modelling value creation must be extended to consider the challenges of corporate sustainability and shared value creation. An increasing number of publications discusses the linkages between business models and contributions to a sustainable development of nature, society, and economy (see, for example, a recent *Organization & Environment* special issue on “Business Models for Sustainability”; the earliest publications date back more than 10 years; e.g. Wells & Nieuwenhuis, 2004). The big picture of this field of research is presented in Appendix I.

### 3.2.2 WHAT IS A BUSINESS MODEL FOR SUSTAINABILITY?

A **business model for sustainability (BMfS)** allows a company to pursue corporate sustainability and shared value through the deliberate creation of business cases. A BMfS helps a company to improve the effectiveness and efficiency of its business activities in the spheres of the natural environment, society, and economy, and to profit from these activities (Schaltegger, Lüdeke-Freund, & Hansen, 2012; Schaltegger, Hansen, & Lüdeke-Freund, 2016). A business model for sustainability



is about creating significantly increased positive effects — and/or significantly reduced negative effects — for the natural environment and society through changes in the way a company and its network create, deliver, and capture value (cf. Bocken & Short, 2016; Lüdeke-Freund, 2009, 2013; Stubbs & Cocklin, 2008; Wells, 2013; see Appendix II for an overview of different BMfS definitions found in the literature).

### CONCEPT BOX 1: BUSINESS MODEL FOR SUSTAINABILITY (BMfS) DEFINITION

#### BUSINESS MODEL FOR SUSTAINABILITY (BMfS) DEFINITION

“A business model for sustainability helps describing, analyzing, managing, and communicating (i) a company’s sustainable value proposition to its customers and all other stakeholders, (ii) how it creates and delivers this value, and (iii) how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organisational boundaries.” (Schaltegger, Hansen, & Lüdeke-Freund, 2016, p. 6)

At the heart of such a business model lies a **sustainable value proposition** (SVP) that goes beyond a mere customer value proposition. An SVP is an offering, based on a product and/or a service, that is valuable not only to a company’s primary and paying customers but also to its other stakeholders (see Case box 2). The notion of a sustainable value proposition has been defined recently by Patala, Jalkala, Keränen, Väisänen, Tuominen, and Soukka (2016, p. 1) as “a promise on the economic, environmental and social benefits that a firm’s offering delivers to customers and society at large, considering both short-term profits and long-term sustainability.” This definition adds to the earlier definition of a BMfS.

Companies implementing BMfS and sustainable value propositions are economically viable while they contribute to solving environmental and social problems. They create multiple forms of value beyond financial gains for their different financial and non-financial stakeholders. In

other words, they deliberately create forms of shared value. Thus, in a sense, a BMfS tries to address externalities by acknowledging company efforts towards social and environmental value creation. By changing their business models, companies could find ways to reconnect social and environmental value creation with profitability. This is exemplified by Aravind Eye Care System described in Case box 2.

### CASE BOX 2: ARAVIND EYE CARE SYSTEM, INDIA

#### ARAVIND EYE CARE SYSTEM: A SOCIALLY SUSTAINABLE VALUE PROPOSITION

Eye diseases are a severe problem in India. Blindness rates are much higher in developing countries (about 1.5 per cent) than in developed countries (0.15 to 0.25 per cent). The major cause is cataracts, a form of blindness that can be cured by replacing the natural lens with an artificial one. About 3.8 million new cases of cataracts are estimated to occur in India every year. Beyond cataracts, an estimated 20 per cent of India’s population is in need of some form of eye care; however, half of the Indian population cannot afford treatments. Aravind has developed the capability to offer high-quality eye care at costs unmet by any competitor worldwide. But this competitive position is not exploited to skim the vast Indian ophthalmic market, but passed on to the company’s patients. Aravind’s social value proposition is to offer medical services to those who can afford them (40 per cent of patients) and those who cannot (60 per cent of patients). This model is based on cross-subsidization between paying and non-paying customers. Aravind is nevertheless a very profitable healthcare business (cf. Mehta & Shenoy, 2011; Seelos, 2014).

A former study defined broad criteria — **normative requirements** — as a starting point to guide the development and implementation of BMfS (cf. Boons & Lüdeke-Freund, 2013). More detailed and science-based principles for BMfS were developed by Upward (2013) and Upward and Jones (2016). The requirements defined in Concept box 2 serve as a basic framework that

above all shows that BMfS development and implementation are interdisciplinary, complex, and systemic tasks. Further orientation for according business model innovations is provided by so-called “archetypes” (Bocken, Short, Rana, & Evans, 2014), which are introduced in Section 6.

## **CONCEPT BOX 2: EXEMPLARY NORMATIVE REQUIREMENTS FOR DESIGNING AND IMPLEMENTING BMFS (BASED ON BOONS & LÜDEKE-FREUND, 2013)**

### **EXEMPLARY NORMATIVE REQUIREMENTS FOR DESIGNING AND IMPLEMENTING BMFS**

The following normative requirements link the business model concept to some broad and deliberately values-based (hence, normative) principles that are proposed to guide transitions to, or the development of, BMfS (hence, requirements). Their purpose is to show, in an exemplary manner, that the underlying principles of traditional business models such as profit maximization must be reflected and extended to help business model developers with their search for alternative ways of creating value.

The following requirements are neither mandatory nor exclusive. They are starting points. Other scholars and practitioners might come up with other sets of requirements, based on their particular contexts and purposes.

#### **1. CUSTOMER VALUE PROPOSITION (CVP)**

**Deliver customer value propositions in concert with balanced and measurable positive effects on environment and society.**

- The CVP should provide measurable ecological and/or social value in concert with customer value (similar to Patala, Jalkala, Keränen, Väisänen, Tuominen, and Soukka’s (2016) “sustainable value proposition”). It should reflect a business–society dialogue to balance customer and societal needs. Consider Tesla Motors, the American producer of electric cars. Tesla’s CVP speaks to the desire for high-end, cool, iconic cars, while it tries to contribute to the transformation of national mobility infrastructures.
- Companies should try to balance these different needs in future iterations of their current and core business CVPs; new CVPs should follow the

idea of balancing multiple needs from scratch. Many companies are communicating the sustainable value of their offerings (artificially) ex post; however, it should be at the core of any CVP design.

- CVP designers should consider that CVPs and their underlying normative values are temporally and spatially determined, and so are changing. Tesla plans to move from expensive high-end automobiles to alternatives for average customers. They move from values of exclusivity to values of daily needs, such as affordable safety.

#### **2. BUSINESS INFRASTRUCTURE**

**Engage in partnerships to enhance resources and capabilities for corporate sustainability and supply chain management.**

- The supply chain should involve and develop partners who take responsibility for their own and the focal company’s stakeholders. Textile manufacturers, for instance, face cost pressures due to competitive end-user markets. This leads to working conditions that are detrimental to employees and end-users, e.g. due to toxic substances. BMfS developers should consider the “beginning” and the “end” of supply chains.

The focal company should not shift its own (indirect) socio-ecological burdens to its suppliers. A green or social image on home markets should not whitewash negative impacts on the environment and local communities in less visible areas of the supply chain or partner network. Such shifting is a problem for most big energy companies, for example.

These criteria require companies to actively engage with their suppliers and further partners to develop resources and capabilities for corporate

sustainability and supply chain management. In some cases, such as BoP markets, engagement might require cross-sector collaborations with local and social enterprise organizations (Section 7).

### 3. CUSTOMER INTERFACE

**Motivate and help customers account for the effects of their consumption and consider an extended product responsibility.**

- The customer interface should motivate customers to take responsibility for their own consumption, as well as for the focal company's stakeholders. Consider Followfish, a German food company that sells different kinds of fish and seafood. Followfish tries to provide as much information about their products as possible to support customers' decisions for or against a product. For example, Followfish increases the transparency of its supply chain through detailed information about their fish products, using tracking codes on their product packaging and databases on fishing grounds and methods.
- The focal company should not shift its own (indirect) socio-ecological burdens to its customers. While oil companies, for example, can control the environmental performance of their own operations, the largest impact of their products, in terms of greenhouse gas emissions, occurs with their customers. The question is how extensively these companies define their product responsibility.
- Companies set up customer relationships with recognition of the respective societal challenges of differently developed markets. Early

on, Hart and Milstein (1999) warned not to simply transfer the business models of developed countries to the developing world. Satisfying mere shopping desires is different from satisfying basic human needs.

### 4. FINANCIAL MODEL

**Develop inclusive pricing models and align ownership models with the need for “patient” capital; make use of triple bottom line accounting and reporting.**

- Companies should try to develop pricing models that include as many customer segments as possible, if the CVP is relevant to them, instead of maximizing the profit margins of every offering. Tesla, for example, works down from the luxury segment to average customers. Aravind Eye Care Systems is even cross-subsidizing patients.
- Such pricing models might require “patient” investors. The financial model should thus allow for an appropriate distribution of financial costs and benefits. A range of ownership models is available to allocate financial costs and profits in different ways. Models range from publicly listed corporations to social no-dividend models (Section 7).
- The accounting approaches used to control and manage performance should account for ecological and social impacts. Numerous frameworks and tools for triple bottom line accounting and reporting are available today — however, approaches on the business model level are still missing (Lüdeke-Freund, Freudenreich, Saviuc, Schaltegger, & Stock, 2017, in press).

The requirements described in Concept box 2 are based on a more inclusive understanding of a business model and its relationships to the natural environment, society, and economy. Standard concepts, such as the one by Osterwalder and Pigneur (2009) introduced above, are too narrowly defined to account for these relationships.

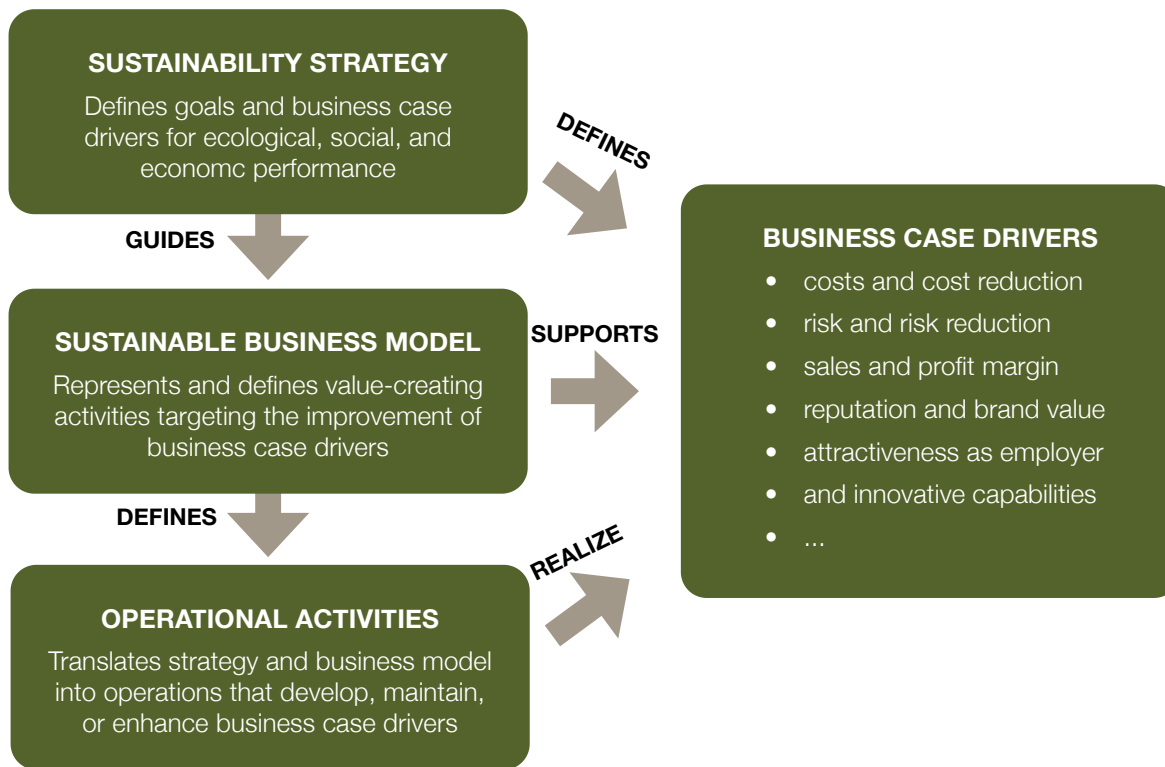
Broadening the concept, Upward and Jones (2016), for example, propose to redefine and extend core elements of a business model — e.g. referring to stakeholders instead of customers only, or extending the business infrastructure element to include biophysical stocks — and embed them within the nested systems of the natural environment, society, and the economy (cf. Marcus, Kurucz, & Colbert, 2010; Whiteman, Walker, & Perego, 2013). This embedded view is gaining increasing attention, inter alia through the popular Planetary Boundaries framework developed by the Stockholm Resilience Centre (Rockström

et al., 2009; Steffen et al., 2015). It emphasizes the “embeddedness” of a business model within its surrounding macro-systems, from which it takes inputs, and to which it provides outputs and outcomes. These relationships are described in more detail in the Hourglass Model introduced below (Section 4).

### 3.2.3 HOW DOES A BMFS UNFOLD?

The business model should become a platform for the creation of business cases (Schaltegger, Lüdeke-Freund, & Hansen, 2012). It should allow for a systematic and, to a certain degree, replicable, development and coordination of operational activities that contribute to sustainable corporate and societal progress — at best in the form of strongly sustainable initiatives (Section 3.1.2) (Upward & Jones, 2016). But how does a business model for sustainability unfold — i.e. how does it become effective once it has been designed? The short answer is: through improved business case drivers (as illustrated in Figure 7).

**FIGURE 7: A BMFS AIMS AT IMPROVED BUSINESS CASE DRIVERS (BASED ON SCHALTEGGER, LÜDEKE-FREUND, & HANSEN, 2012)**



Every business model follows some form of implicit or explicit strategy, with the goal of improving a company’s performance (Casadesus-Masanell & Ricart, 2010; Teece, 2010), which, from a sustainability perspective, includes goals in terms of ecological and social effectiveness and efficiency (Section 3.1.1) (e.g. Upward & Jones, 2016). A **sustainability strategy** should clearly define central business case drivers that are to be improved through ecological and social initiatives, such as launching a new green product or improving the livelihood of small-scale suppliers (e.g. Epstein & Roy, 2001; Kashmanian, Wells, & Keenan, 2011; Lozano,

2015). A **business case driver** is a variable that influences business success. It can be defined as success potential. Common drivers are costs, risks, sales, reputation, or brand value, for example (Figure 7). Tesla Motors, for instance, defines decreasing sales prices for their electric vehicles as a strategic business case driver. Allowing more and more customers with average income to buy a Tesla is central to the company's strategic goals of growing market share and replacing fossil fuel-based cars (see Tesla case).

### CASE BOX 3: TESLA MOTORS, USA

#### TESLA MOTORS: CREATING UNIQUE BUSINESS CASE DRIVERS

Californian electric car developer Tesla Motors pursues a radical environmental vision and strategy to replace fossil fuels as a primary energy source for mobility. To do so, Tesla develops unique business case drivers, such as an increasingly competitive cost structure and pricing model, a unique reputation as a technology leader, and particularly innovative capacities. Tesla's business model deviates fundamentally from the traditional car-manufacturing model. Partnerships with competitors such as Daimler and Toyota, or complementors such as Panasonic, are remarkable features of Tesla's business model, as is the installation of an independent supercharger network that could be used for free. Their business model is radically different from the traditional industry paradigm, as it goes far beyond car design, manufacturing, and sales. It is based on a whole business eco-system ranging from battery manufacturing to supplying green power at charger stations across the USA and in a growing number of countries worldwide.

Business models define specific arrangements of value creating operational activities (e.g. Zott, Amit, & Massa, 2011). Sustainability-oriented business modelling is thus about creating operational activity systems that develop, maintain, and enhance the business case drivers defined by a sustainability strategy (Figure 7). While it looks straightforward in theory, the translation of strategies into business models and activity systems faces several practical barriers (Section 8.2) (e.g. Birkin, Polesie,

& Lewis, 2009; Hannon, Foxon, & Gale, 2013; Laukkanen & Patala, 2014). Looking at the interrelations between strategy and business model reveals two important causalities for consideration (Lüdeke-Freund, 2009):

- **First, when a company pursues a sustainability strategy, its business model may have to change.** The need to develop a particular set of activities necessary for the realization of a strategy may require changes to a given business model, or even a completely new one, if the given model is too rigid and not adaptable to the sustainability strategy in question (see Case box 3).
- **Second, business models may determine and constrain sustainability strategies, and vice versa.** While the first causality sees the business model as adaptable to strategy, the possibility of business model innovation may be limited. As a consequence, a given model may determine, or even limit, the freedom of strategy making and business operations (see Case box 4).

Understanding and overcoming these and further barriers are tasks of business model innovation, which thus becomes a new function of corporate sustainability management.

### CASE BOX 4: ENERGY UTILITIES, GERMANY

#### GERMAN ENERGY UTILITIES: HOW TO OVERCOME BUSINESS AS USUAL?

In an interview series with 18 German energy utilities, Richter (2012, 2013) found that incumbent energy utilities face massive challenges in identifying and developing new approaches to creating, delivering, and capturing value from clean energy technologies. One finding is that their established business models limit their innovative capabilities in the search for new and more customer-oriented business models. Used to large-scale installations and cost structures, German energy utilities are well able to operate utility-scale clean energy facilities, such as large solar parks or wind farms. But they miss the development of small-scale technologies on the customer side, such as residential solar installations, which are a crucial entry point for the emerging smart-grid market (cf. Rodriguez-Molina, Martinez-Nunez, Martinez, & Perez-Aguilar, 2014).



### 3.2.4 WHAT ROLE FOR BUSINESS MODEL INNOVATION?

Business model innovation differs from process and product innovation in that it is a more systems-oriented approach (e.g. Laukkanen & Patala, 2014; Peric and Djurkin, 2014; Rohrbeck, Konnertz, & Knab, 2013; Sakao, Ölundh Sandström, & Matzen, 2009). While product innovation – in itself difficult enough – involves related activities such as product design and testing, business model innovation deals with complex activity systems, bringing together tasks such as supplier identification and recruitment, value proposition design, development of customer channels, and revenue models (Breuer, 2013; Osterwalder & Pigneur, 2009; Zott, Amit, & Massa, 2011). There is no straight line between process, product, and business model innovation. Often, one leads to the other, and **entrepreneurs and managers must decide** whether they want to, or have to, innovate on the level of a single process, product, or service, or on the level of the business model in which it is embedded. (This consideration is a central aspect dealt with in the Roadmap Model and its Business Model Thinking framework in Section 5.2.)

Business model innovation covers incremental adjustments and radical redesigns (e.g. Lindgren & Taran, 2011; Mitchell & Coles, 2003; Schaltegger, Lüdeke-Freund, & Hansen, 2012). The classification proposed in Table 2 illustrates a possible range of intensities. It distinguishes incremental and radical changes to the overall value creation approach and whether these are associated with constant or new customer value propositions. The way that customer value propositions are made and delivered might change without an effect on customers. (A constant customer value proposition could be outsourcing supporting activities like advertising, booking, and settlement). Changes to the customer value proposition, however, have an immediate effect on how customers experience an offering (e.g. switching from anonymous and mass-processed travel plans to individually customized journeys).

#### INSIGHT

Engaging in business model innovation is a deliberate decision. Companies can always opt for other forms of innovation, but under particular circumstances their choice should be the business model. Integrated ecological, social, and economic value creation is likely to require radically new business models.

**TABLE 2: BUSINESS MODEL INNOVATION INTENSITIES (LÜDEKE-FREUND, 2014; SCHALTEGGER, LÜDEKE-FREUND, & HANSEN, 2012)**

	CONSTANT CUSTOMER VALUE PROPOSITION (CVP)	NEW CUSTOMER VALUE PROPOSITION
<b>RADICALLY CHANGED BUSINESS MODEL</b>	<p><b>Improvement</b></p> <p>Changing more than half of all business model elements. (e.g. shifting from manufacturing to licensing and virtual, i.e. highly networked, operations)</p>	<p><b>Redesign</b></p> <p>New CVP for the focal company and the customer. (e.g. a global network of private hosts co-ordinated by Airbnb; Tata's Nano serving "scooter families")</p>
<b>INCREMENTALLY CHANGED BUSINESS MODEL</b>	<p><b>Adjustment</b></p> <p>Changing less than "half" of all business model elements. (e.g. adding new partners to a company's production model; extending the number and quality of distribution channels)</p>	<p><b>Adoption</b></p> <p>New CVP for the focal company. (e.g. the introduction of organic food in conventional supermarkets as a reaction to increasing market shares of green specialty stores)</p>

The reviewed literature suggests that more radical business model innovations allow for more intense business cases for sustainability. The case examples of Tesla Motors, German energy utilities, and Aravind Eye Care System support this assumption. As business model innovation is about the creation of activity systems that develop, maintain, or enhance particular business case drivers (Section 3.2.3), we can finally illustrate the “assumption of radicalness” with a simple heuristic (Table 3).

**TABLE 3: BUSINESS MODEL INNOVATION AND BUSINESS CASES FOR SUSTAINABILITY (SCHALTEGGER, LÜDEKE-FREUND, & HANSEN, 2012)**

INTENSITY OF BUSINESS MODEL INNOVATION	EFFECTS ON ADDRESSED DRIVERS OF BUSINESS CASES FOR SUSTAINABILITY
<b>ADJUSTMENT/ADOPTION</b>	Mainly, cost and <b>efficiency-oriented measures</b> aim for low-hanging fruit and thus only require moderate (if any) business model changes. Accordingly, only a minor number of business elements are affected. Sustainability issues are primarily perceived as <b>risks</b> leading to protective behaviour, while <b>reputational activities</b> are of a rather cosmetic nature.
<b>IMPROVEMENT</b>	<b>Cost and efficiency-oriented measures</b> are pursued actively and partly linked to sustainability issues. Together with sustainability-oriented <b>risk management</b> , this approach can require very fundamental basic changes like renewing production processes, changing value network partners, or approaching new market segments. A general orientation towards external addressees in terms of <b>reputation, brand, and attractiveness to employees</b> can require basic changes in customer relationships and business processes.
<b>REDESIGN</b>	As proactive strategies feature radical changes to the core business logic of a company, a major number of business model elements will be affected. <b>Sales and profits</b> are improved by environmentally and socially outstanding products and services, leading to not yet available value propositions. <b>Cost and efficiency-oriented measures</b> are applied to support the new products and services and to gain competitive advantage through sustainability performance, which in turn pays in terms of <b>risk management, reputation, and corporate brand value</b> . As innovative drivers unfold their full potential, the company becomes increasingly <b>attractive to high-skilled employees</b> .

# 4. framing business models for sustainability — the hourglass model

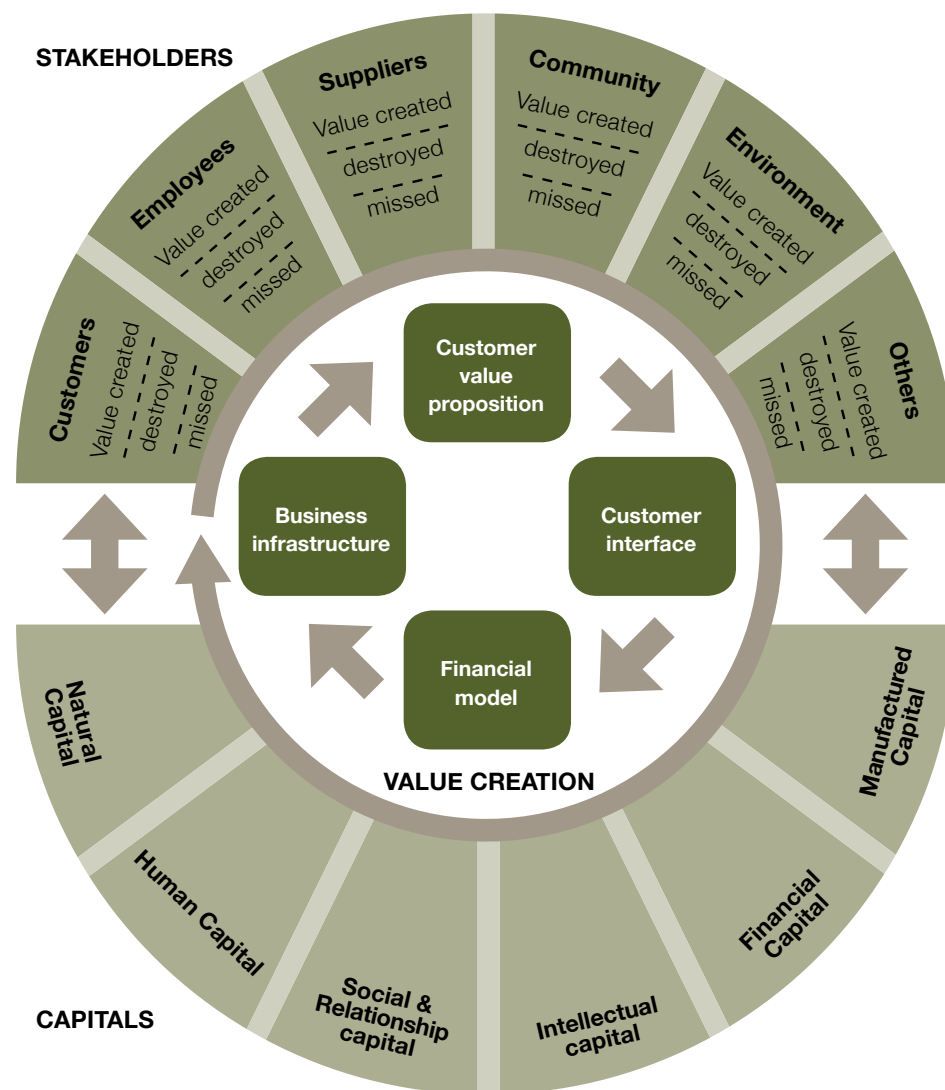
As a visual framework to structure and represent the major concepts that have to be considered when analyzing or developing business models for sustainability and shared value, we propose the Hourglass Model shown in Figure 8. This chapter briefly introduces its purpose and major elements. The term **hourglass** was inspired by the shape of the central elements, which resemble the lower and upper bowls of an hourglass.

The Hourglass Model reflects one major finding from our review: that sustainable business models are about considering the multiple capitals that are required to create value as well as taking care of the many stakeholders, beyond customers and investors, who are part of and affected by value creation.

The Hourglass Model combines current research on sustainable business models, as well as selected concepts from adjacent literatures, notably social innovation (e.g. Mulgan, 2007), and the Integrated Reporting (IR) framework developed by the International Integrated Reporting Council (International Integrated Reporting Council [IIRC], 2013). The Hourglass Model is used to systematize and represent the most important relations between the multiple capitals on which a business model builds, the business model’s representation of value creation, and the different forms of value offered to and perceived by different types of stakeholders.

The Hourglass Model integrates three core concepts: (i) different forms of capital, (ii) the business model concept, and (iii) a stakeholder perspective on value creation. The explicit depiction of different capitals, providing productive inputs, and value created for different stakeholders, who receive different outputs and outcomes, is a means to move from an organization-centred and narrow understanding of (financial) value creation to an extended perspective of “total value creation” (cf. Garcia-Castro & Aguilera, 2015). Our review reveals that the interrelations shown by the Hourglass Model are recurrent and major themes related to BMfS and shared value. To some extent, these are also distinctive to this particular body of research.

**FIGURE 8: THE HOURGLASS MODEL**



To the extent that the proposed framework incorporates, formalizes, and sheds light on concepts that are foundational and distinctive for BMfS and shared value, the likelihood of offering an innovative and insightful framework is increased. The following concepts are taken to constitute the three core elements on which the Hourglass Model is based.

The **stakeholders element** helps in clarifying the notion of shared value. Business models generally emphasize value creation for the focal company (mainly in terms of profits) and its customers (in terms of the benefits and utility accruing to them). But thinking rigorously about business models for shared value requires considering all stakeholders **who** are affected by a business model (broad categories include customers, employees, suppliers, the local community, and natural environment) as well as **how** they are affected. Companies may create value for one stakeholder group while they destroy it for another. Beyond the general and often unchallenged expectation that business models create positive value per se, a responsible company accounts for the fact that it may simultaneously destroy or ignore value opportunities and thus neglect particular stakeholder needs (cf. Bocken, Short, Rana, & Evans, 2013; EY & IIRC, 2013; Short, Rana, Bocken, & Evans, 2012).

The **business model** element represents the architecture of organizational value creation. Central to the business model is the customer value proposition, which is delivered through customer interfaces. Through its financial model, a company aims to appropriate part of the total value added (cf. Chartered Institute of Management Accountants, International Federation of Accountants, & PricewaterhouseCoopers, 2013; Osterwalder & Pigneur, 2009). In order to create, deliver, and capture value, companies perform certain activities (and avoid performing others), and employ and build resources such as people, technologies, information, and reputation. In doing so, the company develops a business infrastructure based on the capitals available to the organization.

The **capitals element** represents the different forms of capital, which, according to the IR framework, provide inputs for any business model. It shows that inputs to value creation processes are generally based on natural, social (intellectual, relationship, human), and economic (financial, manufactured) capital (cf. Association of Chartered Certified Accountants & Netherlands Institute of Chartered Accountants, 2013). Capitals are thus understood as “stocks of value” that can be transformed and enhanced or destroyed through business activities.

The Hourglass Model is “held together” by an **overarching relation** between stakeholders (here, including the natural environment) and the capitals that serve as inputs to business activities. Every capital is provided by a particular stakeholder (e.g. financial capital by shareholders, intellectual capacity by employees, physical resources by the natural environment, i.e. some steward). Since value creation means that these inputs are transformed, and not used up, they inevitably accumulate with particular stakeholders (e.g. financial profits for shareholders, intellectual development for employees, cleaner air and water for the natural environment). These relationships are indicated by the two-sided arrows between stakeholders and capitals in Figure 8.

The Hourglass Model is proposed as a framework to identify and clarify the most important relationships between the central concepts required to depict and understand organizational value creation: capitals as resource base, the business model representing value-creating activities, and the network of stakeholders related to these activities. We suggest asking for the sources of capitals and the consequences in terms of positive and negative value creation for stakeholders, and thus accounting for both negative and positive external effects, as a means to support an orientation towards sustainability and shared value for business and society.

# 5. business model innovation for sustainability — a roadmap model

Because we found no comprehensive management framework for business models for sustainability and shared value in the reviewed literature, we propose a generic framework as a first step to address this important gap. Therefore, Section 5 builds also on publications beyond the reviewed body of sustainability literature. We can conclude that management frameworks to motivate and guide sustainable business model innovation processes from vision to implementation present a critical research gap (see Schaltegger, Hansen, & Lüdeke-Freund, 2016, for a discussion of related research gaps).

This section is concerned with innovating a company’s business model following sustainability and shared value principles. The proposed Roadmap Model complements the Hourglass Model by expanding on the need to devise a clear **strategic roadmap** for corporate sustainability management and shared value creation. The overall Roadmap Model consists of two parts:

- The **Sustainability Strategy Roadmap (SSR)** presented in Section 5.1, and
- The **Business Model Thinking (BMT)** framework presented in Section 5.2.

The Sustainability Strategy Roadmap (SSR) guides entrepreneurs and managers from understanding their motivations to engage in sustainability or creating shared value to defining a portfolio of strategic alternatives for doing it and prioritizing among them.

Business Model Thinking (BMT) comes into play when sustainability or shared value projects require new business rationales, i.e. when a whole businesses, business units, or products require fundamentally different value creation, delivery, and capture approaches.

Table 4 gives an overview of the new frameworks introduced in this report, their purposes, and expected outcomes in practice. The Hourglass Model (Section 4), SSR, and BMT are complementary frameworks. The former helps in establishing a comprehensive picture of a business model for sustainability and shared value, and the latter two propose a general roadmap for its development.

**TABLE 4: NEW FRAMEWORKS INTRODUCED IN THIS REPORT**

	HOURGLASS MODEL (SECTION 4)	SUSTAINABILITY STRATEGY ROADMAP (SSR)(SECTION 5.1)	BUSINESS MODEL THINKING (BMT) (SECTION 5.2)
<b>PURPOSE / OBJECTIVE</b>	A framework guiding managers to take a comprehensive and integrative perspective on value creation (multiple capitals and multiple stakeholders), which is consistent with the notions of sustainable shared value creation.	A roadmap for sustainability strategies guides managers to clearly communicate their motives for sustainability, scanning the environment for opportunities, and creating a diversified and balanced portfolio of initiatives.	A framework guiding managers to rethink the value creation, delivery, and capture logic of this business, integrating innovation orientations (archetypes, patterns) and tools.
<b>OUTCOMES</b>	A comprehensive understanding of how a business model builds on and contributes to diverse capitals, and how it interrelates with its various stakeholders — a precondition for working with the SSR and BMT.	Strategic clarity and focus, and the ability to align sustainability strategies with business model innovation. Helps in identifying internal and external strategic opportunities.	Allows developing new business models based on insights from using the Hourglass Model and aligned to strategic opportunities from the SSR. It informs the design of new business models as a discovery driven process.

## 5.1 Sustainability Strategy Roadmap (SSR)

The **Sustainability Strategy Roadmap (SSR)** helps managers to identify and prioritize opportunities for corporate sustainability and shared value creation. A strategic roadmap supports directional consistency while maintaining tactical flexibility. In this sense, the SSR is meant to offer a dynamic complement to the static Hourglass Model. The proposed SSR builds on three fundamental insights from the received literature at the nexus between strategy, innovation, and sustainability:

- **First, a strategic roadmap for sustainability and shared value is a necessary, but not sufficient, condition for efficient and effective implementation.** Having a clear strategic roadmap results in strategic focus and the ability to efficiently define and communicate goals and priorities within the firm. This benefit applies to both initiatives that involve business model innovation and those that do not (e.g. isolated product or process innovations). For those initiatives that involve business model innovation, devising a clear SSR assumes particular significance in that a business model is a reflection, or a “manifestation,” of a firm’s strategy (Casadesus-Masanell & Ricart, 2010). Having a clear strategic roadmap will better equip managers to make sure that strategy and business model are aligned.
- **Second, every strategic roadmap for corporate sustainability and shared value creation requires decisions about the Why and What.** (1) Why is a company engaging in a sustainability or shared value initiative and what is it expecting for itself (cf. Bansal & Roth, 2000)? And (2) what are the strategically meaningful societal issues and related business opportunities, and which ones should be prioritized?
- **Third, identifying issues and business opportunities can be achieved through two complementary approaches (each one entailing a particular thinking pattern).** The first approach is deductive in nature, based on logical reasoning and rather traditional problem solving (Section 5.1.2). The second is an inductive approach, making deliberate use of multiple iterations and trial-and-error learning (Section 5.1.3).

Figure 9 on the following page shows the SSR. In the next three subsections, we explain each component of the SSR and provide questions managers can ask to guide their thinking about corporate sustainability and shared value strategies.

### 5.1.1 SSR 1: WHY DO WE ENGAGE?

The first step in the SSR is about clarifying **why** a company wants to engage

in sustainability and shared value initiatives. The underlying motivation must be clearly identified (and communicated). While companies may have various reasons for engagement, the literature points to three main motivations:

- Improving competitiveness;
- Gaining legitimacy; and/or
- Ethical and moral considerations (doing the “right thing”).

Becoming clear about why firms engage in sustainability and shared value initiatives and clarifying what they expect for themselves represents an important precondition for identifying and prioritizing issues and related business opportunities (e.g. Bansal & Roth, 2000; Burgelman, 1983; Chandler, 1962).

### CONCEPT BOX 3: WHY – EXEMPLARY QUESTIONS TO CLARIFY STRATEGIC MOTIVATIONS

#### WHY – EXEMPLARY QUESTIONS TO CLARIFY STRATEGIC MOTIVATIONS

##### Competitiveness

1. To what extent do we invest and commit resources to sustainability and shared value initiatives because of the desire to improve our bottom line?\*

##### Legitimacy

2. To what extent do we engage in sustainability and shared value initiatives because this is what our stakeholders and society in general ask us to do?

##### Ethics

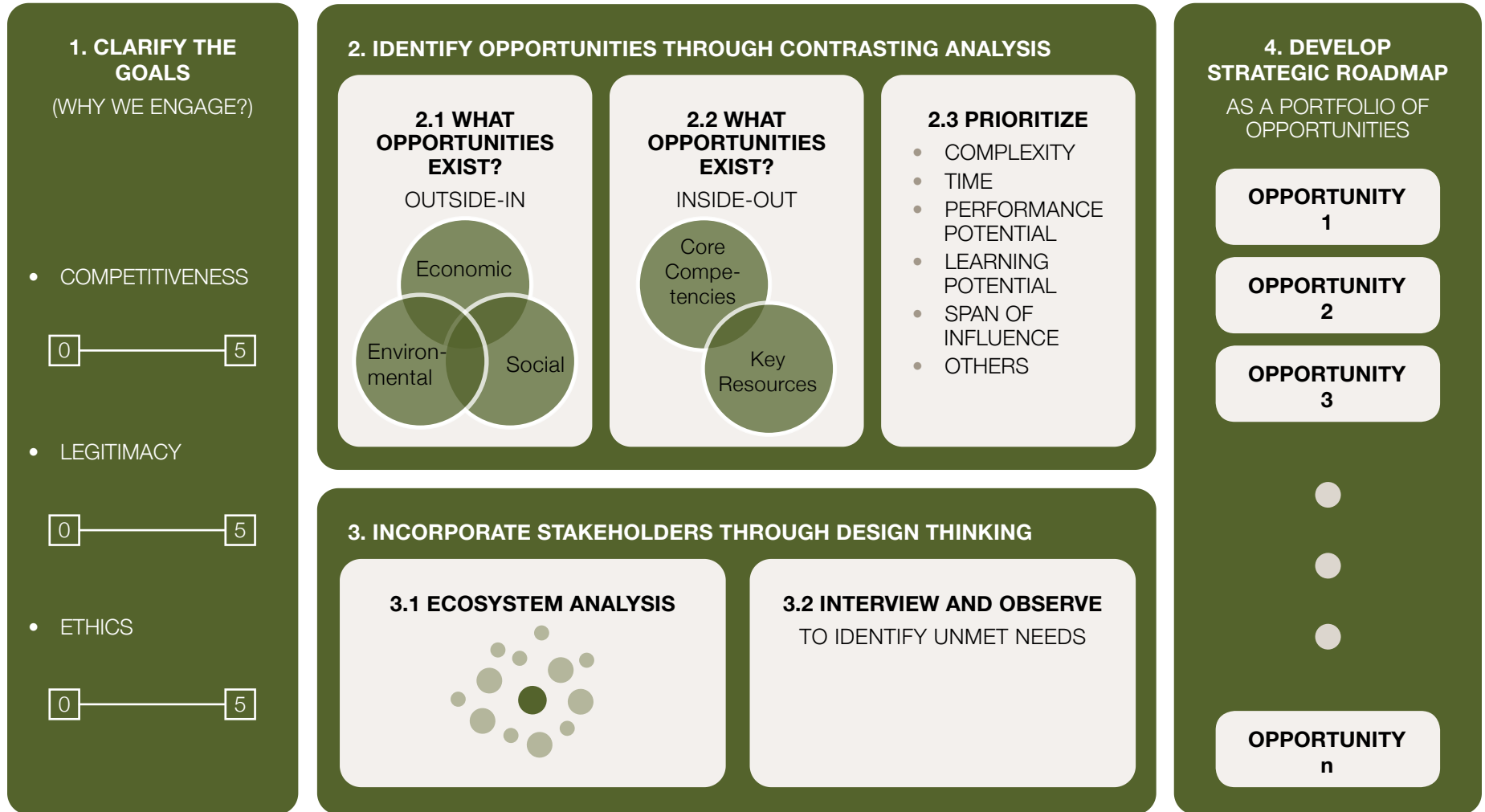
3. To what extent do we invest and commit resources to sustainability and shared value initiatives because of moral considerations and out of the belief that this is the right thing to do?

\* Bottom line improvements can result from improved business case drivers (Section 3.2.3) e.g.:

- Cost and cost reduction
- Risk and risk reduction
- Sales and profit margin
- Reputation and brand value
- Innovative capabilities
- Attractiveness as employer



**FIGURE 9: SUSTAINABILITY STRATEGY ROADMAP: DEVELOPING A STRATEGIC ROADMAP FOR SUSTAINABILITY AND SHARED VALUE OPPORTUNITIES**



### 5.1.2 SSR 2: FROM THEORY TO OPPORTUNITY: ANALYTICAL DEDUCTIVE THINKING (ADT) PATTERN

The upper part of the SSR framework, here referred to as the “analytical deductive thinking (ADT)” pattern, entails proceeding through logical-analytical thinking to identify, prioritize, and select sustainability and shared value opportunities. This process is labelled “deductive” because it starts from “theory” (i.e. representations of issues and opportunities in the sustainability and shared value space) and logically proceeds to identify strategically meaningful opportunities — which requires clarifying the Why (Section 5.1.1). The process rests on two fundamental ideas.

- **First, not all sustainability and shared value issues are equally relevant to all firms.** Their relevance depends on contingencies such as industry context and the focal firm’s particular activities, the wider socio-economic context, etc.
- **Second, not all initiatives are equally strategically relevant to a firm.** Different firms have different abilities to cope with sustainability and shared value issues by virtue of their specific resources and capabilities (see Case box 5).

The deductive thinking pattern rests on three main steps: (1) Defining the What from an outside-in perspective; (2) defining the What from an inside-out perspective; and (3) prioritizing initiatives on the basis of criteria of strategic relevance.

#### Steps 2.1 and 2.2: What — Outside-in and inside-out

Firms can identify relevant issues and opportunities by applying a two-step process. First, identifying issues and opportunities related to the outside context (such as greenhouse gas, or GHG, regulations and customer expectations in the case of the logistics sector; see Case box 5); second, identifying issues and opportunities related to the firm’s specific resources, capabilities, and activities (such as particular technological capabilities to address the identified outside issues; see Case box 5). Intersecting the two in an iterative process provides a list of corporate sustainability and shared value issues and opportunities that are relevant to the firm (cf. Porter & Kramer, 2006).

#### Step 2.3: Prioritize

This step builds on the principle that corporate sustainability and shared value initiatives can, or should, be classified according to their strategic

importance for the firm. This classification, in turn, requires developing criteria to define priorities by evaluating each issue-opportunity identified in the previous steps. By evaluating each initiative against criteria of strategic relevance, managers will be better equipped to (i) prioritize across initiatives and (ii) select the appropriate mix of initiatives (portfolio management). Concept box 4 describes possible guiding questions.

#### CONCEPT BOX 4: PRIORITIZE — EXEMPLARY QUESTIONS TO CLARIFY STRATEGIC PRIORITIES

##### PRIORITIZE — EXEMPLARY QUESTIONS TO CLARIFY STRATEGIC PRIORITIES

- **Alignment:** How aligned (distant) is a sustainability or shared value initiative with (from) a firm’s core capabilities? Will it enhance or devalue our capabilities?
- **Time:** How much time will it take for benefits to materialize (e.g. short term versus long term)?
- **Performance:** What is the expected return in terms of (i) economic benefits for the firm, (ii) gaining/retaining legitimacy, and (iii) social and environmental value?
- **Learning:** Will this initiative lead to returns in terms of learning and acquisition of new capabilities?
- **Span of influence:** Does the issue fall within the boundaries of our area of influence? Can we successfully tackle this issue relying on our capabilities, or do we need to co-operate with others?

## CASE BOX 5: STRATEGIC CHALLENGES AND OPPORTUNITIES IN THE LOGISTICS SECTOR

### STRATEGIC CHALLENGES AND OPPORTUNITIES IN THE LOGISTICS SECTOR

The logistics sector is one of the key players in the global economy, which highly influences aspects such as economic development, employment, and environmental impacts. Transportation contributes about 9 per cent of global gross domestic product (GDP), accounts for about 17.1 per cent of world fossil fuel consumption (Organization of the Petroleum Exporting Countries [OPEC], 2012), and is the second largest carbon dioxide (CO<sub>2</sub>)-emitting sector, contributing 13 per cent of total greenhouse gas (GHG) emissions globally (Organisation for Economic Co-operation and Development [OECD], 2010). Therefore, the main drivers creating both challenges and opportunities within the logistic industry are:

- The regulation of carbon emissions;
- Higher and more volatile fuel prices; and
- Increasing environmental concerns of customers, employees, investors, and other stakeholders.

The introduction of the Kyoto protocol motivated the commitment of governments around the world to use various policies to reduce emissions. The European Union, for instance, established a target of reducing CO<sub>2</sub> emissions from transportation by 60 per cent by 2050, with the goal of “zero-emission city logistics” by 2020 (World Economic Forum [WEF], 2012). In order to achieve these goals, governments are implementing, inter alia, traditional regulations (e.g. emissions and fuel efficiency standards) and economic instruments (e.g. taxes and subsidies) (Deutsche Post [DP], 2010).

Although carbon footprint standards are still in development (e.g. Carbon Disclosure Project, The Greenhouse Gas Protocol), companies are increasingly interested in environmental impact evaluation across their product and service life cycles. For example, research by the Carbon Trust found that “67% of consumers in the UK were likely to buy a low-carbon product, and similar trends are seen across much of the EU” (WEF, 2009). Another motivating factor besides regulation and concerned customers is fuel cost. These

motivate logistics firms to engage in eco-friendly innovations that lower their dependency on fossil fuels.

A deductive thinking pattern applied to the logistics sector would identify GHG emissions as a challenge and strategic issue that interlinks different stakeholders, such as governments and customers, as well as different motivating factors; for example compliance and costs, to engage in corporate sustainability initiatives. The following table provides exemplary strategic opportunities that could be derived from this issue.

OPPORTUNITY	DESCRIPTION
Clean vehicle technologies	Introduce clean and environmentally efficient technologies.
De-speeding the supply chain	Decrease transport speed and increase load fill.
Optimized networks	Improve network planning to ensure efficient hierarchies.
Energy-efficient buildings	Minimize emissions from operating activities.
Packaging design initiatives	Reduce weight and volume of packaging.
Training and communication	Provide training and engagement programs across the organization.
Modal switches	Transfer freight from air and long-haul road to ocean and rail freight.
Reverse logistics/recycling	Develop new offerings around recycling and waste management.
Home delivery	Develop new home delivery offerings.
Carbon offsetting	Develop carbon-offsetting solutions for own operations and clients.

### 5.1.3 SSR 3: FROM LATENT NEEDS TO OPPORTUNITIES: DESIGN THINKING (DT) PATTERN

The lower part of the SSR framework describes the “design thinking” (DT) pattern, which is offered as a complement to the “analytical deductive thinking” (ADT) pattern in identifying opportunities for corporate sustainability and shared value. We referred to this second thinking process as “design thinking” to convey the idea that it stems from ethnographic and design-thinking techniques (e.g. participatory observations, interviews, and human-centred design techniques; e.g. Brown, 2008). The DT is meant to assist managers in uncovering latent needs, behaviours, and desires. Human-centred design aims to solve the needs of real people — as opposed to the artificial “personas” found in traditional market segmentation techniques coming from large-scale, quantitative data or “theory” (as in ADT).

Starting with qualitative research into people’s existing needs, i.e. stakeholder needs from a sustainability or shared value perspective, allows strategists to create solutions that are desirable, feasible, and viable. Participatory observations, interviews, and design thinking uncover often surprising and inspiring individual stories, and unmet needs and desires. These are rarely found in similar depth through deductive-thinking patterns (e.g. Seemann, 2012).

#### Step 3.1: Ecosystem analysis

The first step is an ecosystem analysis to identify a firm’s exchange partners in terms of primary and secondary, direct and indirect, stakeholders, whose interrelations form a business ecosystem based on value exchanges (Allee, 2002). We adopt the term **ecosystem** because we would like to stress the potential value stemming from going beyond traditional stakeholder mapping to include indirect stakeholders, who may not directly interact with a firm, but who could play a critical role from a shared value perspective. Their critical role can result from new opportunities to create shared value, as well as their potential to hamper or foster a given initiative because, for example, its benefits are unequally distributed within the business ecosystem.

#### Step 3.2: Interview and observe

A description of the techniques to be adopted to conduct qualitative research and participatory observation is beyond the objectives of this report. Good references are available in the domains of user experience

(UX) and design thinking. Concept box 5 offers some guiding questions to assist managers in reflecting on how to make their qualitative research more valuable.

#### CONCEPT BOX 5: EXEMPLARY QUESTIONS TO SUPPORT INDUCTIVE THINKING PATTERNS

##### EXEMPLARY QUESTIONS TO SUPPORT INDUCTIVE THINKING PATTERNS (ADAPTED FROM SEEMANN, 2012)

- Will you do ethnographic research to immerse yourself in a person’s behavioural context to observe and be inspired?
- How are you engaging research participants with your concepts? Are they basic text and perhaps an image, or is there another way to engage participants to increase the quality of feedback?
- Are you planning for a workshop, where you bring all stakeholders together to do a collaborative synthesis of your analytic results and qualitative stories? How are you engaging multiple perspectives in interpreting and synthesizing findings?

### 5.1.4 SSR 4: DEVELOPING A STRATEGIC ROADMAP: DEFINING A PORTFOLIO OF OPPORTUNITIES

As shown above, deductive and inductive thinking can be used to analyze a firm and its context in a complementary manner and in multiple iterations. They are offered as a form of guidance to identify sustainability and shared value issues and related opportunities. On the basis of firm objectives (as captured by the overall motivation for engaging in sustainability and shared value) and other strategic criteria (e.g. an initiative’s complexity and implementation time), it is now possible to evaluate and prioritize initiatives and create a coherent set. The set of initiatives a firm decides to focus on provide a **strategic roadmap for sustainability and shared value**. The view of a strategic roadmap as a

**portfolio of initiatives** opens up further opportunities for strategic thinking, such as portfolio management (e.g. Cooper, Edgett, & Kleinschmidt, 2001), strategic complementarities (e.g. Milgrom & Roberts, 1995; for applications to business models see Amit & Zott, 2001), or modularity (e.g. Baldwin & Clark, 2000). These ideas are beyond the scope of this report and can only be mentioned here; for further information see the referenced works.

An illustrative example of how the combination of inductive and deductive thinking can lead to business model innovation is Jaguar Land Rover and its approach to closing material loops and involving multiple stakeholders to identify new value opportunities.

## CASE BOX 6: JAGUAR LAND ROVER, UK

### JAGUAR LAND ROVER: CLOSING MATERIAL LOOPS AND TAKING A MULTI-STAKEHOLDER APPROACH TO REDEFINE VALUE CREATION

Jaguar Land Rover (JLR) is the UK's largest automobile manufacturer. It is built around two traditional British car brands: Land Rover, a manufacturer of premium, all-wheel drive vehicles, and Jaguar, a premier luxury sports car marque. Although JLR is associated with large, heavy, and resource-consuming cars, the company made progress with its responsible business program and its "whole lifecycle approach." JLR was awarded a Queen's Award for Enterprise in Sustainable Development in 2015 and was named Responsible Business of the Year 2013/14 by Business in the Community (Jaguar Land Rover, 2015a, 2015b).

JLR aims at reduced environmental impacts from its processes and products across the whole life cycle, including use and disposal. The company moved from steel to aluminum for two of its three main vehicle platforms, which offers benefits such as weight savings and, as a result, higher fuel efficiency and lower-use phase emissions. To reduce the environmental impacts from aluminum, JLR is in the process of developing a closed-loop supply chain. A closed-loop supply chain manages its material flows in a way that allows repairing, reusing, or remanufacturing products or components (e.g. cars, engines) or recycling of otherwise wasted material (e.g. metal or plastic leftovers) (see e.g. Guide & Van Wassenhove, 2009; Wells and Seitz, 2005). Using waste aluminum and press shop offcuts can reduce the need for virgin material by 50 per cent. Besides these and further improvements, such as reducing waste to landfill by 75 per cent and

water usage per vehicle by 17 per cent (2013 compared to 2007), emphasis is put on efficient car designs and a new generation of low-emission engines named "Ingenium."

The process of developing a closed-loop supply chain requires a full lifecycle perspective, where collaboration with key stakeholders is crucial. Therefore, JLR's lifecycle approach goes beyond factory boundaries: "Our 360° approach examines our products and operations; as well as our work with suppliers, customers, employees, and wider stakeholders — creating new partnerships and business practices" (Jaguar Land Rover, 2015c). Setting up the closed aluminum loop requires, for example, recruiting experts for lifecycle assessments (LCA) and material scientists to develop new internal capabilities to examine product life cycle carbon footprints and assess the effects of material properties with regard to design and performance. Furthermore, a close collaboration and agreement with Novelis, JLR's main aluminum supplier, was required to collect offcuts and scrap from manufacturing and have it reprocessed and reshipped to the factory.

JLR also helped set up an innovative academic course, the Cambridge Institute for Sustainability Leadership's Postgraduate Certificate in Sustainable Value Chains. Some of JLR's employees and supplier employees from Novelis came together in this course to work on supply chain solutions to close the aluminum loop. Further projects are put in place to close the loop for plastics and other key supply chains.

One of the most challenging things about full life cycle approaches is the “human dimension,” according to Ian Ellison, Sustainability Manager at JLR. For example, for the closed-loop supply chain to work, it was important for Novelis to commit to recycled material investments, and JLR to be prepared for waste aluminum back to Novelis, reversing the traditional material flow — which has a lot to do with convincing people to do things differently. Besides technical barriers, the strength of personal convictions and routines should not be underestimated (e.g. Chesbrough, 2010). Furthermore, “years ago, life cycle impacts and fuel efficiency were not high on the priority list, but are definitely on the list today, and among the top priorities,” says Ellison. This development was also supported by changing customer expectations: “Even customers who might be less concerned about the environment will have aligned issues, such as distance between fuel stops and improved performance from lightweight design, on their list. JLR’s

efforts towards more eco-efficient value creation and customers’ expectations fit well together.”

Finally, understanding the “value currencies” of different stakeholders is seen as a key to success, according to Ellison. JLR understood the importance of translating one form of value (e.g. eco-efficiency) into different currencies for different stakeholders (e.g. range for drivers). The car manufacturer thus started to analyze what its stakeholders get out of its full lifecycle approach. JLR identified many stakeholders in an extended mapping and involved them in collaborations and partnerships. It was crucial to understand their language, their contributions to JLR’s full lifecycle approach, and their benefits from this relationship, expressed in different value currencies. These are shown in the following table as contributions from stakeholders and the value they obtain from JLR in return.

STAKEHOLDER	CONTRIBUTION FROM STAKEHOLDER	VALUE DELIVERED TO STAKEHOLDER
<b>Government</b>	Provide research funding	Compliance, jobs, exports
<b>Customer</b>	Select our aluminum cars	Fuel economy, lower CO2 tax
<b>Purchasing</b>	Engage suppliers to recycle	Reduced commodity costs
<b>Finance</b>	Provide processes for closed loops	Increased profits
<b>Marketing and PR</b>	Promote closed-loop aluminum	Easier sales, reputation
<b>Manufacturing</b>	Separate scrap material	Continuity of supply
<b>Suppliers — press shops</b>	Separate scrap material separation	Future business
<b>Suppliers — aluminum</b>	Invest in infrastructure	Long-term partnership
<b>Shareholders</b>	Invest in enabling technology	Higher returns, resilience
<b>Employees</b>	Provide innovation, tenacity	Satisfaction, job security
<b>Mining communities</b>	Engage positively	Jobs, responsible mining
<b>Competitors</b>	Engage positively	Collective responsibility

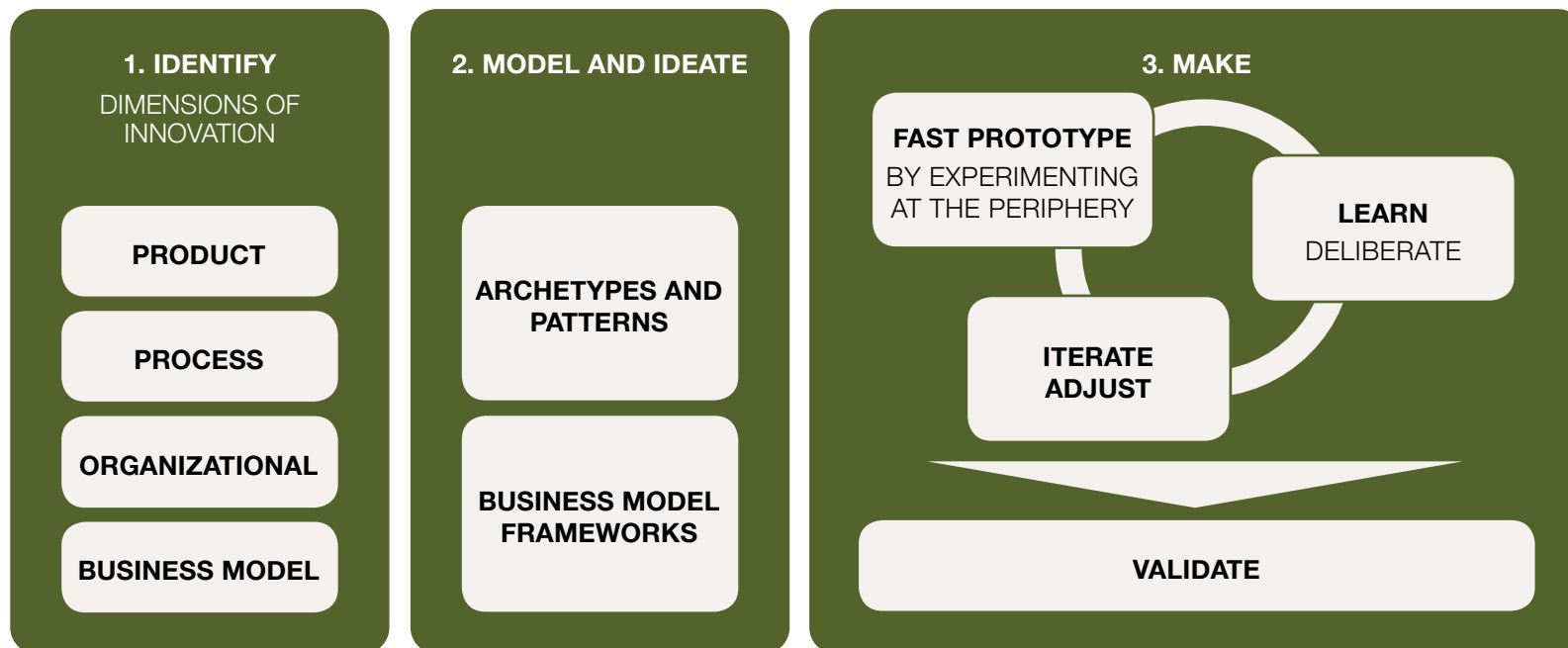


## 5.2 Business Model Thinking (BMT)

The **Business Model Thinking (BMT)** framework is the second pillar of the overall Roadmap Model. The SSR framework aims at supporting strategic clarity on sustainability and shared value issues and opportunities, and provides a view of related strategies as a portfolio of initiatives. The Hourglass Model guides managers to elevate from that perspective, embracing systems thinking and a stakeholder perspective to value creation. The BMT framework adds a step to both.

It adds to the SSR framework an analysis of the extent to which sustainability initiatives require business model modifications or even new business models, or maybe none of these (“dimensions of innovation” in Figure 10). It adds depth to the Hourglass Model, in the sense of supporting business model analyses at a more detailed level, e.g. looking at single business model elements such as partner networks and customer segments (Section 3.2.1) (see Section 8.3 for an overview of tools supporting Business Model Thinking in practice).

**FIGURE 10: DEVELOPING BUSINESS MODELS FOR SUSTAINABILITY AND SHARED VALUE INITIATIVES**



In the following, we explain each phase of the BMT framework according to Figure 10. It consists of three phases, from identifying the relevant dimensions of innovation to engaging in business modelling.

### 5.2.1 BMT 1: IDENTIFY DIMENSIONS OF INNOVATION

Here, firms generate initial ideas about how to seize a given opportunity. This step builds on the fundamental premise that not all shared value opportunities involve a firm’s business model, i.e. its fundamental value creation rationale (see our definition of how BMfS and shared value creation interrelate; Section 2). In this phase, firms analyze whether a given issue, opportunity, and finally distinct initiative involves innovation at the level of product, process, organization, or business model (e.g. Massa & Tucci, 2014). While business model innovation has the potential to become a source of above-average returns (whether in terms of profits for the firm, or social or environmental value creation), it remains a very challenging innovation effort.

As Johnson, Christensen, and Kagermann (2008, p. 52) have noted, an “analysis of major innovations within existing corporations in the past decade shows that precious few have been business-model related.” Innovating a business model (reconfiguring an existing one or designing a new one; see Massa & Tucci, 2014)

is a difficult process that involves considerable uncertainty and socio-technical complexity. While it has the potential for transformative growth and exponential returns for the innovator, it is a highly risky move that may involve changing the entire architectural configuration of a business (cf. Schaltegger, Lüdeke-Freund, & Hansen, 2012). Accordingly, a critical challenge for managers is to understand when new business models are needed (Johnson, 2010; Johnson, Christensen, & Kagermann, 2008). Managers should consider evaluating whether the same opportunity could be captured by relying on less complex forms of innovation or whether the business model level is involved.

How could managers know if an innovation effort is likely to require innovating a business model? The answer to this question is non-trivial, among other things because business model innovation cannot be fully anticipated

#### **CONCEPT BOX 6: BUSINESS MODEL INNOVATION INDICATORS AND GUIDING QUESTIONS (ADAPTED FROM NIDUMOLU, PRAHALAD, & RANGASWAMI, 2009)**

### **BUSINESS MODEL INNOVATION INDICATORS AND GUIDING QUESTIONS**

- **Central challenge:**

To find novel ways of delivering and capturing value, which will improve a firm's ability to profit from social and environmental value creation.

- **Competence needed:**

The capacity to understand what consumers want and to figure out different ways to meet those demands.

The ability to understand how partners can enhance the value of offerings.

- **Innovation opportunities:**

Developing new delivery technologies that change value-chain relationships in significant ways.

Creating monetization models that relate to services rather than products.

Devising business models that combine digital and physical infrastructures.

or planned (Amit & Zott, 2012; Massa & Tucci, 2014; Sosna, Treviño-Rodríguez, & Velamuri, 2010; Zott, Amit, & Massa, 2011). Business model innovation can result from a long-term, discovery-driven process that can involve initial experiments, followed by constant revisions, adaptation, and fine-tuning based on trial-and-error learning. Despite the challenges related to anticipating business model innovation, and those related to managing it (e.g. Chesbrough, 2010), some indicators signal that certain sustainability and shared value initiatives might require business model innovation.

Concept box 6, building on Nidumolu, Prahalad, and Rangaswami (2009), offers some questions managers could ask to evaluate the necessity to engage in business model innovation.

### **INDICATORS AND GUIDING QUESTIONS FOR INITIATIVES REQUIRING BUSINESS MODEL INNOVATION**

- **Value creation:**

Are we rethinking our overall value creation rationale, including the customer value proposition, business infrastructure, customer interface, and financial model?

- **Revenue streams and monetization mechanisms:**

Will our revenue architecture change? Are we going to change our mechanisms of monetizing our business activities (e.g. from selling to licensing products)?

- **User-payers and multiple exchange partners:**

Are we decoupling users from payers (e.g. providing the offering for free to one group of beneficiaries while receiving revenues from another group)?

## 5.2.2 BMT 2: MODEL AND IDEATE

This step involves using (i) business model frameworks; (ii) business model archetypes or patterns; and (iii) business model tools to understand the business model innovation potential of each one of the ideas generated (relative to opportunities for sustainability and shared value creation).

In this report, we understand **business model frameworks** as representations of the general business model. (We use the plural because there are several possible ways to represent a business model; see Massa, Tucci, & Afuah, forthcoming.) Frameworks are obtained by pointing to the key components of a business model. Business model frameworks have three fundamental functions (Section 3.2). First, they offer a “reference language” that fosters dialogue, promotes common understanding, and supports collective sense making (cf. Doganova & Eyquem-Renault, 2009; Zott & Amit, 2010). Second, by offering scaled-down simplified representations, they allow for graphical representations that support cognition and offer the possibility of virtually experimenting with business model innovation. Third, they offer representations — graphic, as well as written/textual — that allow managers and entrepreneurs to articulate and instantiate the value of their venture and to support the engagement of external audiences, so as to gain legitimacy, activate resources, and foster action (Doganova & Eyquem-Renault, 2009). The traditional literature on business models is rich in such reference languages and representations. However, their systematic analysis is beyond the scope of this report (overviews can be found in Al-Debei & Avison, 2010; Wirtz, Pistoia, Ullrich, & Göttel, 2016; Zott, Amit, & Massa, 2011). Three sustainability-oriented business model frameworks, which at the same time can serve as innovation tools (see below), are briefly introduced in Section 8.3.

**Archetypes or patterns** are understood here as ideal types — descriptions of possible business models that are obtained by focusing on the key distinctive aspects of certain families of business models. Popular examples beyond business models for sustainability are the **freemium** business model adopted by, among others, Adobe and Dropbox; the **razors and blade** business model popularized by Gillette; and the **long tail** business model of eBay and other platforms. The use of **archetypes or patterns** is meant to support managers in reflecting on how to transform a particular sustainability challenge — such as waste energy in production processes or underserved low-income groups — into opportunities such as efficiency gains or social value propositions

offered to neglected customer groups. Business model archetypes or patterns can be used as reference points for the development of new approaches to deal with such challenges. While an archetype is more like a generic role model (e.g. efficiency-driven business models), patterns are more explicit with regard to the details of these models (e.g. how to earn money from increasing efficiency). This report contains a whole section on this particular aspect of Business Model Thinking (Section 5.2).

**Business modelling tools** typically try to cover all phases of the business model innovation process — from ideation to design, test, and implementation (e.g. Frankenberger, Weiblen, Csik, & Gassmann, 2013). In contrast to frameworks as they are understood here, tools are more focused on design and creation of new business models than on description and representation. They often include a longitudinal dimension which addresses the **process** of designing a business model, rather than taking a snapshot of a business model. Our proposed distinction between frameworks and tools is only one possibility for distinguishing between among different approaches to modelling business models. As mentioned previously, frameworks themselves can be used as tools, in particular in an ideation phase. In ideation, frameworks may be used to generate ideas for new possible business models by asking “what-if” questions related to changing components of the described business model.

Frameworks and tools more specifically designed to think through business models for sustainability have been provided by Upward and Jones (2016) and Joyce, Paquin, & Pigneur (2015), for example (Section 8.3). While frameworks often define different business model components, their relations, and functions (e.g. Al-Debei & Avison, 2010), a tool is a practically translated and useful form of framework that can be used to support innovation projects (e.g. Osterwalder & Pigneur, 2009). Section 8.3 introduces a tool that explicitly builds on ethnographic principles and supports inductive thinking patterns, the Business Innovation Kit, which can also be used to support sustainability-oriented business modelling. Many other tools and frameworks exist. We contend that tools and frameworks have different characteristics, for example by virtue of the level of granularity, the specific components analysed, etc. Therefore, we suggest that the choice of the framework or tool to be used should be made in accordance with the particular purpose of its application. Alternatively, we suggest experimenting with different ones simultaneously in an ideation phase, going for quantity of ideas versus quality, and progressing iteratively to identify both the most relevant tools/frameworks and the most promising business model innovations.

### 5.2.3 BMT 3: MAKE

Once ideas for business model innovations have been generated, they should move into implementation. However, due to the complexities of business model innovation and its nature as a discovery-driven, trial-and-error process, it is critical to ensure learning before investments are made (Nidumolu, Prahalad, & Rangaswami, 2009). Early learning may be achieved by starting small, learning fast, and scaling rapidly. Nidumolu, Prahalad, and Rangaswami, break each step down into three phases: experiments and pilots, debriefing and learning, and scaling. We build on these insights and suggest the following steps:

- Define prototypes and pilots and quickly engage in experimenting at the periphery of existing business models. This step also involves conferring authority for business model experimentation.
- Ensure there are mechanisms in place to manage learning in the form of deliberate learning. These mechanisms are (1) experience accumulation (i.e. the central, semi-automatic learning process by which operating routines develop), (2) knowledge articulation (the process through which implicit knowledge is articulated through collective discussions, debriefing sessions, and performance evaluation processes), and (3) knowledge codification (the process of developing formal tools, such as written documents, performance appraisals, reports). Deliberate learning is in contrast to the rather passive process of learning by doing (cf. Zollo & Winter, 2002).
- Iterate by adjusting until validation.
- Keep initial investments small until concepts are proven; invest more substantially only when there is greater evidence that a particular idea will work; and then be prepared to scale up with vigour.

# 6. archetypes of business models for sustainability

This section introduces different “archetypes” of business models for sustainability (BMfS). Archetypes are typical representations in a given context (e.g. the “evil witch” and the “charming prince” are archetypes in fairy tales). Here, the context is seizing business model opportunities for sustainability and shared value. As such, archetypes become a central element of the previously described Business Model Thinking framework (Section 5.2.2). We introduce a set of archetypes, knowing that their future range will evolve and deviate from the types presented below.

## 6.1 Orientations for Sustainability Innovation

An earlier review introduced an original range of archetypes for BMfS (Bocken, Short, Rana, & Evans, 2014). This typology was developed for the following purposes:

- To provide a way of organizing and explaining business model innovations for sustainability.
- To define generic mechanisms for supporting practical business model innovation processes.
- To define a research and practitioner agenda beyond the more commonly known approaches such as product-service systems, microfinance models, etc.
- To provide examples that explain and communicate innovation orientations to businesses to de-risk their business model innovation processes.

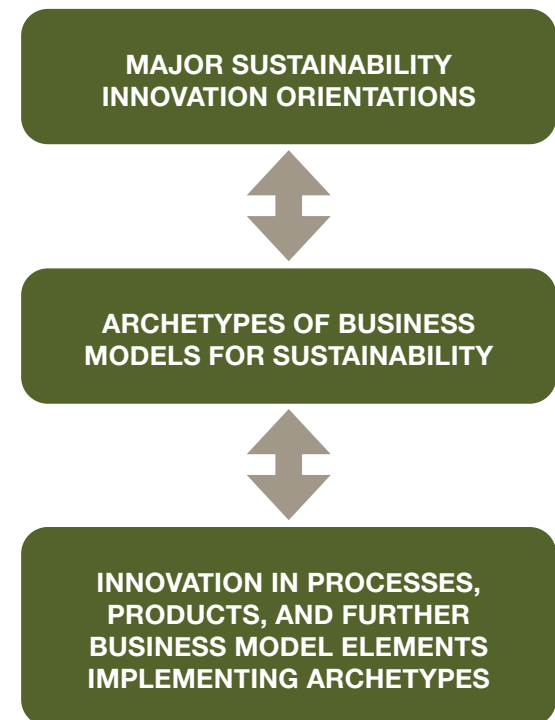
Our review revealed a growing list of types of BMfS, ranging from **sustainability** types (e.g. Bocken, Short, Rana, & Evans, 2014; Boons & Lüdeke-Freund, 2013; Clinton & Whisnant, 2014), **circular** types (e.g. Accenture, 2014; Bakker, Den Hollander, van Hinte, & Zijlstra, 2014; Bocken, Rana, & Short, 2015; ING, 2015; Wells & Seitz, 2005), to **green** (e.g. Beltramello, Haie-Fayle, & Pilat, 2013; Bisgaard, Henriksen, & Bjerre, 2012; FORA, 2010), and **social** types (e.g. Dohrmann, Raith, & Siebold, 2015; Gaertner & Ishikawa, 2014; Jenkins, Ishikawa, Geaneotes, Baptista, & Masuoka, 2011). These types can be seen as specifications of the more general archetypes introduced in this section. We counted more than 50, including overlaps and redundancies.

Archetypes provide practically useful orientations for business model innovation if they meet the following general model criteria (Bocken, Short, Rana, & Evans, 2014): (i) they must represent the underlying mechanisms of sustainability-oriented business model innovation and transformation; (ii) they need to be clear, intuitive, mutually exclusive, and explanatory, but not overly prescriptive; and (iii) they should support entrepreneurs and managers in dealing with the corporate sustainability challenges of achieving relative and absolute contributions to ecological and social value creation (Section 3.1). As such, archetypes can become a tool to support innovation projects in practice.

### 6.1.1 MAJOR INNOVATION ORIENTATIONS: ENVIRONMENTAL, SOCIAL, AND ECONOMIC

The archetypes fit nicely in between high-level orientations such as environmental or social innovation, which provide values-based and normative directions, and more operational innovations in processes, products, and further business model elements (Figure 11).

**FIGURE 11: ARCHETYPES “MEDIATE” BETWEEN HIGH-LEVEL ORIENTATIONS AND OPERATIONAL INNOVATIONS**



An earlier literature review of the relationships between business models and sustainability innovations broadly classified business models according to three major orientations (Boons & Lüdeke-Freund, 2013):

- **Technological innovations**, mainly aiming to introduce new environmental technologies (“clean tech”).
- **Social innovations**, addressing social issues, mainly in BoP contexts, and also targeting behaviour change.
- **Organizational innovations** to change dominant organizational and economic paradigms that underlie business activities.

**TABLE 5: MAJOR ORIENTATIONS OF BUSINESS MODELS FOR SUSTAINABILITY INNOVATIONS (BOONS & LÜDEKE-FREUND, 2013)**

INNOVATION FOCUS	ROLE OF BUSINESS MODEL
<b>Environmental (often technological innovation)</b>	“... sustainable business models with a focus on technological innovation are market devices that overcome internal and external barriers of marketing clean technologies; of significance is the business model’s ability to create a fit between technology characteristics and (new) commercialization approaches that both can succeed on given and new markets.” (Boons & Lüdeke-Freund, 2013, p. 14)
<b>Economic (often organizational innovation)</b>	“Business model change on the organizational level is about the implementation of alternative paradigms other than the neoclassical economic worldview that shape the culture, structure and routines of organizations and thus change the way of doing business towards sustainable development; a sustainable business model is the aggregate of these diverse organizational aspects.” (Ibid., p. 15)
<b>Social (often purpose-driven innovation)</b>	“... sustainable business models enable social entrepreneurs to create social value and maximize social profit; of significance is the business models’ ability to act as market device that helps in creating and further developing markets for innovations with a social purpose.” (Ibid., p. 16)

Accordingly, the relationships between business models and sustainability innovations depend on the focus of a company’s activities. These can broadly be classified according to a triple bottom line perspective, as addressing environmental, social, or economic sustainability challenges and the aim to create business cases through their solutions (Section 3.1). Depending on a company’s primary normative goals, for example to reduce ecological burdens, the challenges of commercializing and profiting from sustainability innovations and the role of the business model differ (Table 5).

These innovation orientations are of course not mutually exclusive. In fact, they often occur in mixed forms, as when socio-economic problems such as a lack of market access in poor, rural areas can be solved through new technologies or a new application of given technologies (e.g. mobile communications; Rashid & Rahman, 2009). Our review revealed several studies at the intersections of the different innovation orientations. Rich and revealing cases can be found in BoP studies, for example (see GrameenPhone case, following page).

### 6.1.2 THE NEED FOR A TYPOLOGY OF BUSINESS MODEL ARCHETYPES

Business models for sustainability take a triple bottom line approach to define business performance and consider a wide range of stakeholder interests (Upward & Jones, 2016). Businesses adopting such models may be more resilient and competitive in the longer term by acknowledging the interdependencies between their own operations and the contexts in which they are embedded (Whiteman, Walker, & Perego, 2013). As shown earlier, several authors take a business case approach to recognize the needs and benefits of taking a corporate sustainability approach. Porter and Kramer (2011) and Vogel (2005) highlighted the advantages of a business case perspective, while others point to its theoretical and practical limitations (Hahn, Figge, Pinkse, & Preuss, 2010).

By caring for their employees, companies can create not only a loyal and steady workforce, but also ambassadors and future customers (think of Henry Ford, who wanted to make sure that his employees could afford the products they manufactured). Companies can secure their future supplies by looking after the natural resources they rely on (e.g. soil, watersheds). The development of BMfS can be an important driver for business cases and resilience, as well as a sustainable development of society and economy. Looking at the Hourglass Model (Section 4), we see that any business model requires a sound foundation made of multiple capitals. Business models for sustainability not only use and transform these capitals but also maintain or even enhance them (Schaltegger, Hansen, & Lüdeke-Freund, 2016).



## CASE BOX 7: GRAMEENPHONE, BANGLADESH

### GRAMEENPHONE: MOVING FROM “BOP 1.0” TO “BOP 2.0” AND BEYOND

Rahman, Amran, Ahmad, & Taghizadeh (2014) studied the case of GrameenPhone, the leading telecommunications company in Bangladesh, and its nationwide community information centre. They found that the much-praised introduction of new technologies, such as communication infrastructures, and new skills, such as business training, can only be part of a necessarily more encompassing strategy to overcome rural poverty: “Although treating people at the BoP as producers offers them a way to earn a living and may help them develop marketable skills, it may not free them from poverty, for they typically just become just part of a supply chain.” (Ibid., p. 49). Taking care of the standard of living, providing access to valuable information sources, and assisting financially are further elements of a more thorough BoP strategy. While the much-criticized “BoP 1.0” approach saw those in poverty as potential customers, “BoP 2.0” approaches try to integrate poor people as active producers, i.e. active economic agents (e.g. London & Hart, 2011). However, Rahman and colleagues point to the risk of simply integrating those at the base of the pyramid into supply chains without really caring about quality improvements in their livelihoods, personal skills, and future prospects. They conclude: “From an organization’s point of view, to embrace the BoP concept into the business strategy, a company must restructure its business model” (Rahman, Amran, Ahmad, & Taghizadeh, 2014, p. 50). To do so, a company must combine technological innovation, organizational, and social innovation approaches.

### INSIGHT

The development of business models for sustainability can be an important driver for business cases and business resilience, as well as a sustainable development of society and economy.

To support this move towards the development of sustainable business models, through collaborative research at the University of Cambridge, we developed a list of business model archetypes. These are typical examples of solutions that contribute to building up business models for sustainability.

## 6.2 A Typology of Archetypes of Business Models for Sustainability

The sustainable business model archetypes (Figure 12) are classified by the dominant innovation orientations, modified from the work by Boons and Lüdeke-Freund (2013) in Table 6. The classification is based on the major impacts of those innovations; however, as noted above, innovation archetypes are often mixed and not of a unilateral kind (similarly, the seemingly “fair queen” might also be an “evil witch,” as we learn from Snow White).

Archetypes with a largely **environmental impact**, often supporting and driven by technology innovations, include:

1. Maximizing material and energy efficiency.
2. Closing resource loops.
3. Substituting with renewables and natural processes.

Archetypes with a largely **social impact**, often in support of and driven by social innovation, include:

1. Delivering functionality rather than ownership.
2. Adopting a stewardship role.
3. Encouraging sufficiency.

Archetypes with an impact on the **economic aspects** of how business is done, often supporting and driven by organizational innovation, include:

1. Repurposing the business for society/environment.
2. Seeking inclusive value creation.
3. Developing sustainable scale-up solutions.

Table 6 and Figure 12 summarize the nine sustainable business model archetypes, including short definitions, innovation types, typical positive effects, and potential negative side effects. Table 6 provides general definitions of the archetypes, and Figure 12 shows a broad range of exemplary innovations that fit with the archetypes’ purposes.

**TABLE 6: DEFINITION AND SUMMARY OF ARCHETYPES (CF. BOCKEN, SHORT, RANA, & EVANS, 2014; PLAN C, 2014)**

	ENVIRONMENTAL			SOCIAL			ECONOMICAL		
	1. Maximizing material and energy efficiency	2. Closing resource loops	3. Substituting with renewables and natural processes	4. Delivering functionality, not ownership	5. Adopting a stewardship role	6. Encouraging sufficiency	7. Repurposing for society/ environment	8. Inclusive value creation	9. Developing sustainable scale-up solutions
<b>Short definition</b>	Do more with fewer resources. Generate less waste, emissions, and pollution.	Reuse materials and products. Turn waste into feedstocks for other products/ processes.	Use of non-finite materials and energy sources.	Provide services that satisfy users' needs without their having to own physical products.	Proactively engage with all stakeholders to ensure their long-term health and well-being.	Solutions that actively seek to reduce end-user consumption.	Seek to create positive value for all stakeholders, in particular society and environment.	Sharing resources, knowledge, ownership, and wealth creation. Inclusive value generation.	Delivering sustainable solutions at a large scale to maximize benefits for society and the environment.
<b>Innovations within this archetype</b>	Lean manufacturing. Dematerialization. Increased functionality.	Cradle-to-cradle. Industrial symbiosis. Extended producer responsibility.	Cleantech. Renewable energy (e.g. solar, wind). Biomimicry.	Rental/lease. Pay per use. Product-service combinations.	Community development. Biodiversity protection. Choice editing.	Consumer education. Demand management. Slow fashion. Frugal businesses.	Social enterprises and benefit-corporations. Non-profits. Hybrid models. Net positive initiatives.	Collaborative platforms. Collaborative consumption. Peer-to-peer and sharing models.	Open innovation platforms. Incubators. Slow/patient capital.
<b>Typical positive impacts</b>	Enhance efficiency and improve resource use. Save costs.	Reduce waste. Turn waste into value/new business lines. Generate new revenue streams.	Reduces use of finite resources, waste, and pollution. Supports long-term energy supply. Contributes to "green economy."	Can encourage the right behaviours with manufacturers and users. Can reduce the need for physical good.	Ensure long-term well-being of planet (e.g. forests) and society (e.g. health). Ensure long-term viability of the value network.	Actively reduce consumption. Encourage community sufficiency, sustainable living. Build long-term customer loyalty, and new repair and service markets.	Deliver positive societal (e.g. community development) value. Deliver positive environmental (e.g. afforestation) value. Prepare for a resource capacity for long-term business sustainability.	Share resources, skills, and knowledge, and distribute wealth. Leverage resources and talents. Create new business opportunities.	Achieve scale from small sustainability pilot or start-up to large-scale project or business. Create industry-wide change for sustainability. Create breakthrough innovation.
<b>Possible negative side effects</b>	May generate incremental change only. May lead to rebound effects. May lead to job losses.	May lead to quicker sales cycles and more material use. May sustain waste streams because waste = value.	"Carbon lock-in" and NIMBY prevent uptake. Embedded footprint of production (e.g. solar panels). Lack of recyclability consideration of (solar-based) products.	More product/ service usage. If not combined with efficiency improvements, it may have negligible environmental impact improvement.	More product/ service usage. If not combined with efficiency improvements, it may have negligible environmental impact improvement.	Potential price premium for consumers. Remaining niche because it goes against "growth" principles.	Potential to remain niche without policy changes. Potential to remain niche within current capitalist framework.	If not combined with efficiency improvements, it may lead to limited environmental improvement. May induce more product/service use due to wider accessibility.	Focus on scale might detract from sustainability purposes. Risk of unproven radical innovation.

**FIGURE 12: INNOVATIONS THAT FIT THE ARCHETYPES (ADAPTED FROM: BOCKEN, SHORT, RANA, & EVANS, 2014)**

MAJOR INNOVATION TYPES	ENVIRONMENTAL			SOCIAL			ECONOMICAL		
	MAXIMIZE MATERIAL AND ENERGY EFFICIENCY	CLOSING RESOURCE LOOPS	SUBSTITUTE WITH RENEWABLES AND NATURAL PROCESSES	DELIVER FUNCTIONALITY RATHER THAN OWNERSHIP	ADOPT A STEWARDSHIP ROLE	ENCOURAGE SUFFICIENCY	REPURPOSE FOR SOCIETY/ ENVIRONMENT	INCLUSIVE VALUE CREATION	DEVELOP SCALE UP SOLUTIONS
INNOVATION THAT FITS THE ARCHETYPES	Low-carbon manufacturing	Circular economy, closed loop	Move from non-renewable to renewable energy sources	Product-oriented PSS – maintenance, extended warranty	Biodiversity protection	Consumer education, communication	Not for profit	Collaborative approaches (sourcing, production, lobbying)	Incubators and entrepreneur-support models
	Lean manufacturing	Cradle-2-Cradle	Solar- and wind-power-based energy innovations	Use oriented PSS – Rental, lease, shared	Consumer care – promote consumer health and well-being	Demand management	Hybrid businesses, social enterprise (for profit)	Peer-to-peer sharing	Open innovation
	Additive manufacturing	Industrial symbiosis	Zero-emissions initiative	Result-oriented PSS – Pay per use	Ethical trade (fair trade)	Slow fashion	Alternative ownership: co-operative, mutual, collectives	Inclusive innovation	Patient/slow capital
	Low-carbon solutions	Reuse, recycle, remanufacture	Slow manufacturing		Choice editing by retailers	Product Longevity	Social and biodiversity regeneration initiatives	Base of pyramid (BoP) solutions	Impact investing/ capital
	Dematerialization (of products/ packaging)	Take back management			Radical transparency about environmental/ societal impacts	Premium branding/ limited availability			Crowdfunding/ sourcing
	Increased functionality					Frugal business			Peer-to-peer lending

The rest of this section presents the nine archetypes in some more detail, including brief illustrative case studies. We use the language of **value missed**, **value destroyed**, and **new value opportunities** (Bocken, Short, Rana, & Evans, 2013; Short, Rana, Bocken, & Evans, 2012), which is also used in the upper section of the Hourglass Model (Section 4) to explain what each of the archetypes would imply for corporate sustainability. **Value destroyed** refers to the negative impacts of the business inflicted upon each stakeholder. **Value missed** is about wasted time, resources, space, or money; overcapacities; or value created but not being noticed or desired by stakeholders. **Value opportunities** are about the new opportunities that can be realized once awareness is created of the value missed and destroyed.

### 1. Maximize material and energy efficiency

The sustainability driver of business models focused on material and energy efficiency is to do more with fewer resources, generating less waste, emissions, and pollution. This approach can become innate to the way business is done. For example, Total Quality Management and “lean” became almost synonymous with Toyota.

The strategy of maximizing material and energy efficiency seeks to tackle various forms of value destroyed – resource depletion, resource exploitation, pollution, and waste – and value missed – cost savings associated with efficiency, reducing capacity, and overall cost. New value

opportunities may be found in strategies such as dematerialization to reduce resources per unit of product or service and lean manufacturing approaches reducing waste and costs.

## CASE BOX 8: TOYOTA, JAPAN

### TOYOTA: MAXIMIZE MATERIAL AND ENERGY EFFICIENCY

Lean manufacturing is focused on continuous efficiency improvements and reducing any form of waste, and is a key approach to maximize material and energy efficiency. Lean manufacturing has almost become synonymous with Toyota as a company and the Toyota Production System (TPS). TPS is “a production system that is steeped in the philosophy of ‘the complete elimination of all waste’ imbuing all aspects of production in pursuit of the most efficient methods” (Toyota, 2015). It is sometimes referred to as a “lean manufacturing system” or a “just-in-time system.” According to Holweg (2007), lean production challenged the mass-production practices in the automotive industry and shifted the trade-off between productivity and quality so that there was clear continuous improvement in both. It also led to rethinking manufacturing and service operations beyond the high-volume repetitive manufacturing environment. Whereas “lean” focuses on both efficiency and quality improvement, as a concept, it garnered most traction following the 1970s oil crisis, where efficiency became increasingly

important. Other approaches such as Six Sigma and Total Quality Management also focus on continuous improvement and have both been important elements of a Japanese approach to manufacturing; “lean” as a concept is most clearly focused on reducing waste, notably in resource use (Andersson, Eriksson, & Torstensson, 2006).

**Implications for management:** Companies can become learning organizations and find ways to become more efficient and reduce costs on a continuous basis. Efficiency and “zero waste” prevail in every aspect and process of the business and become part of the way business is done. However, the potential downside is that optimizing the model might increase the risk of remaining locked in an existing model, potentially lean future business model innovation (see Section 8.2 on barriers to business model innovation). Furthermore, increasing efficiency can lead to job losses, so this model should be considered in combination with other, more socially oriented archetypes.

## 2. Closing resource loops

Closing resource loops is about the reuse of materials and products, turning waste into inputs for other processes and products, and making best use of under-utilized capacities. It is focused on an ideal case of endlessly circulating resource use. In the aluminum industry, one of the most efficient ones in terms of recycling, continuous reuse is already paramount, but such an approach is not evident in other industries.

This archetype can help eliminate the value destroyed of materials that are disposed of although in perfect condition. It can also help reduce the value missed for customers (e.g. the value of using a favourite product longer) and employees who engage in reuse and recycling (e.g. the value of engaging in an environmentally sound business), and the missed value that may be created from otherwise neglected waste. New value opportunities can emerge from reuse and recycling, and new jobs based on these approaches. With electronics and electric equipment, for example, only 19 per cent of the waste generated in Europe is recycled; more than 50 per cent follows unofficial collection routes, and more than 80 per cent leaves Europe — leading to significant economic losses and missed job opportunities (Zerowaste Europe, 2015).

## CASE BOX 9: NET-WORKS, THE PHILIPPINES AND CAMEROON

### NET-WORKS™: CLOSING RESOURCE LOOPS

Net-Works is a collaborative project to clean up coastal areas and use the waste obtained as an input to new manufacturing processes (<http://net-works.com/>). The project takes dumped nylon fishing nets from coastal areas and uses them to create recycled yarn as an input for carpets (Interface, 2014). This project aims to clean up oceans and beaches, while creating financial opportunities for people in developing-country communities (Interface, 2014). For example, fishers and community members can earn extra income through collecting fishing nets. Moreover, Net-Works projects are integrated with community banking systems to support and strengthen the local economy and provide new financial opportunities. The project started in the Philippines and is now moving to Cameroon. Organizations included in the collaboration include Interface, a global carpet manufacturer, Aquafil, a nylon manufacturer, and the Zoological Society of London (ZSL). Together, these organizations identified synergistic opportunities in the Net-Works project: cleaning up the oceans, building more resilient communities, and creating better business opportunities. The case is an important business model approach to help closing material loops and is also of great interest from a shared value creation perspective.

**Implications for management:** From a business model perspective, the Net-Works model has found innovative ways to create value from waste through collaboration. However, in an ideal future economy, we would not dump waste in the sea or landfill and would consider the end of products' lives in design, supply chains, and business models.

### 3. Substitute with renewables and natural processes

This archetype is about using non-finite materials and energy sources. Examples of innovations contributing to this type of business model are Cleantech and renewable energies. In this space, players are emerging

in developed as well as developing countries, in particular using solar technology, of which costs are continuously decreasing.

Employing renewables and natural processes can help reduce resource depletion and corresponding value destroyed, for example due to climate change and negative impacts on local species and populations. It can also help to unfold the value missed of social and environmental benefits of renewable energy use (e.g. off-grid applications in developing countries). There are several value opportunities in learning from nature's effective resource use (biomimicry) and localized, cleaner material and energy use (e.g. in solar applications).

## CASE BOX 10: SOLAR SISTER, SOUTH AFRICA

### SOLAR SISTER: SUBSTITUTE WITH RENEWABLES AND NATURAL PROCESSES

An increasing number of solar business models in emerging economies can help replace fossil fuel-based technologies (e.g. kerosene lamps) with solar alternatives. An example is the African business Solar Sister (<http://www.solarsister.org/>). By combining a clean energy technology (solar) with a deliberately women-centred sales network, Solar Sister seeks to eradicate energy poverty by empowering women with economic opportunity, according to its website. In this way, the company combines inclusive value creation and fossil fuel substitution. Solar Sister seeks to address the role of women in society by empowering them and supporting the development of their business skills. At the same time, they seek to replace fossil fuel-based technologies with solar-based ones, thus addressing societal and environmental issues simultaneously.

**Implications for management:** The Solar Sister model combines multiple business model innovations around transformation to solar-based applications with an inclusive women-centric model. However, in the future, a business model where solar solutions are leased rather than sold could further improve the model's sustainability by improving opportunities for maintenance, repair, remanufacturing, and future dismantling and recycling

#### 4. Deliver functionality, not ownership

This archetype is about services that satisfy user needs without the necessity of physical ownership. It is also referred to as the “product-service-system” (PSS) (Tukker, 2004) or “access/performance model” (Bakker, Den Hollander, van Hinte, & Zijlstra, 2014). The basic premise from a sustainability perspective is that it helps to move away from value through ownership to value through usage.

In doing so, this archetype helps to eliminate the value destroyed through owning a lot of “stuff” that is only rarely used. It helps transform excess capacity (a value missed) into new opportunities for solutions, moving away from ownership to effectively using physical goods that have been manufactured. Examples include car rental and sharing, and clothing rental. Other examples include printer and copier leasing (e.g. on a per print basis).

#### CASE BOX 11: LOCOMUTE, SOUTH AFRICA

##### LOCOMUTE: DELIVER FUNCTIONALITY, NOT OWNERSHIP

Car sharing and car clubs are typical examples of “delivering the functionality and not ownership” archetype. It is expected that moving away from car ownership can reduce the number of cars on the road. Also, car sharers allegedly use their cars less often than car owners (Chase, 2012). Locomute is South Africa’s first car-sharing club. While in Europe and the US, car sharing is already quite widespread with examples such as Zipcar and Drivy, this business model is still relatively new to South Africa. Derived from the words location and commute, Locomute aims to deliver convenience, innovation, collaborative consumption, environmental sustainability, and cost-efficient mobility. As such, this start-up is not just about cars, but rather about finding sustainable solutions (cf. Thulo, 2016).

**Implications for management:** Car sharing models, such as Locomute have the potential to support efficient and effective behaviour by manufacturers, which might engage more in services around maintenance and repair, as well as more sufficient behaviour by consumers, who might consider every ride and drive less often. Future business models could focus more on moving away from fossil fuels, or perhaps cars altogether, through low-carbon infrastructures, for example, focusing on better public transport, walking and cycling infrastructures, and bike sharing schemes in urban areas (e.g. Cohen & Kietzmann, 2014).

#### 5. Adopt a stewardship role

Adopting a stewardship role is about proactively engaging with all stakeholders to ensure their long-term health and well-being. This approach helps to eliminate the value destroyed by resource depletion and unequal distribution of income and revenues, for example, and also turn value missed (e.g. active consumer engagement) into new value opportunities where companies take responsibility for future resource security and economic equality (e.g. better livelihoods across the supply chain).



## CASE BOX 12: WATER ACTION HUB, SOUTH AFRICA

### WATER ACTION HUB: ADOPT A STEWARDSHIP ROLE

Stewardship is about taking responsibility as an organization for broader societal and environmental issues. An example is the Water Action Hub, which is “an online platform designed to assist stakeholders to efficiently identify potential collaborators and engage with them in water-related collective action to improve water management in regions of critical strategic interest” (<https://wateractionhub.org/>). The Water Action Hub contains a library of examples and initiatives to learn from. This organization is taking a stewardship role; it is also taking a potential “scale-up approach” by bringing together key stakeholders for collaboration to work on solutions for issues around water use.

**Implications for management:** While Water Action Hub might not be viewed as a full business model, but more as a network, it is an interesting collaborative initiative that can help drive change on a larger scale. Stewardship by a range of stakeholders can be more impactful than having one stakeholder trying to drive change. It is also more common now for non-governmental organizations (NGOs) to collaborate with businesses on specific issues (e.g. WWF refers to this as “corporate water stewardship,” (<http://www.worldwildlife.org/initiatives/corporate-water-stewardship>).

## 6. Encourage sufficiency

Encouraging sufficiency is about solutions that actively seek to reduce end-user consumption (Bocken & Short, 2016). Consumer education and value propositions focused on slower consumption patterns are important examples. Sufficiency is about selling only the smallest quantity needed for a job and reducing overall consumption. While sufficiency is mainly about slowing consumption in the developed world, the challenge in developing and emerging countries is to start with the best product and business model possible from a sustainability perspective, rather than implementing the same harmful solutions implemented in developed countries (cf. Hart & Milstein, 1999).

This archetype helps to transform the value destructions of a “throw-away culture” and “planned obsolescence,” and the value missed related to a disconnect between the company and its customers, into new value opportunities of creating long-term relationships with companies and their products.

## CASE BOX 13: MITTICOOL, INDIA

### MITTICOOL: ENCOURAGE SUFFICIENCY

MittiCool is an example of using frugal design and only using minimal resources across the full life cycle up until consumer use. The business originated from of a small manufacturing operation in India, started by Mansukhbhai Prajapati in 1988. The business added a clay-water filter line in 1995, motivated by a specific customer demand. After the clay-water filter, several other innovations emerged and after years of testing and designing, the MittiCool fridge was developed in 2005 (MittiCool, 2015). Dubbed “the fridge of the poor,” the fridge is a simple design, using cool water rather than electricity to keep the contents cool, with the clay serving as an insulator. In this way, it can deliver a clean and frugal way of keeping food safe (see also Eyring, Johnson, & Nair, 2011).

**Implications for management:** From a business model perspective, MittiCool provides a low-resource means of keeping food safe and fresh, not requiring fossil fuels in the use phase. Thus, it requires few extra resources for an additional benefit to the consumer. This type of innovation raises the interesting question of whether developed countries should also move back from increasingly complex and resource-intensive innovations towards more frugal, low-resource solutions.

## CASE BOX 14: PATAGONIA, USA

### PATAGONIA: ENCOURAGE SUFFICIENCY

Another case of sufficiency, very much at the high-end side of the spectrum, is Patagonia (Bocken & Short, 2016). As part of their Common Threads Initiative, in partnership with eBay, Patagonia encourages customers to rethink the way they use clothing and makes them aware of the need to consider their purchase more carefully. They encourage customers to consider second-hand clothes and to support recycling in cases where reuse is not possible anymore. For example, in a one-off advertisement in the *New York Times*, Patagonia asked its customers to not buy their jackets (“don’t buy this jacket”), trying to make them aware of the effects of their purchases and encourage them to make things last longer, rather than buying new items. While this is a very different example from MittiCool, it does show leadership in trying to convey a different message in a world dominated by fast fashion.

**Implications for management:** Sufficiency business models in developed countries are often based on premium-earning models, such as the example of Patagonia. However, there is still ample opportunity, also on a policy level, to make sufficiency-driven approaches more widespread. At a country level, Thailand, for example, is promoting sufficiency. However, this approach is not yet widespread. Opening up the debate on slow consumption and “zero growth” can be a real opportunity to drive change.

## 7. Repurpose for society and environment

To repurpose a business for society and/or the natural environment is about seeking to create positive value for all stakeholders, and in particular with regard to social and environmental concerns. Social enterprises and b-corporations are examples of organizational innovations that support this archetype.

This archetype helps to transform the value destroyed as a consequence

of profit maximization and exploitation of natural and human capital, and tries to turn value missed of unaligned goals and activities of companies and society. The realignment of business and society can lead to new opportunities where positive societal contributions and wider stakeholder concerns become part of the business model.

## CASE BOX 15: WONDERBAG, SOUTH AFRICA

### WONDERBAG: REPURPOSE FOR SOCIETY AND ENVIRONMENT

Social business organizations such as social enterprises and b-corporations are dedicated to a positive social and/or environmental goal, rather than seeking to maximize their profits (see also Section 7 on social enterprises). A “buy one — give one” model is an interesting example, where typically sales in the developed world finance a “give-away product” in a developing country. WonderBag is an example of a “buy one — give one” model. It is marketed as the “first portable, non-electric slow cooker” (<http://nb-wonderbag.com>). For every Wonderbag purchased in the USA, one is donated to a family in need in Africa (WonderBag, 2015). The technology has four simple steps: “Boil it, bag it, stand it, and serve it.” Consumers bring food to the boil on a stove, put the pot, with the lid on, in the WonderBag and slow cook for up to eight hours, which can help save energy and time. The product and business model can reduce energy use by up to 30 per cent and give communities access to cleaner cooking means (Ford, 2013).

**Implications for management:** From a business model perspective, WonderBag’s model is about donating products to fulfill basic needs (e.g. cooking) in poor communities, which generates new forms of value (e.g. time, health, wellbeing) for those in need. The limitation of such models is their dependency on its commercial part — declining WonderBag sales imply declining support for poor communities. How can companies overcome this limitation? Hybridization and deliberate social entrepreneurship might provide answers (Section 7).

## 8. Seek inclusive value creation

Seeking inclusive value creation is about sharing resources, knowledge, ownership, and wealth creation. Examples of innovations that contribute to this business model include innovations focused on collaborative consumption, also referred to as sharing, and peer-to-peer, innovations (e.g. The Crowd & Fishburn, 2014). This archetype is also about a more inclusive approach to innovation, analogously to the world of inclusive design, so that products and business models are available not only to typical mainstream customer groups but to the full spectrum of potential customers. Tesla's intention to develop offerings for the full spectrum of customers, and not only luxury-oriented customer segments, is a form of inclusive value creation in terms of addressing a broad spectrum of customer segments with differing income levels. However, inclusiveness also refers to including otherwise neglected social groups into value creation processes, as Woolworths is doing in some local development projects (see Case box 16). In general terms, the literature shows a transition from including (poor) people as customers to including them as value-creating partners, e.g. as employees, suppliers, or distributors — moving from “BoP 1.0” to “BoP 2.0” and beyond (see Section 7, cf. Kolk, Rivera-Santos, & Rufin, 2014).

This archetype helps to transform the value destroyed of excluding people from access to resources, products, and production processes and the value missed of an increasingly disconnected society into a new value opportunity. Accordingly, approaches are focused on socializing, making new connections and friends, but also on using excess resources and neglected local knowledge (see Woolworths (I) case). This archetype focuses on sharing resources, skills, and knowledge, and distributing wealth, as well as leveraging forgotten or deliberately neglected resources and talents. For example, through platforms such as Airbnb, Couchsurfing, BlaBlaCar, and Drivy, everyone can become an entrepreneur and new local value can be created. However, as with every archetype, inclusive value creation can also have downsides. Uber, a social network-based taxi service model, has been criticized for destroying more local value than it generates (Section 8.1).

## CASE BOX 16: WOOLWORTHS (I), SOUTH AFRICA

### WOOLWORTHS (I): SEEK INCLUSIVE VALUE CREATION

Woolworths undertook an initial, small-scale trial into the viability of growing rooibos tea commercially in Cape Agulhas, South Africa, while preserving the wealth of indigenous flora. The study showed that rooibos production would have less impact on the degradation of indigenous flora relative to other farming activities, and also suggested ways in which rooibos farming could restore biodiversity in areas already impacted by alien vegetation. Woolworths now packages and sells the product from the Strandveld and is passionate about socio-economic transformation, and about supporting small, local community-based enterprises like the Strandveld Tea Farmers Association. Woolworths also supports others such as Ubuntu Linen at The Craggs near Plettenberg Bay, Mokodeni Pottery in Limpopo, and Isikhwama near Cape Town. These organizations produce many of Woolworths's reusable shopping bags. Woolworths seeks to help helping previously disadvantaged communities build economically viable futures for themselves by integrating them into Woolworths's supply chain.

**Implications for management:** This model shows that inclusive value creation can include forms of ecological and socio-economic value. By respecting natural ecosystems through extensive agricultural methods and providing local business opportunities, problems of eco-justice, eco-, and socio-effectiveness can be addressed simultaneously (see corporate sustainability triangle in Section 3.1.1).

## 9. Develop scale-up solutions

Scale-up solutions are about delivering sustainable alternatives at a large scale to maximize benefits for the natural environment and society. Innovations that contribute to this archetype include impact investing, slow capital, and collaborative and open-innovation platforms. In developing countries, several new business types around this archetype are emerging, such as peer-to-peer lending. Examples include Lendico in South Africa (see Case box 17) and M-PESA, a mobile phone technology-based money transfer and microfinance service operating in several countries, including Kenya (OECD, 2015).

If urgently needed solutions, such as Aravind's high-quality and low-cost eye care services (Case box 2), exclude customers, especially those in need, value is destroyed (e.g. through untreated diseases) and value opportunities are missed (e.g. through ignoring relevant customer segments). This archetype helps transform the value destroyed and missed by scaling up niche solutions and overcoming exclusion. Its major purpose is to achieve scale and impact.

### CASE BOX 17: LENDICO, SOUTH AFRICA

#### LENDICO: SEEK INCLUSIVE VALUE CREATION

Peer-to-peer or consumer-to-consumer models such as car sharing or “bed sharing” (e.g. Couchsurfing, Airbnb; Chase, 2012) can help reduce total product use, by preventing new products (e.g. cars) from being manufactured or new hotels being built. These models claim to reduce environmental impact and help create local value. In a different but related business model space, peer-to-peer lending has slightly different effects; it can make money more widely accessible to people needing it for a specific purpose (e.g. setting up a new business). While this model has also been popular in developed countries (Zopa in the UK is the oldest peer-to-peer lending company [Butcher, 2014]), lending platforms are emerging in other parts of the world, such as Lendico in South Africa. Peer-to-peer lending can create a “feel-good” factor for investors and give individuals access to capital they would not have had otherwise. Investors can benefit from steady cash flows, credit checks done by Lendico, and the feeling of supporting real people's projects; and borrowers can typically benefit from a fast, tailored, fair, and secure service (Lendico, 2015).

**Implications for management:** From a business model perspective, the peer-to-peer space can open up new opportunities for those involved. However, it can also provide certain risks if not combined appropriately with other archetypes. Responsible lending could incorporate a sufficiency-driven innovation to reduce the risk of excessive lending and borrowing.

## 6.3 Combining Archetypes

Sustainability-driven business model innovation is ideally a multi-faceted strategy (Bocken, Short, Rana, & Evans, 2014; Boons & Lüdeke-Freund, 2013; Schaltegger, Lüdeke-Freund, & Hansen, 2012). It is not about pursuing and optimizing one particular solution for one stakeholder only because this may happen at the expense of other stakeholders. As the upper element of the Hourglass Model shows, BMfS should address as many stakeholder groups as possible with a company's value creation activities (Section 4). Table 6 and Table 7 highlight some of the challenges and downsides, or trade-offs, that may occur while a company strives to do well by doing good. For example, focusing on efficiency improvements (first archetype) might take place at the expense of jobs, and a focus on closing energy and material loops (second archetype) might lead to rebound effects in terms of higher levels of consumption. Hence, it is essential to combine multiple archetypes to avoid business model innovation rebound effects. Table 6 gives some insight into avoiding negative side effects.

Indeed, every single archetype can contribute to sustainable development, but their potential effects will be more powerful if they are combined. Firms must combine multiple business model innovations in order to develop an ideal sustainability business model with the potential to overcome the most important trade-offs (Boons & Lüdeke-Freund, 2013; Stubbs & Cocklin, 2008). This multi-faceted approach may be illustrated with a few examples.

US-based SolarCity offers its customers solar energy without the typically high upfront costs of solar installations. SolarCity sells energy contracts to customers and installs the solar panels free of charge, thus combining the third archetype (substitute with renewables and natural processes) with the fourth archetype (deliver functionality, not ownership). This makes solar energy much more accessible and affordable for a wider range of customers. Another solar energy example is Solar Sister, which combines the seventh archetype (repurpose for society and environment) with the third archetype (substitute with renewables and natural processes) by using a social entrepreneurship model to make renewable energy more readily available (see Section 7). Solar Sister integrates African women into their business model. These new entrepreneurs help spread solar-based solutions in their communities in rural Africa. Similarly, large multinational corporations such as Unilever and Nestlé appear to have become more accustomed to involving local communities

(e.g. Michelini & Fiorentino, 2012). A last example, the Welsh start-up Riversimple, a designer of extremely efficient automobile concepts, redefines personal mobility by combining at least five archetypes. These are the first (maximize material and energy efficiency), third (substitute with renewables and natural processes), fourth (deliver functionality, not ownership), sixth (encourage sufficiency), and seventh archetype (repurpose for society and environment) (Bocken & Short, 2016; Lüdeke-Freund, 2016).

It seems as though companies around the world are starting to realize, maybe implicitly, the need to tackle multiple sustainability challenges (Section 3.1.1) simultaneously as part of their business models, in order to achieve higher levels of corporate sustainability (Schaltegger, Hansen, & Lüdeke-Freund, 2016). However, business model innovation that deviates radically from the status quo of incumbent models may prove particularly challenging given its relative demands on financial, human, and capital resources (cf. Hockerts & Wüstenhagen, 2010). However, the growing number of green and social start-ups (e.g. Solar Sister), corporate spin-offs (e.g. Net-Works), and internal projects (e.g. BMW i-series) leads us to expect increasing traction for sustainable industry transformations. Cases such as Aravind and Tesla, which also began as small niche players, can serve as practical role models.

While both small entrants and large incumbents have strengths and weaknesses in the development of BMfS (Section 8), our review shows that in most cases, new forms of collaboration across key stakeholders are required to make large-scale change happen and help strongly sustainable businesses emerge and grow (e.g. Matos & Silvestre, 2013). One field that exemplifies these challenges, and that emerged in our review, deals with social enterprise business models. Acknowledging the particular importance of **social** value creation through business models, the next section has a special focus on social enterprise business models.



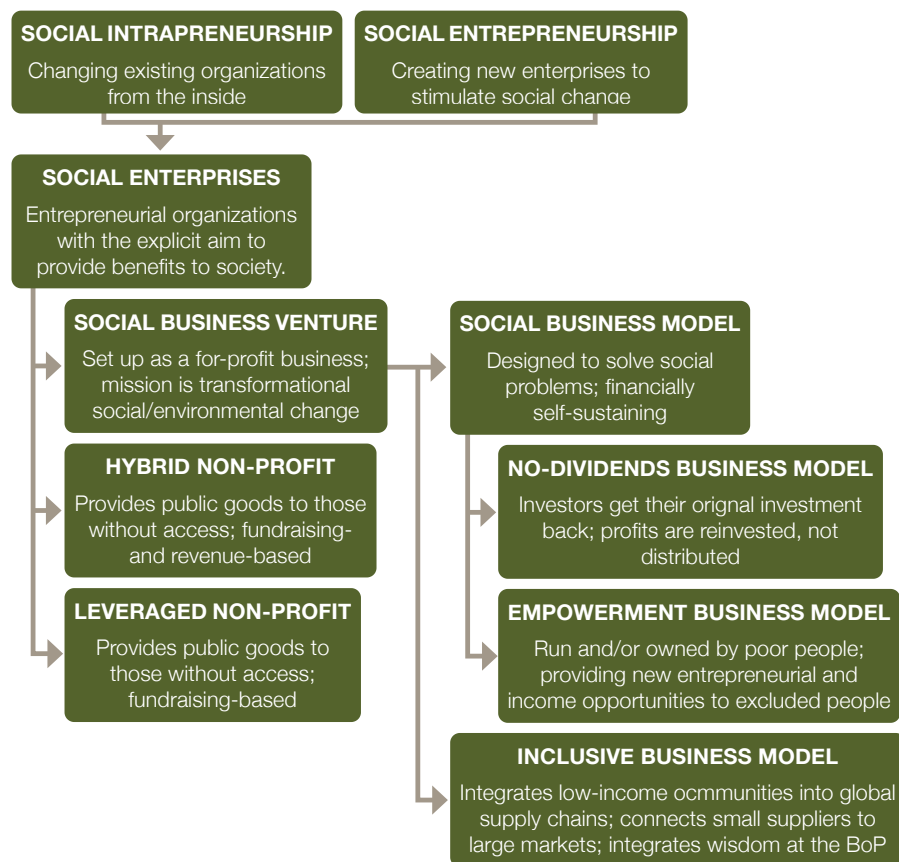
# 7. special focus — a basic typology of social enterprise business models

Our review of scientific and practice publications revealed a diverse array of notions and concepts around forms of social entrepreneurship. This focus section offers a summary and brief overview of often-discussed forms of social enterprise business models (Section 7.1), practical implications for their development (Section 7.2), and distinct business model types that can be found in practice (Section 7.3). Our review brought up several publications related to issues of social entrepreneurship (e.g. Dohrmann, Raith, & Siebold, 2015; Jolly, Raven, & Romijn, 2012; Kolk, Rivera-Santos, & Rufin, 2014; Mair, Battilana, & Cardenas, 2012; Mair & Schoen, 2007; Rashid & Rahman, 2009; Reynoso, Kandampully, Fan, & Paulose, 2015; Seelos, 2014). These publications often address the “bottom of the pyramid” (BoP<sup>5</sup>), looking at how issues such as access to health care, information technologies, education, and job creation can be addressed with alternative business, e.g. based on non-profit or hybrid organizations (see Appendix I for a big picture overview). The next sections build mainly on the paper by Michelini and Fiorentino (2012), which provides a useful combination of theoretical and practical perspectives, including a list of illustrative case studies.

## 7.1 Social and Inclusive Business Models

The following figure provides some basic definitions related to the ideas of social entrepreneurship and social enterprises. It starts from the premise that entrepreneurial activities with a social mission may be rooted within an existing organization, trying to change it from inside (**social intrapreneurship**), or be the starting point for the development of a new enterprise (**social entrepreneurship** in a narrow sense).

**FIGURE 13: BASIC TYPOLOGY OF SOCIAL ENTERPRISE BUSINESS MODELS (BASED ON MICHELINI & FIORENTINO, 2012)**



<sup>5</sup> In economics and business management, the “bottom of the pyramid” (or “base of the pyramid,” or simply “BoP”) is the term used to refer to the largest but poorest socio-economic group. The expression is used in particular by people developing new models of doing business that deliberately target this group, often using new technology (e.g. Prahalad, 2005; Prahalad & Hart, 2002).



**Social enterprises** can be defined as entrepreneurial organizations with the explicit aim of providing benefits to society (e.g. Dees, 1998; Yunus, Moingeon, & Lehmann-Ortega, 2010). This benefit may be realized with more or less profit-oriented types of organizations (cf. Elkington & Hartigan, 2007). Non-profit organizations with a social purpose can be completely based on fundraising (**leveraged non-profit**) or combine own revenues with fundraising (**hybrid non-profit**). The for-profit form of social enterprise is the so-called **social business venture**. It is set up as a for-profit organization with an explicit social mission. Here, entrepreneurs and their for-profit businesses become “tools” for the solution of social problems (Dohrmann, Raith, & Siebold, 2015; Yunus, Moingeon, & Lehmann-Ortega, 2010).<sup>6</sup>

It is this particular challenge — the combination of for-profit business principles as means, with social missions as ends — that makes new business models necessary (Seelos & Mair, 2005, 2007). Earning money despite, or rather **through**, solving social problems is the supreme discipline for the design of value-creating, -delivering, and -capturing models. In their study of business models for social enterprises, Michelini and Fiorentino (2012) distinguish between **social business models** and **inclusive business models**. Both are generally set up as for-profit businesses, with the mission of supporting transformational social change. Although both types share some common features, such as partnerships with non-profit organizations and development agencies, and a tendency to create spin-offs with social missions, they are different with regard to their strategic objectives.

**Social business models** are often built around value propositions that address the needs of particular social groups, mainly in developing countries or low-income segments of industrial countries, i.e. poor people without access to regular markets and neglected minorities without any prospect of economic development. Social business models thus aim at providing otherwise unavailable goods and services to those who really need them. For example, Grameen-Danone in Bangladesh offers yogurt enriched with micronutrients to very poor and lowest-income groups. Accordingly, the value proposition was redefined from “high-end product, emphasis on lifestyle” to “low price and fulfilment of basic nutritional need” (Yunus, Moingeon, & Lehmann-Ortega, 2010, pp. 309, 313).

<sup>6</sup> Whether environmental issues are also addressed by social entrepreneurs, or whether this is the domain of sustainable or ecological entrepreneurship, is debatable and depends on the definitions in use; see e.g. Schaltegger & Wagner, 2011, for a typology of sustainable entrepreneurship.

## CASE BOX 18: ZIQITZA HEALTH CARE LTD., INDIA

### ZIQITZA HEALTH CARE LTD.: CROSS-SUBSIDIZING HEALTHCARE PATIENTS

Ziqitza Health Care Ltd. charges patients based on their income. This approach is made possible through cross-subsidization, which allows Ziqitza to extend services to the poorest (OECD, 2015). Their website proudly reports on the number of patients, including pregnant women served and babies delivered (<http://zhl.org.in/>). This financial model innovation, reminiscent of the approach by Aravind Eye Care Systems, provides access to basic medical assistance to people who can normally not afford it. The company realized that it could make a difference through the provision of medical services and sought to “create a world class ambulance service in India that would be on par with 911 in the U.S. and 999 in the U.K” (Ziqitza Health Care Ltd., 2015).

**Implications for management:** This case shows how social business models can help by filling gaps in basic public services. The financial models and approaches to customer and patient segmentation developed by Ziqitza and by Aravind (Section 3.2.2) may also serve as blueprints for developed countries with gaps in healthcare coverage.

Social business models are generally profit-oriented and aim at financial sustainability, which distinguishes them from fundraising-based hybrid organizations or leveraged non-profits (Elkington & Hartigan, 2007). One common approach is the **no-dividend model**, which refunds the original investments to its financiers, but retains eventual profits to improve its offerings, grow the business, or set up new enterprises. Another form is the **empowerment models** run and/or owned by poor people with no or low income. Here, the profit orientation of the social business model is not a contradiction, but a means to grow local income and initiate economic development (Yunus, Moingeon, & Lehmann-Ortega, 2010).

**Inclusive business models** are also a form of social business venture, but have different strategic aims than social business models. One difference is the aim of integrating poor or low-income communities into existing value chains of for-profit companies. A typical social business model might address a targeted social group as a customer segment (e.g. Aravind Eye Care System, cf. Seelos, 2014). This approach is often referred to as “BoP 1.0” (see Case box 7). Inclusive approaches define their social target groups as active providers of workforce and products, and are accordingly referred to as “BoP 2.0” (e.g. Ikea or Coca Cola Sabco, cf. Michelini & Fiorentino, 2012).

Inclusive business models are thus a means of offering common value propositions, but integrating poor or low-income communities into value-creating processes. Target markets addressed by inclusive business models can vary from BoP to high-income segments (cf. Gaertner & Ishikawa, 2014). The line between inclusiveness for the sake of the poor and exploitation of a cheap workforce has to be observed and balanced carefully. Therefore, inclusive business models need strict and clearly defined CSR policies; partnerships with local governments, NGOs, and development agencies; as well as reviews and supervision.

## 7.2 Practical Implications: Guiding Questions for Creating Social Enterprises

Companies engaging in the set-up of a social enterprise can benefit from the lessons learned and shared by pioneers such as the Grameen Group. The following issues, which should be considered when setting up a social mission-driven enterprise, were derived from the multi-case study by Michelini and Fiorentino. Depending on the type of business model — social or inclusive — the answers to these questions will differ (for more details about the peculiarities of social and inclusive business models, see Michelini & Fiorentino, 2012).

1. **Be clear about the needs and abilities of your target group.** Are you addressing them as customers or entrepreneurs? A fundamental decision is whether the social groups to be served are BoP customers — requiring social business models with accordingly adapted value propositions — or co-workers and entrepreneurs — requiring empowerment or inclusive business models that directly involve your target group. How do you want to address your primary target group: as customers or active and co-creating partners, or both?
2. **Take a different perspective on your existing portfolio of value propositions.** Does it contain offerings that can immediately serve poor and low-income groups simply through redefined value propositions? For example, yogurt can be a high-end lifestyle product, but it can also cater to the very basic need for food (see Grameen-Danone). If redefinition is not enough, new products and services are needed. Which of your offerings might qualify as a basis for a social business model? What kind of new offerings have to be developed to serve your target group’s needs?
3. **Take a look at your value chain.** Where is shared value creation needed and where is it possible? Social and inclusive models both can introduce completely new or radically revised value chains. While social models may tend to focus on the downstream and customer-facing value chain phases, such as marketing and distribution, inclusive models emphasize upstream phases such as procurement and production. Which part(s) of your value chain can best contribute to shared value creation? Avoid seeing your target group as customers only; empower and include them where possible and necessary.
4. **Found joint ventures with non-profit organizations and appoint mixed boards.** Joint ventures are common to institutionalize social enterprises. This strategy has different implications: it is easier to implement a no-dividend or empowerment model with a new legal entity and to control mission drift; however, mixing for-profit and non-profit perspectives in one organization can lead to fundamental tensions and goal conflicts. Mixed boards are necessary to merge resources and capabilities from both worlds. Who is the optimal partner for a social mission-driven joint venture and how can you best deal with tensions due to goal conflicts and mission drift?
5. **Consider whether your resources and capabilities are useful for a social enterprise.** Social missions need resources and capabilities that are normally not required in developed markets, such as improvisation in resource-scarce environments. The formal education and work experience of managers and employees of for-profit companies is only one facet of what is required for social and inclusive models. Which resources and capabilities are you missing to engage in a social enterprise?
6. **Make use of complementary resources and capabilities.** While for-profit companies can provide financial resources and managerial and technological skills, non-profit organizations can contribute knowledge about local circumstances and needs, as well as networks

with development institutions and funding bodies. Non-profits' field experience might also contribute those resources and capabilities that for-profit companies lack to cope with informal or low-income environments. Moreover, the wisdom at the bottom of the pyramid, i.e. what those in need do know, is the key to understanding the real mission of a social enterprise. Which non-profit organizations and BoP partners qualify best for your social or inclusive business model?

While the above six guiding questions can help structure the initial thinking and planning of a social enterprise, a systematic assessment of the potential benefits and risks in the light of a company's and its partners' specific strengths and weaknesses can help to build a common and reliable ground for the development of social, no-dividend, empowerment, or inclusive business models.

Although most studies of social enterprises highlight the opportunities for both communities and companies, companies must be aware of and balancing benefits and risks. Table 7 provides an overview of potential benefits and risks for companies and communities.

**TABLE 7: BENEFITS AND RISKS OF SOCIAL BUSINESS VENTURES (CF. MICHELINI & FIORENTINO, 2012)**

	COMPANY	COMMUNITY
<b>Potential benefits</b>	<ul style="list-style-type: none"> <li>• Access to new markets</li> <li>• Access to local networks of production and distribution</li> <li>• Positive relationships with local agencies and governments</li> <li>• Acquisition of new skills</li> <li>• CSR development</li> <li>• Availability of raw materials and quality control</li> <li>• Traceability of the supply chain</li> <li>• Lower production costs</li> <li>• Increased profits</li> </ul>	<ul style="list-style-type: none"> <li>• Lower prices</li> <li>• Employment growth</li> <li>• Acquisition of new expertise</li> <li>• Local entrepreneurial development</li> <li>• Access to new services and products</li> <li>• Increased quality of life</li> </ul>
<b>Potential risks</b>	<ul style="list-style-type: none"> <li>• Long-term economic sustainability</li> <li>• Complexity of governance</li> <li>• Implementation costs</li> <li>• Unprofitable market</li> <li>• Social instability</li> <li>• Negative image</li> </ul>	<ul style="list-style-type: none"> <li>• Privatization of public goods</li> <li>• Oligopolistic market</li> <li>• Profit orientation</li> <li>• Loss of autonomy for the suppliers</li> </ul>

## CASE BOX 19: WOOLWORTHS (II), SOUTH AFRICA

### WOOLWORTHS: ENTERPRISE DEVELOPMENT WITHIN THE VALUE CHAIN

Woolworths Holdings Ltd. is an investment holding company and one of the top 100 companies listed on the Johannesburg Securities Exchange. Its core business is the provision of retail products and services to upper- and middle-income customers in the Southern Hemisphere. The company employs more than 41,000 employees across 15 countries and trades in approximately 1,300 store locations. Its vision is to be a world leader in retail brands that appeal to people who care about quality, innovation, and sustainability, in what it collectively terms its “good business journey”: “Business’ role in driving sustainability is becoming ever more important. This applies to both the community around us and to the environment that serves us all. Our response is our good business journey” (Woolworths, 2014, p. 1)

The company believes that focusing on elements of governance, economic growth, transformation, social development, and the environment will create shared value for the group and all of its stakeholders. According to Justin Smith, Head of Sustainability at Woolworths, the concept of creating shared value stands for a long-term orientation that also focuses on the company’s multiple stakeholders. Smith sees the terms **sustainability** and **shared value** as equivalent. Smith says that where sustainability might be perceived as a more restrictive concept, shared value appears to be more compelling to business managers because of its value creation connotation.

Woolworths creates value across a broad spectrum in the South African economy. At the most fundamental level, it generates direct employment and career opportunities for over 28,344 people and generates more than double that indirectly, through its manufacturing and processing network, as well as through its assistance in bringing small-scale suppliers into the value chain.

Woolworths aims to better manage its ethical supply chain risks and to take more responsibility for the livelihood of its South African and global supplier networks. The latter is of specific importance to developing small-scale enterprises through ethical sourcing and is

primarily driven by the Black Economic Empowerment (BEE) framework and Woolworths Code of Business Principles.

This particular approach to smallholder inclusion faces a range of fundamental challenges:

- Woolworths does not have a franchise structure where stores could organize their sourcing independently and thus directly involve small farmers as suppliers; the company instead has three centralized distribution centres that manage supply in a steep hierarchy.
- Partnering with Woolworths normally requires costly investments that small farmers often cannot afford — e.g. developing production processes that comply with Woolworths’s quality standards.
- As a result, while the company’s centralized and highly efficient supply structure leads to advantages in terms of economies of scale and scope, it is at the same time a barrier to involving small farmers.
- Another major challenge is the customers’ willingness to pay. Small farmer inclusion might be associated with higher costs, which is a real challenge in the competitive environment in which Woolworths operates.

The solution to these challenges is a **multi-tier supply chain system**. Primary suppliers organize lower tiers of small farmers, rather than forcing small-scale farms to be confronted directly with the complexity of Woolworths’s supply chain. This approach smoothly integrates small farmers into Woolworths’s supply network. Our literature review shows that inclusive business models often follow this strategy (e.g. Gaertner & Ishikawa, 2014; Jenkins, Ishikawa, Geaneotes, Baptista, & Masuoka, 2011).

Woolworths seeks to integrate small-scale farmers mainly to procure fruits, vegetables, and dairy products locally in South Africa. The

ultimate goal is to engage these farmers as direct suppliers, which is often problematic because the high standards required for packaging and logistics are expensive. Therefore, small-scale farmers are matched with primary suppliers who possess technical, logistics, and processing skills. These suppliers pass on their knowledge in terms of processing, financial planning, and business and management techniques. Long-term relationships between Woolworths and its primary suppliers provide a stable framework within which small-scale farmers can develop their capabilities to become regular suppliers.

Through this framework, Woolworths learns where the original farming models are inflexible and can react to these inflexibilities. The company provides loans to farmers, for instance, and helps them to develop a business case. The most important expected results of this inclusive business model — also in line with our literature review — are additional or upgraded employment and the provision of markets for small-scale farmers, which were not available to them before.

The effects for Woolworths are:

- The total growing season is extended due to diverse locations in their farmer network.
- Farmers can be employed as flexible suppliers who deliver what is currently needed.
- New or forgotten traditional produce is explored, such as madumbi, a traditional potato that was rediscovered.
- The farmers' production models contribute to cost control and environmental sustainability, such as the use of fewer pesticides, and less destruction of the soil.

This inclusive business model connects local farmers to local customers. Fruits and vegetables are the company's most important customer touch point. More than 90 per cent of Woolworths's food products are sourced in South Africa. The vision is to increasingly grow the share that small-scale farmers produce. This sourcing strategy in some cases replaces international supplies and ensures new growth of Woolworths business.

## 7.3 Types of Social and Inclusive Business Models

The literature provides evidence of diverse social enterprise models that address specific needs, such as access to basic supplies (e.g. energy and water) or education (e.g. school and higher education). Specific modifications of how value is created, delivered, and captured may be observed in these models. The report *Accelerating Inclusive Business Opportunities*, issued by the International Finance Corporation (IFC) and its Inclusive Business Model Group, describes seven business models, each dedicated to solving or mitigating a particular social problem (Jenkins, Ishikawa, Geaneotes, Baptista, & Masuoka, 2011), as shown in Table 8.

**TABLE 8: SEVEN BUSINESS MODELS FOR SOCIAL BUSINESS VENTURES (JENKINS, ISHIKAWA, GEANEOTES, BAPTISTA, & MASUOKA, 2011)**

<p><b>MICRO DISTRIBUTION AND RETAIL</b></p>	<p>Reaches base of the pyramid (BoP) end-consumers, who tend to make small, frequent purchases close to home, by leveraging and effectively serving existing retail outlets in the neighbourhoods where those consumers live. Such outlets are often small, with little space for excess inventory, and run by staff with little business training, scarce working capital, and no access to finance. They need small, frequent deliveries and the ability to buy on credit. They may need custom assortments and/or small-sized products (e.g. airtime cards in small denominations) or pay-per-use services (e.g. minutes of shared mobile phone use) that match BoP consumers' limited, sporadic cash flows. Many companies using the micro distribution and retail model also provide business skills training and other forms of support to help such retail outlets increase sales, recognizing the link between the outlet's business success and the company's own. Example: Coca-Cola Sabco, Eastern Africa, working together with 2,200 micro distributors.</p>
<p><b>EXPERIENCE-BASED CUSTOMER CREDIT</b></p>	<p>Generates additional revenue in the form of interest income through lending to customers the company knows are creditworthy through experience doing business with them in the past — rather than through formal credit histories. The model is generally employed by companies outside the financial sector, although some may have credit arms or subsidiaries. Some companies focus on their direct customers. One company lends to its customers' customers as well, based on the experience its customers have had with those people in the past (and leveraging their existing relationships to help incentivize repayment). The model is predicated upon limited access to other sources of credit at similar rates or for similar purposes. Example: Colombian Gas Corporation, Promigas (<a href="http://www.promigas.com">http://www.promigas.com</a>).</p>
<p><b>LAST-MILE GRID UTILITIES</b></p>	<p>Extends grid coverage to more distant and often lower-income neighbourhoods through a combination of financing, technology, and customer service innovations that help cover capital expenditures, minimize technical and commercial losses, and ensure customers pay on time. The model is based on a clear value proposition to the consumer: greater quality, reliability, and convenience, and in many cases, lower cost, compared to previously available, often informal utility options. Example: Manila Waters' Water for the Community program in the Philippines (<a href="http://www.manilawater.com">http://www.manilawater.com</a>).</p>
<p><b>SMALLHOLDER PROCUREMENT</b></p>	<p>Turns geographically dispersed smallholder farmers into reliable sources of quality supply through efficient aggregation methods and customized packages of support services that build capacity and loyalty. Common support services include agricultural extension, business development, access to agricultural inputs, and credit. Sometimes, buyers choose to focus on higher value crops capable of earning a premium in the marketplace to help cover the cost of such support. Example: Alquería in Colombia, a dairy product company that purchases a portion of its milk from 5,500 small-scale farmers, each delivering less than 200 litres per day (<a href="http://www.alqueria.com.co">http://www.alqueria.com.co</a>).</p>
<p><b>VALUE-FOR-MONEY DEGREES</b></p>	<p>Makes university education accessible to all through a combination of innovations that increase affordability and value for lower-income students. To increase affordability, these universities use standardized curricula that can be taught by part-time instructors, accessible physical and virtual campuses that reduce students' transportation costs, modular programming that matches cash flows, and access to student loan financing. To create value, they offer course content and career services tailored to the job market.</p>



## VALUE-FOR-MONEY HOUSING

Makes home ownership possible for lower-income buyers through a combination of high value for money and facilitated access to mortgage financing. A home is the biggest investment most people ever make and they have to be convinced that it is worth the commitment, which can feel risky. Value-for-money housing balances aspiration (with a focus on quality, special features, and the community environment) and affordability (with home sizes and layouts in different price ranges, and features that reduce the ongoing cost of ownership). Because the model hinges upon access to financing, it often involves helping homebuyers — often the first in their families — to navigate the mortgage application process. Example: VINTE in Mexico offers flats from below US\$30,000 and supports clients with loan applications (<http://www.vinte.com.mx>).

## E-TRANSACTION PLATFORMS

Many low-income individuals lack access to financial services as a result of the high transaction costs and complex logistics involved in reaching them. Technology companies are beginning to address these challenges through electronic transaction platforms, creating opportunities to serve low-income customers and bringing them benefits spanning convenience, efficiency, security, market access, and integration into the formal financial system. The International Finance Corporation (IFC) is investing in a diverse set of technology companies that are helping to create the complex infrastructure for a cashless society to function. These companies have different business models. However, at a fundamental level, they display some interesting similarities — like leveraging existing retail outlets and networks, building outlets' business and technology skills, raising consumer awareness, and helping them understand the value proposition behind cashless transactions. Example: FINO in India enables millions of Indians to receive and use public grants through its digital wallet; the company also engages in campaigns to increase the financial literacy of its customers (<http://www.finopaytech.com>).

The IFC sees these business models as clearly exceeding philanthropy or classic CSR and points to their inherent and real business opportunities: “Far from philanthropy-driven, these business models can be part of a successful long-term growth strategy that creates new market-based opportunities, eliminates market inefficiencies, solidifies supply chains, and builds future brand loyalty” (International Finance Corporation, 2015).

## FURTHER RESOURCES

The Practitioner Hub for Inclusive Business. The Hub is a platform for practitioners to connect and gain new insights to help develop and grow their inclusive business ventures (<http://www.inclusivebusinesshub.org/>).

IFC's Inclusive Business Model Group. The International Finance Corporation (IFC), part of the World Bank Group, invests in inclusive business models, “which are commercially viable and replicable business models that include low-income consumers, retailers, suppliers, or distributors in core operations” ([http://www.ifc.org/wps/wcm/connect/AS\\_EXT\\_Content/What+We+Do/Inclusive+Business/](http://www.ifc.org/wps/wcm/connect/AS_EXT_Content/What+We+Do/Inclusive+Business/)).

WBCSD — Action 2020, Inclusive Business Model. This initiative of the World Business Council for Sustainable Development (WBCSD) engages with business leaders to overcome internal and external barriers to scale inclusive business ventures, (<http://action2020.org/business-solutions/inclusive-business-models>).

# 8. a systemic view on business model innovation for sustainability — conditions, barriers, and tools

This section offers a systemic view on business models and business model innovation for sustainability and shared value. The frameworks proposed in Sections 4 to 7 focus on specific aspects such as how to conceptualize a BMfS (Hourglass Model), how to plan a strategically grounded innovation process (Roadmap Model), and how to guide this process in terms of role models or with regard to social needs in particular (archetypes and social enterprise models). What is still needed here, and in most of the reviewed publications, is a “360° perspective” that considers the conditions of business model innovation for sustainability and shared value, the barriers that are most likely to occur, and the tools that might be used to deal with these conditions and barriers. These aspects are discussed in the following.

## 8.1 Conditions of Business Model Innovation for Sustainability

Business models originate from a practical need to be able to quickly explain how business is done, for example to potential investors or key decision-makers (e.g. Doganova & Eyquem-Renault, 2009; Osterwalder, Pigneur, & Tucci, 2005). As Teece (2010, p. 191) notes, “a business model cannot be assessed in the abstract; its suitability can only be determined against a particular business environment and context.” Sustainable business models for shared value creation are no exception. In reviewing the literature, we have identified three overlapping characteristics or dimensions of the external business environment that play an important role in influencing the viability of different strategic plays as they relate to business models for shared value. These are:

- The organizational models underlying business models (micro factors).
- The structure of an industry’s value chain/network (meso factors).
- Institutional and socio-political arrangements (macro factors).

**Micro factors:** Business models are run by companies that are inevitably based on **individual organizational models, including specific organizational cultures and identities**. Behind every business model

is an organizational model that contains a structure or hierarchy, and complex social traits such as individual and organizational values (e.g. Matos & Silvestre, 2013; Stubbs & Cocklin, 2008). It includes, inter alia, an organizational culture, ways of collective decision making, control systems, flows of information, and operational processes. Any business model builds on these and other organizational traits (e.g. Arevalo, Castelló, de Colle, Lenssen, Neumann, & Zollo, 2011; Kantabutra, 2012; Reynoso, Kandampully, Fan, & Paulose, 2015). These somewhat “soft” aspects are often neglected in the business model literature, but can have a fundamental effect on a company’s ability to devise innovative business models (e.g. Anderson & Kupp, 2008; Matos & Silvestre, 2013).

### INSIGHT

While business models are often described by means of static box-and-arrow types templates, real organizational traits such as normative values, corporate identity, and strategic orientation should be considered in the analysis and design of new business models for shared value. Normative values, from instrumental ones to the genuine desire to “do the right thing,” play an important role in shared value creation.

Traditional representations such as “box-and-arrow frameworks” or short narratives are useful: parsimonious, but still insightful conceptualizations. However, such representations simplify away the elements pertaining to the real organization behind a business model (Massa, Tucci, & Viscusi, 2017). This simplification is not inherently a problem — a simplified representation of a complex business model may allow users to grasp its essence without going into the complexities of the underlying organizational model. But by simplifying away supposedly soft organizational traits, managers might be tempted to ignore these as if they did not matter.

However, our review reveals otherwise. For example, there is strong empirical evidence that companies approach green initiatives for different reasons, ranging from profitability and competitiveness (it pays to be green), legitimacy

(show compliance with expected or forced standard), or the genuine belief that being green is the right thing to do (individual and organizational values of responsibility) (e.g. Bansal & Roth, 2000). The values and shared understanding that companies attach to sustainability, which means how sustainability is understood and justified within a company may influence both the quality and intensity of the practices that firms implement, in turn affecting their ability to devise new solutions for sustainable business models and shared value creation (an approach that can be termed **values-based innovation**, Breuer & Lüdeke-Freund, 2017a, 2017b; Matos & Silvestre, 2013).

The literature agrees that corporate environmental and social initiatives can be based on a mixture of three fundamental motivations (cf. Carroll & Shabana, 2010; Garriga & Melé, 2004):

- **Competitiveness**, also known as instrumentalization, which is defined as the search for profiting from engaging in social and environmental value creation.
- **Legitimacy**, which is the search for complying with what society is expecting, and is typically characterized by a defensive approach.
- **Ethics**, the genuine belief that addressing social and environmental problems “is the right thing to do.”

Many authors notice that iconic companies who are frequently cited for leadership in sustainability, such as Interface, Novo Nordisk, the Body Shop, or Patagonia, are known in the first place for their normative values (manifested and communicated through corporate visions, strategies, and operations) in addition to their ability to create forms of shared value (cf. Stubbs & Cocklin, 2008). In a nutshell, there seems to be evidence that **values affect the ability to develop sustainable business models and create shared value**.

**Meso factors:** The **structure of an industry value chain** refers to the architecture of the actors, including suppliers, owners of complementary

## INSIGHT

Business model innovation and shared value creation do not happen in a vacuum. These actions happen in specific contexts and environments, whose characteristics influence goal attainment and the success of strategies and tactics. Most important are the structure of an industry’s value chain and surrounding institutional and socio-political arrangements.

assets, and other institutions, and their roles, objectives, and positions (Porter, 1985). Analyzing the structure of an industry value chain, including the roles, motivations, and asset ownership of the various actors involved, is important because almost every type of innovation, and particularly systemic innovations, such as business model innovations, necessarily come with an alteration of a given equilibrium. In this change process, some actors may benefit (or perceive they will benefit), while others may be left worse off (or perceive that they will be worse off), depending on their specific value chain position and actor role (e.g. Abdelkafi, Makhotin, & Posselt, 2013; Schweizer, 2005).

## CASE BOX 20: UBER POP, ITALY

### UBER POP – A NEW BUSINESS MODEL CREATING AND DESTROYING SOCIAL VALUE

The failure of Uber’s service Uber Pop in Italy (and other European countries) illustrates how value creation and value destruction for different stakeholders can occur simultaneously (see Section 6.3). After months of protests from taxi drivers, who have to buy official taxi licences for up to €200,000, an Italian judge ruled that Uber Pop creates “unfair competition” (The Guardian, 2015). Uber Pop allows customers to order rides with private drivers without commercial licences. That fact, the court ruled, made Uber Pop illegal, just like any other taxi company operating without a licence. On the one hand, Uber’s innovative business model and service hold the potential to create value for customers, for drivers, and local communities (Uber’s chief executive claimed that he would create 50,000 new jobs in major European cities). But at the same time, it threatens the status quo of traditional taxi drivers and their ability to finance their expensive taxi licences. Business model innovation often affects multiple actors simultaneously — a feature that is captured in the upper segment of the Hourglass Model. The “sharing economy” and its business models, which are often described as sustainable or shared value business models, are facing increasing skepticism. The question is “whether the sharing economy is simply bringing more wage-earning opportunities to more people, or whether its net effect is the displacement of traditionally secure jobs and the creation of a land of part-time, low-paid work?” (Journalist’s Resource, 2015).

Of particular interest for managers interested in sustainable business model innovations are actors who are only involved indirectly and who may perceive a loss from a proposed innovation. These actors can have strong power. Neglecting their ability to block a business model innovation may result in its failure.

Firms should consider an extended stakeholder mapping to depict the structure of an industry value network, as well as the roles and objectives of the various actors, including those who are only indirectly involved in downstream or upstream segments (see Case box 6) (e.g. Bocken, Sort, Rana, & Evans, 2013; Breuer & Lüdeke-Freund, 2017a, 2017b; Rohrbeck, Konnertz, & Knab, 2013). Besides spotting the multiple stakeholders and interests related to a particular business model innovation, the goal is to identify “acupuncture points” (points from which to initiate the change effort) and “obstacle points” (points where change may become particularly critical; see Section 8.2).

**Macro factors: Institutional and socio-political arrangements** refer to “local customs, beliefs, and social norms, as well as broader sectoral, national, and global institutions such as the political climate and routines of government organizations, international trade regulations, and development aid regimes” (Arora, Romijn, & Caniels, 2014, p. 7; see also Casson, Della Giusta, & Kambhampati, 2010). These arrangements and their interplay are important in determining the chances of innovation success, especially for systemic innovations, as is the case with business models (e.g. Arora, Romijn, & Caniels, 2014; Boons, Montalvo, Quist, & Wagner, 2013; Rohrbeck, Konnertz, & Knab, 2013).<sup>7</sup> While researchers agree that such arrangements are particularly important for companies doing business at the bottom of the pyramid (e.g. Arora & Ali Kazmi, 2012; Arora, Romijn, & Caniels, 2014; Seelos & Mair, 2005), the literature provides evidence that institutional and socio-political arrangements also play an important role in developed economies (e.g. Benijts, 2014; Provance, Donnelly, & Carayannis, 2011; Richter, 2013).

For example, in a study on emerging sustainable business models in Nordic countries, Birkin, Polesie, and Lewis (2009) found that these countries had particularly rich success stories. After studying these cases empirically, they concluded: “whilst specific new management tools and approaches of Nordic organizations do help sustainable development, it is the social context in which these organizations function that is a

<sup>7</sup> This aspect is discussed in the literature on systems of innovation, which has recognized the importance of institutional arrangements in shaping actors’ innovative activities and interactions, e.g. Malerba & Mani, 2009.

critical factor” (p. 277). Simply put, customers’ expectations and their willingness to pay for environmentally differentiated products, for example, are affected by cultural norms. Such a willingness to pay is also a function of specific customer segments. A study of the sales effects of Patagonia’s initiative to shift from conventional to organic cotton revealed that customers were willing to pay substantial price premiums for green goods. The study also suggested that Patagonia’s customers “may be more likely to exhibit willingness to pay a price premium for green goods than the average American consumer ... The average income of Patagonia catalogue customers exceeds the American average, and because the products are often used in outdoor recreation, their purchasers may be more interested in environmental issues” (Casadesus-Masanell, Crooke, Reinhardt, & Vasishth, 2009, p. 207).

## 8.2 Barriers to Business Model Innovation for Shared Value

Radical business model innovations for business sustainability are rarely undertaken by large, established companies. They face several barriers, such as inertia due to past investments (e.g. Birkin, Polesie, & Lewis, 2009; Hannon, Foxon, & Gale, 2013; Laukkanen & Patala, 2014; Lüdeke-Freund, 2013; Richter, 2013), which are not encountered by new, smaller entrants, which are more agile. (Small companies in turn often face different kinds of barriers, such as a lack of financial capital or access to industry knowledge, e.g. Bohnsack, Pinkse, & Kolk, 2014; Halme & Korpela, 2014.) However, some large incumbents do capture opportunities at the nexus of market, society, and the natural environment (e.g. Bohnsack, Pinkse, & Kolk, 2014; Boons & Lüdeke-Freund, 2013; Chesbrough, Ahern, Finn, & Guerraz, 2006; Eyring, Johnson, & Nair, 2011; Michelini & Fiorentino, 2012; Richter, 2013). Some of them actively engage in experimentation at the periphery of their business model. Such experiments are often carried out in partnership with smaller and more agile organizations such as social enterprises, non-profit organization (NPOs), or NGOs, which are more experienced in dealing with social and environmental issues on the ground (e.g. Elkington & Hartigan, 2007; Gaertner & Ishikawa, 2014; Jenkins, Ishikawa, Geaneotes, Baptista, & Masuoka, 2011; Michelini & Fiorentino, 2012; see Section 7). These partners may be a source for insights and intelligence in dealing with opportunities stemming from social and environmental matters, of which outcomes are difficult to forecast and may lead to unexpected peripheral business models for large established players.

## INSIGHT

Only very few incumbents engage in radical business model innovation and substantially change the way they do business. The most innovative cases are new players, social and non-profit enterprises, or exceptional iconic companies built on the principles of business sustainability and shared value.

Of the various business model innovations documented in the literature, very few involved substantial changes in the way large incumbents do business. These changes are most prominently represented by cases from the energy or automotive industry in which “old” and “new” business rationales compete with each other (e.g. Abdelkafi, Makhotin, & Posselt, 2013; Bohnsack, Pinkse, & Kolk, 2014; Lüdeke-Freund, 2014; Pinkse & van den Buuse, 2012; Richter, 2013). In most of the literature we surveyed, the most innovative cases referred to new companies (e.g. Jolink & Niesten, 2015, social enterprises (e.g. Seelos & Mair, 2005, 2007), or, in the case of larger companies, well-known iconic cases where some of the principles behind the concepts of business sustainability and shared value have inspired the identity of these companies since their foundation (e.g. Patagonia, The Body Shop, or Interface; Boons & Lüdeke-Freund, 2013; Girotra & Netessine, 2013; Stubbs & Cocklin, 2008).

Our review also reveals a possible explanation behind this phenomenon. Large, established companies face unique barriers to the development of sustainable business models, including:

- **Pressures for short-term results.** Often depicted as **short-termism** and mainly encountered in the presence of governance structures characterized by dispersed ownership seeking short-term gains, the tendency to manage for the short term is, in many ways, at odds with developing sustainable business models.<sup>8</sup> Integrating an orientation towards sustainability into an organization and accordingly modifying existing and innovating new business models is a systemic, long-term effort.<sup>9</sup> New business models do not come into being in the short term. They cannot be fully planned ex-ante and involve significant experimentation and trial-and-error processes.
- **Aversion to the risk of jeopardizing existing business.** Large firms, in devising new business models, may risk cannibalizing their existing business. For example, when an offering for a new and so far unserved customer segment is introduced, managers risk jeopardizing their existing business (cf. Markides & Charitou, 2004; Markides & Oyon, 2010). For example, when established newspaper companies introduce free online access to their content in order to compete with non-traditional news channels on the Internet, they erode their existing customer base. New entrants, who by definition do not have an established customer base, are not confronted with this problem.
- **Lack of capabilities to deal with social and environmental issues.** Large, established companies know how to compete in markets, but they may lack the capability to address social and environmental issues. For example, applying theories of change, i.e. to systematically plan roadmaps for social and environmental transitions, is a practice that has not yet diffused in the private sector. Organizations such as the U.S. think tank Rocky Mountain Institute, which works to foster the transition from fossil fuels to renewable energies and energy efficiency, master this capability. This gap is also a reason why several authors see strategic alliances between large established companies and NPOs or NGOs as a way of obtaining complementary capabilities (e.g. Chesbrough, Ahern, Finn, & Guerraz, 2006).
- **Lack of integration between business and sustainability strategy.** The decoupling of business and sustainability strategy is perhaps best reflected in the existence of a separated sustainability department confined into a cultural silo within a company's organization. In consequence, the criteria that drive strategic decisions and those that guide sustainability initiatives are formulated and assessed in isolation. Large, established firms are driven by institutional pressures of various types (Waddock, 2008) and are often challenged to retain their legitimacy through activities with a symbolic rather than substantial meaning, which represent mere add-ons to their core business. (An example of such a symbolic focus is the pressure to obtain high scores in sustainability rankings.) Integration, on the contrary, allows for recognition of strategic opportunities in the solution of social and environmental problems. Integration of business and sustainability strategy is a necessary precondition for shared value creation (Figure 14).
- **Inertia and resistance to change.** With regard to business model innovation, inertia is caused not only by structural but also by cognitive

<sup>8</sup> See Reilly, Souder, & Ranucci, 2016.

<sup>9</sup> See Bertels, Papania, & Papania, 2010.



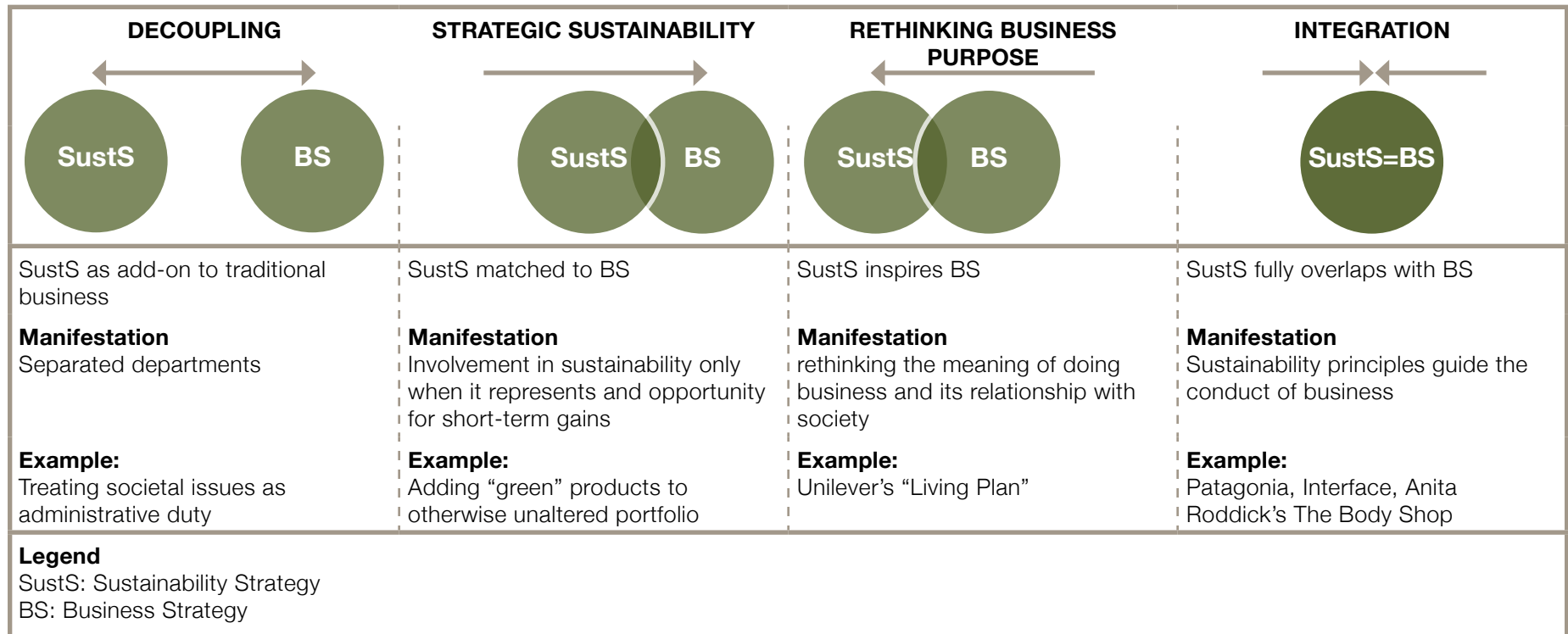
barriers manifested in dominant logics and identity traps (Chesbrough, 2010). The dominant logic is a prevailing wisdom about how the world — and business — works. It increases operational efficiency as it serves as a filter of information, but it can also restrain managers from seeing new opportunities when they fall outside of their prevailing logic. Similarly a company’s identity can become a trap when it limits strategic options in a way that inhibits adequate reactions to a changing business environment. To prevent these traps, managers are required to act as psychologists of their own organizations, explicating their dominant worldviews, identities, and underlying assumptions. Careful evaluations are necessary to understand potential barriers to business model innovation.

These barriers refer to the barriers faced by incumbent firms, mainly due to a lack of resources and “dynamic capabilities” to engage in sustainable business model innovation. A recent study by Laukkanen and Patala (2014)

revealed further, more general cultural and structural barriers, and the means to overcome these. They identified major barriers to BMfS along three dimensions: regulation (e.g. lack of long-term legal regulatory frameworks, inconsistent and overlapping regulatory mechanisms), markets and financial issues (e.g. financial risks, short-termism), and behavioural and social issues (e.g. lack of customer acceptance, missing stakeholder pressure).

Figure 14 illustrates different relations between sustainability and business strategy. Our review identified a lack of integration between sustainability and business strategy as a major BMfS barrier. “Decoupling” refers to a strict separation (sustainability as an administrative duty; see also Schaltegger & Wagner, 2011), while “integration” describes a situation where sustainability is at the heart of business strategy, or vice versa. In between, we may find companies that are following a purely strategic (or opportunistic) approach towards sustainability, and those who move on and rethink the general purpose of their business.

**FIGURE 14: FROM DECOUPLING TO INTEGRATION – BUSINESS AND SUSTAINABILITY STRATEGY**





New innovation methods and tools might help to overcome these and further barriers. The next section introduces selected tools for sustainability-oriented business model innovation found in the literature and through expert consultations.

## 8.3 Tools to Support Business Model Innovation for Sustainability

Business model innovation for sustainability and shared value cannot be fully planned. It often results from a discovery-driven, trial-and-error approach that involves experimentation at the periphery of existing businesses, a great deal of customer insights, and design thinking approaches and techniques (Section 5) (e.g. Chesbrough, Ahern, Finn, & Guerraz, 2006; Eyring, Johnson, & Nair, 2011; Huijben & Verbong, 2013; Jolly, Raven, & Romijn, 2012; Rohrbeck, Konnertz, & Knab, 2013; Yunus, Moingeon, & Lehmann-Ortega, 2010). Most business model conceptions serve as frames of reference to describe an organization’s value-creation rationale and to make it accessible to such innovation techniques. Component-based frameworks are very common as a basis for business modelling tools. These are frameworks of different conceptual elements and their relationships, such as resources, value proposition, customers, or financial model (e.g. Abdelkafi, Makhotin, & Posselt, 2013; Osterwalder & Pigneur, 2009). However, other approaches that focus more on business model activities or actors instead of elements, for example, are also found in the literature (e.g. Zott & Amit, 2010).

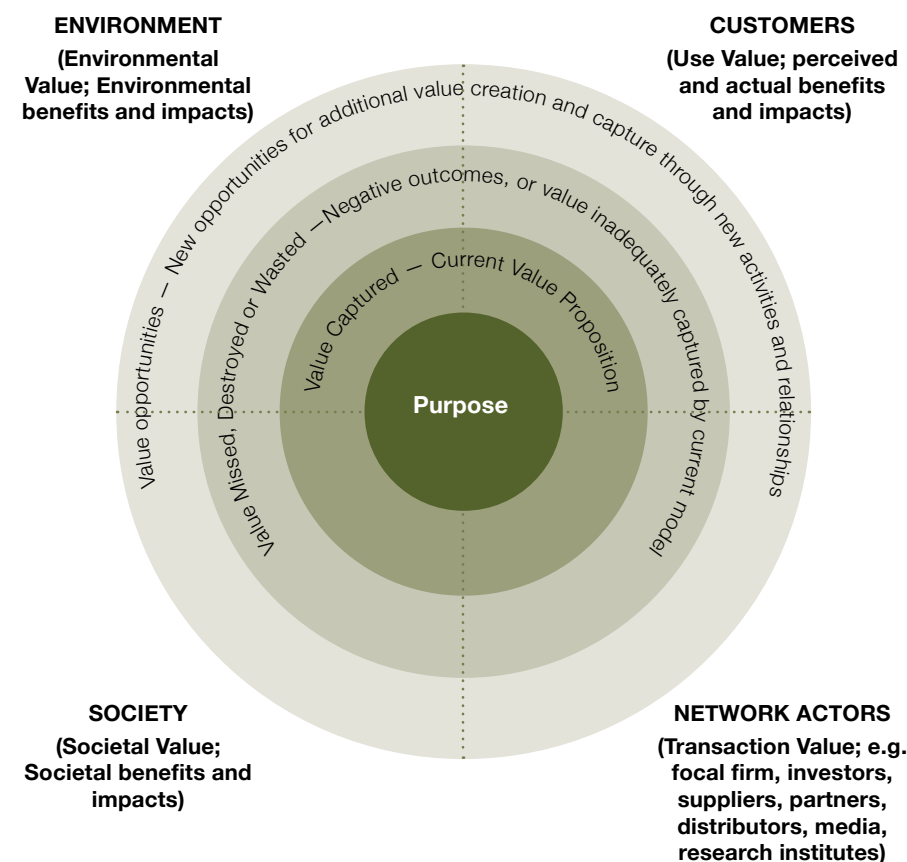
In this section, we briefly introduce a selection of business modelling tools that extend traditional frameworks towards environmental and social aspects (Breuer & Lüdeke-Freund, 2017a, 2017b; Jonker, 2014; Joyce & Paquin, 2016; Short, Rana, Bocken, & Evans, 2012; Upward & Jones, 2016). These tools differ in terms of their maturity, but all can be described as being in a “beta stage” — our review revealed that so far, no standard for sustainability or shared value-oriented business modelling exists.

### 8.3.1 VALUE-MAPPING TOOL

The value-mapping tool was developed through collaborative research at the University of Cambridge (Bocken, Short, Rana, & Evans, 2013; Bocken, Rana, & Short, 2015; Short, Rana, Bocken, & Evans, 2012) with the purpose of sustainable business modelling. Its latest version is called “The Cambridge Value Mapping Tool” and was developed at The Institute

for Manufacturing’s Centre for Industrial Sustainability by a research team led by Professor Steve Evans.<sup>10</sup> This kind of value-mapping tool helps companies reconsider their purpose and innovate their value propositions by including multiple stakeholder perspectives (including society and the environment) and taking a network-centric, rather than firm-centric, view on value. Companies sequentially discuss the business (model) purpose; the value currently destroyed, wasted, and missed for different stakeholder; as well as new value opportunities emerging from this analysis (Figure 15). The tool aims to facilitate the creation of sustainable value for firms by innovating the value proposition.

**FIGURE 15: THE VALUE-MAPPING TOOL (SOURCE: BOCKEN, SHORT, RANA, & EVANS, 2013)**



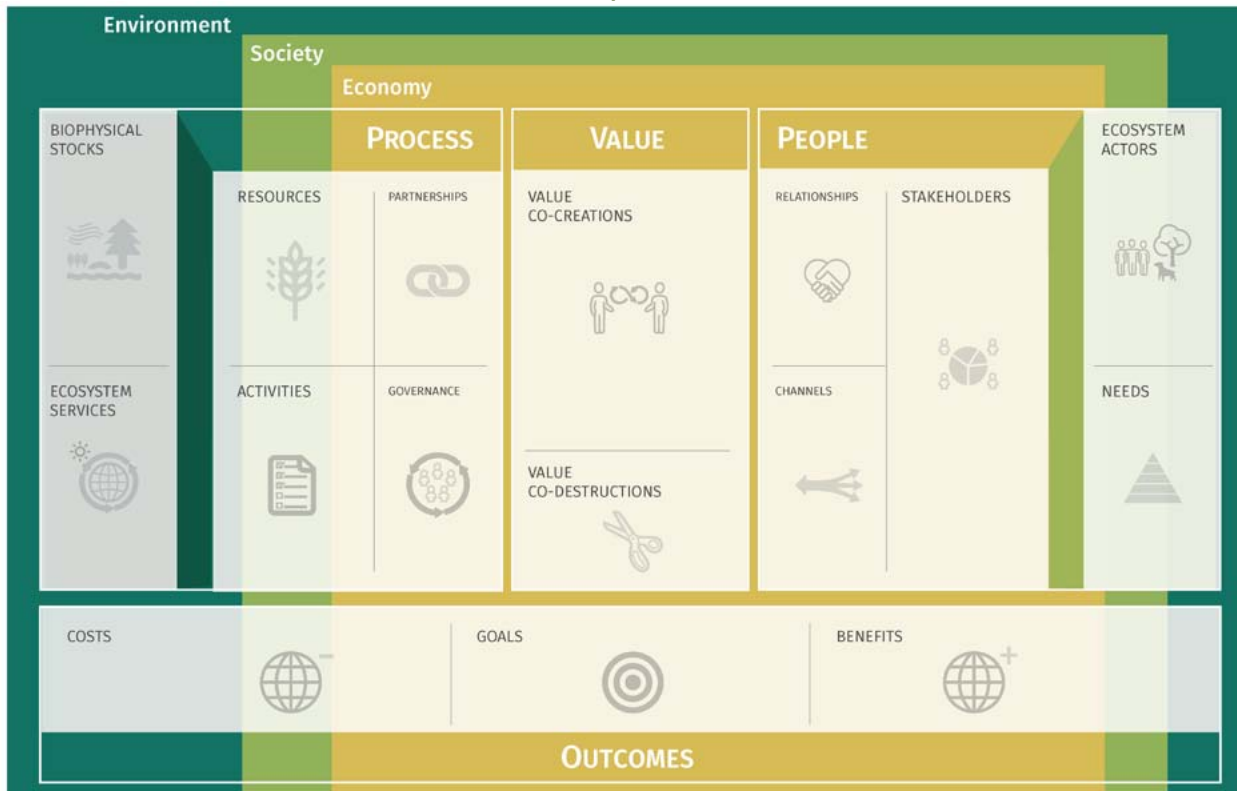
<sup>10</sup> See Vladimirova, 2016

Use of this model focused predominantly on value and the value proposition may be followed by one of the other “canvas-like” tools discussed next, which can also facilitate the development of the other elements in the canvas.

### 8.3.2 FLOURISHING BUSINESS CANVAS

To our knowledge, the most radical extension of the most popular framework, i.e. Osterwalder and Pigneur’s (2009) Business Model Canvas (BMC), is the Strongly Sustainable Business Model Canvas (SSBMC), developed by Upward (2013) (see also Upward & Jones, 2016). Its coverage of elements and contents has been extended to not only include the elements proposed by the BMC but to also represent an organization’s contexts (natural environment, society, and financial economy), its stakeholders, and their needs.

**FIGURE 16.:THE FLOURISHING BUSINESS CANVAS (SOURCE: [HTTP://WWW.FLOURISHINGBUSINESS.ORG](http://www.flourishingbusiness.org))**



The SSBMC suggests working with actor-specific questions, such as “Who are the human and non-human actors who may choose to engage with the business?” or “Which human and non-human actors’ fundamental needs is the organization intending to satisfy?” Consequently, use of this tool leads to an extended notion of performance, based on a definition of value in alignment with fundamental human needs: “How does the organization define success environmentally, socially, and economically (from the perspective of all actors in all their various stakeholder roles)?” (Jones & Upward, 2014). Moreover, the SSBMC proposes extended concepts of resources (e.g. to include bio-physical stocks) and performance metrics reflecting a form of triple bottom line approach.

### 8.3.3 TRIPLE LAYERED BUSINESS MODEL CANVAS

This tool, currently being developed by Joyce and Paquin (2016), builds on the assumption that business model innovation that takes into account a triple bottom line approach will be more sustainable over time. The Triple Layered Business Model Canvas makes use of Osterwalder and Pigneur's structured canvas approach to help companies that wish to innovate upon their current business model and create concepts of business models that create, deliver, and capture multiple forms of value. The tool adds a second layer to the original canvas, with nine environmental elements that follow a lifecycle approach, as well as a third layer with nine social elements that follow a stakeholder approach.

Business leaders can use this multi-layered canvas to better understand and visualize the relationships between the economic, environmental, and social aspects of their business model. This tool, like the Flourishing Business Canvas, supports the second step of the Business Model Thinking framework introduced in Section 5.2. Archetypes and patterns are helpful extensions of these tools for solving particular innovation tasks associated with sustainability and shared value initiatives identified in the Sustainability Strategy Roadmap (SSR) (Section 5.1).

### 8.3.4 CLOVER BUSINESS MODEL CANVAS

This approach goes beyond the shared value concept put forward by Porter and Kramer (2011) by replacing the mere strategic intention of addressing societal needs and challenges to improve business success with the fundamental principles of collaboration, true sharing, and multiple forms of value. Understanding value creation as a collaborative effort through a new generation of business models should lead to a positive contribution in multiple dimensions. This approach provides the basis for innovative businesses that lay the foundation for a new and really more sustainable economy.

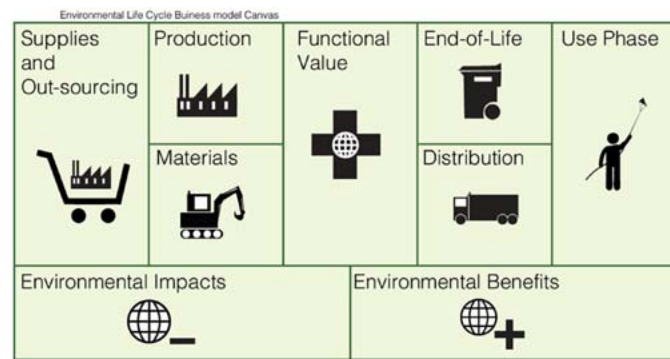
The design principles for new business models described in the Clover Business Model Canvas (Jonker, 2014) build on an open socio-system perspective. Central is the idea that everyone participating in a value-creating system should be able to share in that value. This approach requires an open and dynamic framework to integrate all relevant network participants since no "one-size-fits-all universal value-creation model" can anticipate their value definitions. Therefore, the Clover Business Model Canvas approach takes an ecosystems perspective on value creation and stakeholder constellations.

**FIGURE 17: THE TRIPLE LAYERED BUSINESS MODEL CANVAS (JOYCE & PAQUIN, 2016)**

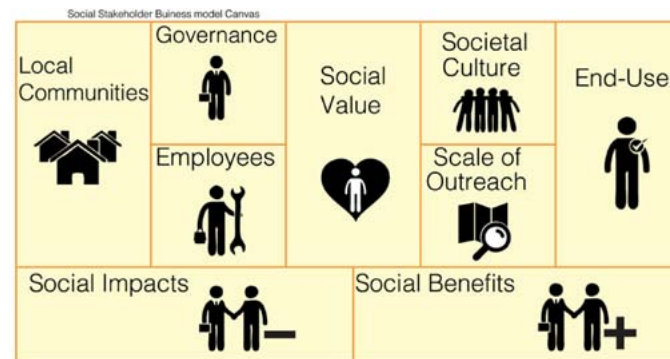
#### ECONOMIC LAYER (BASED ON OSTERWALDER & PIGNEUR, 2009)



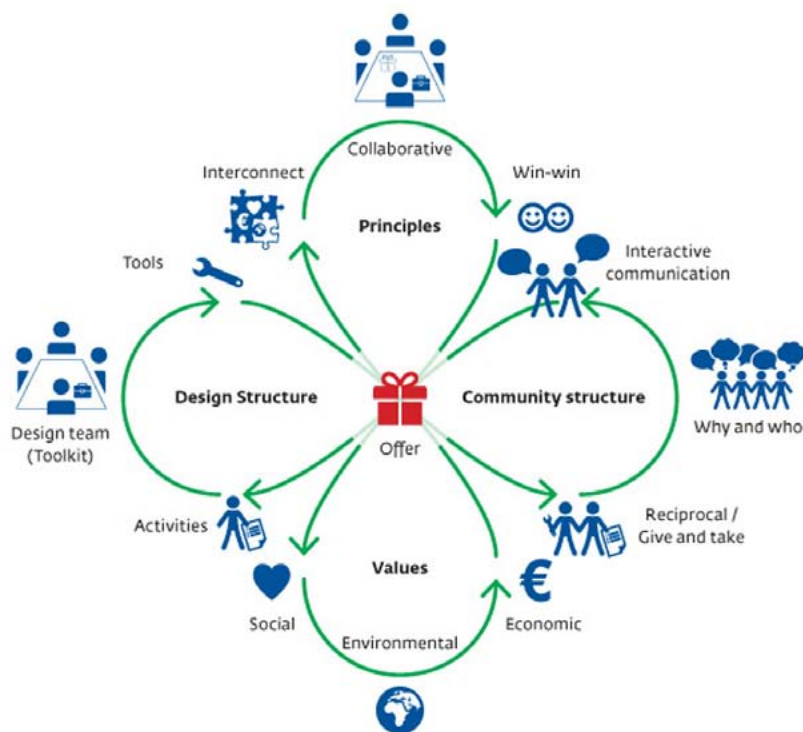
#### ENVIRONMENTAL LIFE CYCLE LAYER



#### SOCIAL STAKEHOLDER LAYER



**FIGURE 18: THE CLOVER BUSINESS MODEL CANVAS (SOURCE: JONKER, 2014)**



The design of truly sustainable business models according to the Clover Business Model Canvas approach must follow three principles (Jonker, 2014):

1. The principle of **collaborative value creation**, which is the idea that constituents invest in creating value together.
2. The principle of **shared value creation**, which is the idea that constituents share in the value they have created collaboratively.
3. The principle of **multiple value creation**, which is the simultaneous provision of ecological, social, and economic value.

### 8.3.5 THE BUSINESS INNOVATION KIT AND THE SUSTAINABILITY INNOVATION PACK

The Business Innovation Kit, a card-based facilitation tool, shown on the next page, supports teams in the exploration and co-definition of business models for new or existing organizations (Breuer, 2013). A structured process guides interdisciplinary teams through different aspects of business modelling, from initial vision development (“grounding”) to defining complete models. Like the Flourishing Business Canvas and the Triple Layered Business Model Canvas, the Business Innovation Kit was derived from the original framework by Osterwalder and Pigneur. Two additional card sets help to turn chosen strategic sustainability and shared value opportunities into action (Breuer & Lüdeke-Freund, 2017a, 2017b).

The first deck of sustainability cards describes five innovation maturity levels. These ascend from incremental innovations with rather narrow scope (e.g. changes in existing products or services) to radical and more encompassing approaches (e.g. developing new value networks to solve complex sustainability challenges like local energy transitions). Once users agree upon a strategic roadmap for an innovation project (Section 5.1) and the level of sustainability innovation maturity to be reached, they develop ideas for each business model component.

The second deck of sustainability cards describes eight business case drivers (Section 3.2.3) and proposes different levers to improve a business model’s sustainability and shared value performance in concert with costs, risks, or reputation, for example. An example would be offering cost-efficient contracting models based on using and sharing technical equipment, instead of simply selling product units. This tool might help managers align their business model designs with the most essential drivers of their specific business cases for sustainability and shared value.



FIGURE 19: THE “BUSINESS INNOVATION KIT” AND “SUSTAINABILITY INNOVATION PACK”



## 9. summary

In the recent past, practitioners and researchers dealing with the wider field of business and society relationships have witnessed the rise of two new, yet very popular, concepts: the **business model** and **shared value creation**. To better understand their joint potential, this Network for Business Sustainability South Africa (NBS-SA) review provides a synthesis of the literature and practice of business models for shared value, which, as an approximation, are operationalized as **business models for sustainability (BMfS)**. The purpose of this report is to provide an overview of the state of the art of research in this field and related business practice, and how it can provide a platform for business sustainability and shared value creation.

The concept of BMfS evolved around the work linking business to the natural environment and society, pointing to business challenges and opportunities for sustainability-oriented business model innovation.<sup>11</sup> Without doubt, this concept is beginning to influence the direction of theory and practice in fields such as sustainability management, corporate social responsibility (CSR), and sustainability innovation, where it represents a particular approach to shared value creation. Based on our review, we conclude that the relationship between BMfS and shared value can be described as follows:

First, traditional business model concepts must be extended to explicitly acknowledge the particular normative goals of corporate sustainability. Based on the resulting definition of a business model sustainability, we argue that it has the potential to support shared value creation in that it strives for multiple value creation, which is another way of referring to creating value for business **and** society.

Second, we can conclude that every BMfS potentially creates shared value, but not every shared value initiative necessarily builds on a BMfS. This is because of the specific focus of the business model concept. While initiatives to increase worker safety, employee skills, or reduced resource consumption might lead to forms of shared value, these must not necessarily touch a company's business model or involve business model innovation.

<sup>11</sup> A recent overview of BMfS research is provided in an Organization & Environment special issue on business models for sustainability (<http://oae.sagepub.com/content/29/1.toc>).

Having clarified these particular relationships between BMfS and shared value creation, the report offers a new framework to structure the broad picture of value creation for business and society with a focus on the business model. The Hourglass Model framework, which was exclusively developed for the purpose of this NBS-SA study, integrates three major elements that must be considered when thinking about and implementing new and sustainability or shared value-oriented business activities: the capital base of business operations, its transformation through value-creating activities, and the outputs and outcomes that impact a firm's stakeholders. Therefore, the Hourglass Model integrates three core concepts; notably (i) different forms of capital, (ii) the business model concept, and (iii) a stakeholder perspective on value creation.

The Hourglass Model supports practitioners in thinking about the overarching relationships between their business models and their stakeholders (here, including the natural environment). Every input to a business model is provided by a particular stakeholder (e.g. financial capital by shareholders, intellectual capacity by employees). In alignment with the International Integrated Reporting Framework, we define value creation as the transformation (use, enhancement, degradation) of these inputs. As outputs and outcomes, they flow back to particular stakeholders (e.g. financial profits for shareholders, intellectual development for employees), where they inevitably accumulate. In a nutshell, to create BMfS and shared value, these relationships of capital provision and capital accumulation, facilitated by business models, have to be understood — and managed.

The static Hourglass Model is therefore embedded within an encompassing Roadmap Model that builds on major insights from the traditional business model innovation literature and the reviewed body of BMfS publications. This framework complements the Hourglass Model by expanding on the need to devise a clear strategic roadmap for corporate sustainability management and shared value creation (Sustainability Strategy Roadmap, or SSR), as well as a methodology to experiment with business models (Business Model Thinking, or BMT).

The main characteristics of the Sustainability Strategy Roadmap are (1) the combination of internally and externally oriented analyses guiding managers to identify opportunities for corporate sustainability and shared



value creation in their organization and business environment; (2) a methodology for clarifying companies' expectations for corporate sustainability and shared value (Why?) and for prioritizing initiatives on the basis of those expectations and strategic relevance (What?); and (3) a perspective depicting strategies for corporate sustainability and shared value as manageable portfolios of initiatives.

The Business Model Thinking framework supports (1) insights into how to differentiate those opportunities and initiatives that require business model innovation and those that can be seized with different approaches, such as new processes or products; and (2) a methodology for business model innovation that emphasizes experimentation, trial-and-error learning, and the use of multiple tools, including more fine-grained business model frameworks and archetypes.

To support Business Model Thinking for sustainability and shared value, we compiled a number of concepts from the reviewed literature.

The report highlights the importance of moving from the traditional business model view to an **embedded view** that positions the business model within the nested system of the natural environment, society, and economy. A basic set of **normative principles** is proposed to support business model designs that acknowledge this embeddedness. Furthermore, sustainability innovation orientations are provided in the form of **archetypes for BMfS** that may be used as conceptual and practical reference points. Finally, our review showed that only a limited number of **practical business modelling tools** are currently available to explicitly support sustainability and shared value creation. We present a selection of five exemplary tools, which are still in a kind of beta phase. However, this should not be seen as a limitation, but rather as an invitation for business managers to engage in experimental processes of sustainability and shared value-oriented business model innovation.

# appendix I: systematic literature review

Systematic literature reviews usually involve six iterative steps (e.g. Torraco, 2005; Tranfield, Denyer, & Smart, 2003):

1. Definition of keywords and search algorithm.
2. Definition of publication types.
3. Identification of literature databases.
4. Identification of relevant publications.
5. Quantitative bibliographical analysis.
6. Qualitative thematic analysis.

The following sections describe these steps in detail. First, the set-up of our database is explained (steps 1 to 4), followed by a brief bibliographical analysis (step 5). Major qualitative findings are presented as part of the main text of this report (step 6).

## Development of Publication Database

### DEFINITION OF KEYWORDS AND SEARCH ALGORITHM

A keyword list was defined to search scientific databases for business model publications (Table 9). They were derived from an initial set of core publications on BMfS, including earlier literature reviews by the authors (e.g. Bocken, Short, Rana, & Evans, 2014; Boons & Lüdeke-Freund, 2013; Zott, Amit, & Massa, 2011). Three researchers proposed different keyword lists that were discussed, merged, and tested in several iterations until stable and manageable sets of publications were obtained from the chosen databases (see below). In total, 20 topical keywords were used in combination with **business model** and **business models**.

A search matrix of nine search field combinations of publication title (TI), abstract (AB), and publication keywords (KW) was developed (Table 11). This matrix defines, for example, that titles are searched for **business model** or **business models** (BM), while abstracts are searched for the 20 topical criteria (CR). The exemplary algorithm shown in Table 10 illustrates a title-abstract combination. Table 11 summarizes all logically feasible combinations applied in our database search.

**TABLE 9: TOPICAL KEYWORDS USED IN DATABASE SEARCHES COMBINED WITH “BUSINESS MODEL/S”**

KEYWORDS	
1. BoP	11. Renewable
2. “Bottom of the pyramid”	12. Social*
3. CSR	13. “Social business”
4. “Corporate social responsibility”	14. “Social entrepreneur*”
5. Ecologic*	15. “Social innovation”
6. Efficiency	16. societ*
7. Environment*	17. Sustainability
8. Hybrid	18. Sustainable
9. Poverty	19. “Triple bottom line”
10. Poor	20. “Shared value*”

**TABLE 10: EXEMPLARY SEARCH ALGORITHM COMBINING TITLE AND ABSTRACT KEYWORDS**

EXEMPLARY SEARCH ALGORITHM
TI (“business model” OR “business models”) AND AB (BoP OR “bottom of the pyramid” OR csr OR “corporate social responsibility” OR ecologic* OR efficiency OR environment* OR hybrid OR poverty OR poor OR renewable OR social* OR “social business” OR “social entrepreneur*” OR “social innovation” OR societ* OR sustainability OR sustainable OR “triple bottom line” OR “shared value*”)

**TABLE 11: APPLIED SEARCH FIELD COMBINATIONS**

	TITLE	ABSTRACT	KEYWORDS
<b>Title</b>	TI: BM + TI: CR	TI: BM + AB: CR	TI: BM + KW: CR
<b>Abstract</b>	AB: BM + TI: CR	AB: BM + AB: CR	AB: BM + KW: CR
<b>Keywords</b>	KW: BM + TI: CR	KW: BM + AB: CR	KW: BM + KW: CR

## DEFINITION OF PUBLICATION TYPES

We concentrated on peer-reviewed scientific journal articles to guarantee quality and reduce the sample to a manageable amount of publications. In addition, we traced back citations and personal expert advice to select a limited number of practice publications from consulting firms, NGOs, or institutions like OECD (e.g. Beltramello, Haie-Fayle, & Pilat, 2013; Bisgaard, Henriksen, & Bjerre, 2012). Including publications other than journal articles seemed to be appropriate, since the topic of BMfS is a rather new area of research. Due to this newness, we did not limit our search to a specific time frame. Our sample was narrowed down to publications in English.

## IDENTIFICATION OF LITERATURE DATABASES

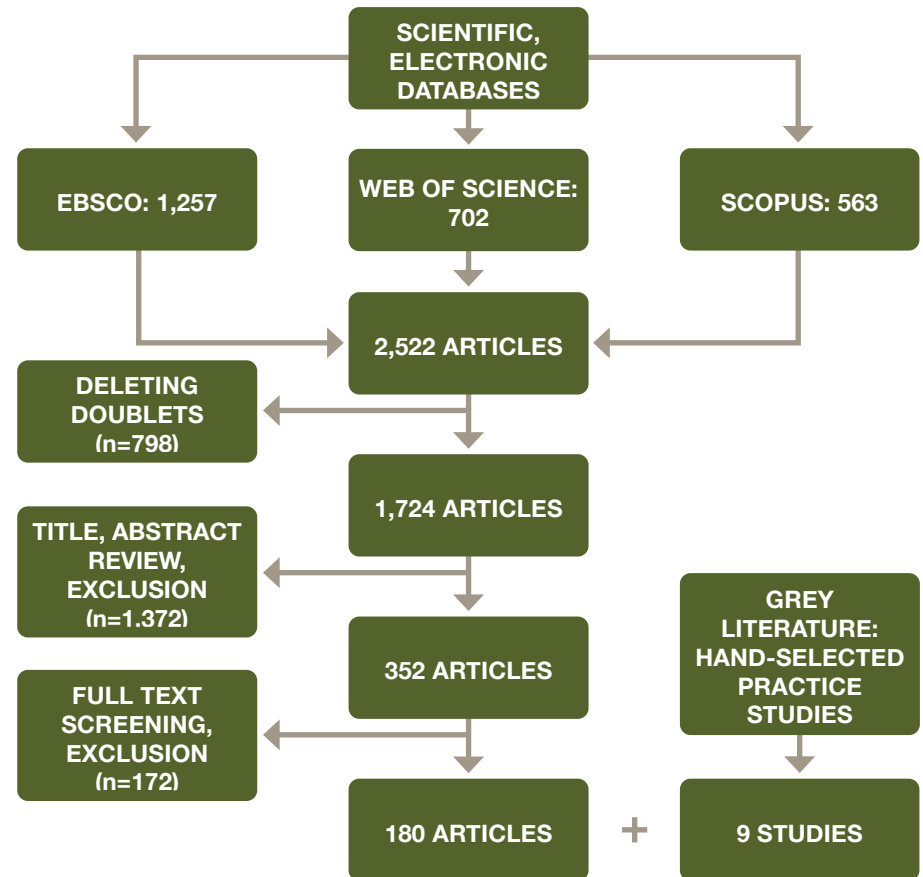
Three major databases were chosen: Web of Science (Social Sciences Citation Index), EBSCO (Business Source Complete), and Scopus (limited to social sciences). The results from these databases were combined and imported into local literature databases (Citavi 4.0 and MS Excel). After trying additional publisher databases such as Emerald and Wiley, we decided against their inclusion due to incompatible search engines. Between April and June 2015, we obtained 702 articles from Web of Science, 1,257 from EBSCO, and 563 from Scopus (Figure 20). We also considered nine practice studies for our review (Beltramello, Haie-Fayle, & Pilat, 2013; Bisgaard, Henriksen, & Bjerre, 2012; Clinton & Whisnant, 2014; Diaz Lopez et al., 2014; Gaertner & Ishikawa, 2014; Jenkins, Ishikawa, Geaneotes, Baptista, & Masuoka, 2011; Kiørboe, Sramkova, & Krarup, 2015; The Crowd & Fishburn, 2014; The Economist Intelligence Unit, 2014). These studies were found through additional web searches and expert recommendations. They were included as they make clear linkages between business models and sustainability issues from a business and policy perspective, thus providing insights complementary to the academic literature.

## IDENTIFICATION OF RELEVANT PUBLICATIONS

The combined sample without doublets contained 1,724 articles. After three researchers screened their titles and abstracts, 352 articles remained. The following full-text screening led to a list of 180 articles according to our inclusion and exclusion criteria (see below). Three researchers did this individually, and their results were discussed and merged to create the final list. A rather inclusive approach was chosen

to get a broader picture. So far, no systematic BMfS review exists, which could have served as a reference point to narrow the focus of our review. Therefore, we also included articles that did not fully meet one or two of the defined criteria, in order to explore the boundaries of this new field of research and shed light on as many aspects as possible related to business models in the context of corporate sustainability and shared value. This inclusive approach provides the groundwork for more specific reviews in the future.

**FIGURE 20: DEVELOPMENT OF FINAL PUBLICATION DATABASE**



Relevant articles had to meet the following a priori defined inclusion criteria:

- The business model must be defined as a central **theoretical framework or concept** for the publication in question.
- The business model must be understood as an **entrepreneurial or managerial concept**, e.g. to realize strategies, support organizational change, or leverage the market performance of innovations. This definition is different from information technology or operations management interpretations referring to business models as IT architectures, enterprise, or process models.
- The business model must be understood as a **central means of addressing sustainability issues** from a business perspective.
- **Sustainability** must be defined according to a triple bottom line, corporate social responsibility, business ethics, or other inclusive perspectives that address and integrate social, ecological, and other non-economic issues.
- The articles must have a **focus on both** business model theory or concept and sustainability issues. This criterion led, for example, to the exclusion of general corporate sustainability issues such as the traditional “pays to be green” literature.
- If an article presented a **relevant and compelling case study** touching BMfS issues, it was also included.

While screening the articles, **exclusion criteria** emerged. Most of these criteria refer to narrow conceptions, e.g. when the notion of business model is used without definition or when the overall topic is related but not core to our research, e.g. policy or governance issues. Articles were excluded when:

- The notion of business model is used in an **unspecific or colloquial manner** (e.g. to describe the general way a company does business, particular leadership approaches, or forms of ethical consumption; e.g. Sebastiani, Montagnini, & Dalli, 2013; Stirling, 2014).
- Business models are discussed on the **industry or societal level only** (e.g. nature conservation in general; Yang et al., 2010) or referred to aggregate models such as the “US corporate model” or the “Asian way of doing business” (e.g. Singh & Zammit, 2006).
- **Conclusions are too general**, such as that business models are important to promote particular innovations (e.g. smart grid

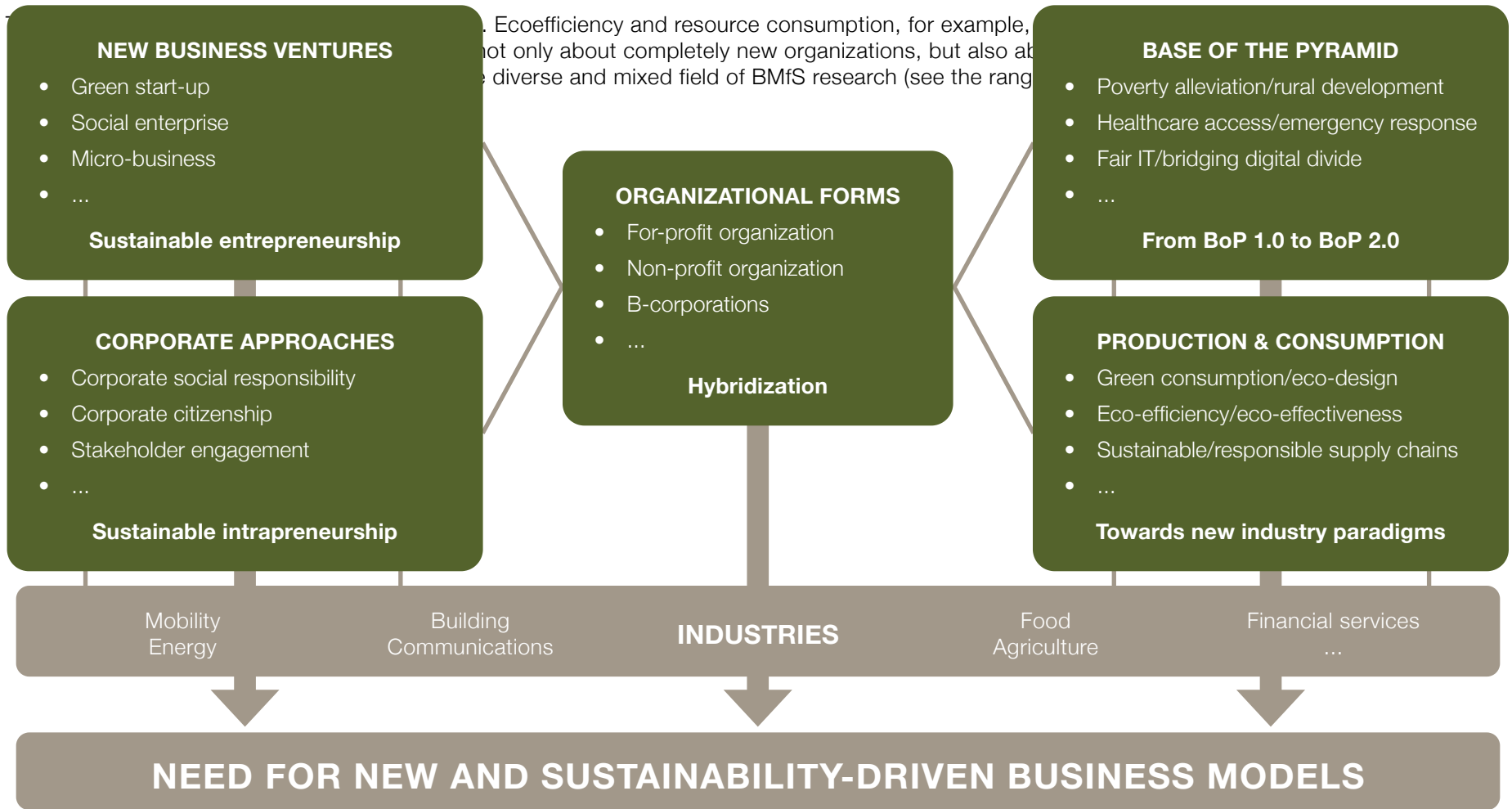
technologies; e.g. Cardenas, Gemoets, Ablanedo Rosas, & Sarfi, 2014) or that companies need to better integrate sustainability into their activities (e.g. by taking care of corporate sustainability drivers; e.g. Borland, 2009; Zollo, Cennamo, & Neumann; 2013).

- They focus on **policy implications only**, e.g. to motivate the recognition of social needs in particular contexts such as the construction industry (e.g. Wong, Ng, & Chan, 2010; Wuttke & Vilks, 2014).
- They focus on **governance models only**, e.g. describing principles for managing large corporations, stakeholder partnerships, or community involvement (e.g. Maerki, 2008; Seitanidi & Ryan, 2007).
- They discuss topics that are **not at the core of the sustainability discourse**, i.e. if they were in a grey area of the discourse (e.g. concepts like carbon capture and storage; e.g. McGrail et al., 2012).

## The Big Picture – A Topical Landscape of BMfS Research

One qualitative result of our review of the selected 180 articles is a “topical landscape” that is used to structure the various topics found in the literature. According to our reading of the available BMfS articles, we see that the different occasions that can lead to the need for new and sustainability or shared value-driven business models may be grouped along four dimensions: the literature has two major **issue clusters** containing “base of the pyramid” (BoP) and cleaner production and consumption issues. On the other hand, we see two major **approach clusters**, which deal with the business models of new ventures and those of corporate initiatives. The former speaks to forms of sustainable entrepreneurship and the latter to ideas such as CSR, sustainability management, and sustainable intrapreneurship.

**FIGURE 21: TOPICAL LANDSCAPE DERIVED FROM THE REVIEWED BODY OF BMfS LITERATURE**



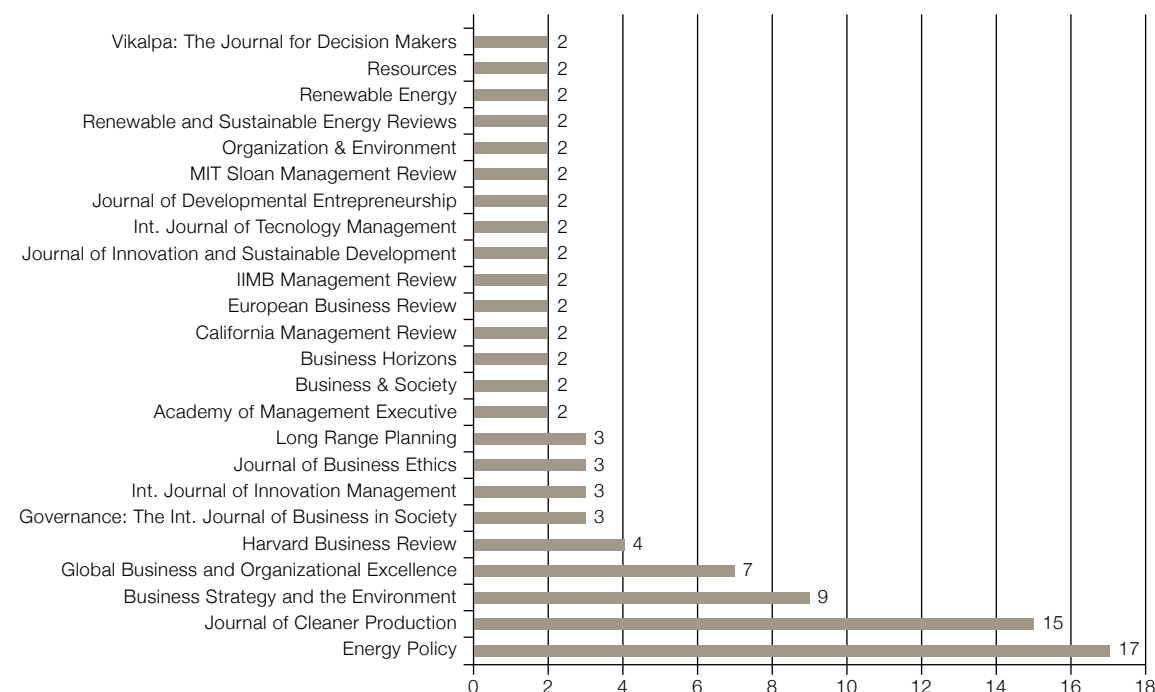
## Quantitative Bibliographical Analysis

The quantitative bibliographical description provides essential information about our sample of relevant publications, such as the number and quality of journals, distribution of publications across years, and overview of addressed industries.

### JOURNALS

The sample contains 110 journals scattered over different scientific disciplines, such as business, innovation, energy, or information technology. Twenty-four journals provide two or more articles, with Energy Policy leading the list (17 articles), followed by Journal of Cleaner Production (JCP) (15 articles) and Business Strategy and the Environment (BSE) (9 articles). These three journals account for 23 per cent of all publications in our sample (Figure 22).

**FIGURE 22: JOURNALS WITH TWO OR MORE BMFS ARTICLES (NUMBER OF ARTICLES)**



JCP and BSE are also leading the journal list of the NBS review report on sustainability-oriented innovation (SOI), where they contribute 26 per cent of all articles (Adams, Jeanrenaud, Bessant, Overy, & Denyer, 2012). Moreover, *Journal of Business Ethics* (JBE), *International Journal of Innovation and Sustainable Development*, and *International Journal of Technology Management* were also included in both top lists, pointing to a certain overlap of the BMfS and SOI research communities. Comparing our list to Dembek, Singh, & Bhakoo's (2016) shared value literature review, we find that journals such as JBE, JCP, BSE, and *Corporate Governance* are also on both top lists. We see that a relatively large share of articles on BMfS, SOI, and shared value is skewed towards a few core journals from the fields of sustainability, innovation, and responsible business studies, with *Energy Policy* as most important journal and differentiator for BMfS research. The following 86 journals provide one article each (Table 12).



**TABLE 12: JOURNALS PROVIDING ONE BMFS ARTICLE**

1. <i>Academy of Management Perspectives</i>	2. <i>ACRN Journal of Entrepreneurship Perspectives</i>	3. <i>Agriculture and Human Values</i>
4. <i>Annals of Public and Cooperative Economics</i>	5. <i>Baltic Journal of Management</i>	6. <i>Biomass &amp; Bioenergy</i>
7. <i>Building Research &amp; Information</i>	8. <i>Business and Society Review</i>	9. <i>Business Education &amp; Accreditation</i>
10. <i>Business Ethics: A European Review</i>	11. <i>Business Studies Journal</i>	12. <i>Competitiveness Review</i>
13. <i>Construction Management and Economics</i>	14. <i>Decision</i>	15. <i>Der markt</i>
16. <i>Ecological Economics</i>	17. <i>Employee Responsibilities and Rights Journal</i>	18. <i>Energies</i>
19. <i>Energy for Sustainable Development</i>	20. <i>Entrepreneurship &amp; Regional Development: An International Journal</i>	21. <i>Environmental Innovation and Societal Transitions</i>
22. <i>Environmental Quality Management</i>	23. <i>Environmental Science and Pollution Research</i>	24. <i>Ethics and Information Technology</i>
25. <i>European Management Review</i>	26. <i>Geoforum</i>	27. <i>Global Governance</i>
28. <i>Globalization and Health</i>	29. <i>Greener Management International</i>	30. <i>IEEE Transactions on Sustainable Energy</i>
31. <i>Industrial and Corporate Change</i>	32. <i>Industrial Management and Data Systems</i>	33. <i>Industrial Marketing Management</i>
34. <i>Industry and Environment</i>	35. <i>Info</i>	36. <i>Information Technologies &amp; International Development</i>
37. <i>Information Technology for Development</i>	38. <i>International Business Review</i>	39. <i>International Food and Agribusiness Management Review</i>
40. <i>International Journal of Automotive Technology and Management</i>	41. <i>International Journal of Business Environment</i>	42. <i>International Journal of Business Performance Management</i>
43. <i>International Journal of Emerging Markets</i>	44. <i>International Journal of Entrepreneurial Venturing</i>	45. <i>International Journal of Entrepreneurship and Innovation Management</i>
46. <i>International Journal of Production Economics</i>	47. <i>International Journal of Technology Management &amp; Sustainable Development</i>	48. <i>Journal of African Business</i>
49. <i>Journal of Business &amp; Industrial Marketing</i>	50. <i>Journal of Corporate Citizenship</i>	51. <i>Journal of Environment &amp; Development</i>
52. <i>Journal of Environmental Management</i>	53. <i>Journal of Fashion Marketing and Management: An International Journal</i>	54. <i>Journal of Green Engineering</i>
55. <i>Journal of Industrial Ecology</i>	56. <i>Journal of Management Development</i>	57. <i>Journal of Management Studies.</i>
58. <i>Journal of Manufacturing Technology Management</i>	59. <i>Journal of Marketing</i>	60. <i>Journal of Marketing Management</i>
61. <i>Journal of Medical Marketing</i>	62. <i>Journal of Promotion Management</i>	63. <i>Journal of Service Management</i>
64. <i>Journal of Small Business &amp; Entrepreneurship</i>	65. <i>Journal of Social Entrepreneurship</i>	66. <i>Journal of Sustainable Development</i>
67. <i>Journal of Sustainable Forestry</i>	68. <i>Journal of Technology Management for Growing Economies</i>	69. <i>Journal of the Knowledge Economy</i>
70. <i>Kybernetes</i>	71. <i>Management and Marketing</i>	72. <i>Manufacturing &amp; Service Operations Management</i>
73. <i>Production Planning &amp; Control</i>	74. <i>Progress in Development Studies</i>	75. <i>Renewable Agriculture and Food Systems</i>
76. <i>Research Policy</i>	77. <i>Resources, Conservation and Recycling</i>	78. <i>Science of the Total Environment</i>
79. <i>Small Business Economics</i>	80. <i>Social Responsibility Journal</i>	81. <i>South African Journal of Industrial Engineering</i>
82. <i>Supply Chain Management: An International Journal</i>	83. <i>Sustainability Accounting, Management and Policy Journal</i>	84. <i>Sustainability Science</i>
85. <i>Transportation Science</i>	86. <i>World Development</i>	

## JOURNAL QUALITY

Knowing that journal metrics such as citation indexes, impact factors, and expert rankings are debated, we use four chosen metrics to briefly characterize the quality level of the five journals that provide a relatively large number of articles (Table 13). These five journals provide 52 articles, or 29 per cent of the whole sample.

With regard to the perceived importance and quality of these journals, we see that most of them are at least B-rated according to VHB, while *Energy Policy* and *Harvard Business Review* even reach A-level in the ABDC ranking. The scientific impact, i.e. the uptake by and influence on other researchers as measured by number of citations an average journal article receives, is also relatively high for four of these five journals. *Journal of Cleaner Production* shows a very high impact factor of 3.844. Table 13 shows that those journals providing a relatively large share of BMfS articles are in general well-positioned (with the exception of *Global Business and Organizational Excellence*).

In our sample, the following top-ranked journals (according to VHB; rankings shown in parentheses) provide only one article each: *Journal of Marketing* (A+), *Journal of Management Studies* (A), *Journal of Industrial Ecology* (A), and *Research Policy* (A).

## DEVELOPMENT OVER TIME

Our database contains articles published between 2003 and 2015. One of the earliest articles is, for example, Hart and Milstein's "Creating sustainable value," which addresses business model issues in a rather general manner, discussing how companies' strategies can be shaped by following a shared vision of sustainable value creation: "... a sustainability vision that facilitates competitive imagination by creating a shared roadmap for tomorrow's business provides guidance to employees in terms of organizational priorities, technology development, resource allocation, and business model design" (Hart & Milstein, 2003, p. 63) By referring to cases such as Grameen Bank or Unilever's Hindustan Lever and the role of business models in employing new technologies and opening up BoP markets, this article sketched central themes of the BMfS discourse that emerged a few years later. Similarly, LaRocco's (2003) "A business model for clean-energy SMEs" and Stoughton and Votta's (2003) "Implementing service-based chemical procurement" anticipated topics that are still characteristic for BMfS research.

**TABLE 13: QUALITY METRICS OF THE FIVE JOURNALS WITH MOST BMfS ARTICLES**

Journal	No. of articles	% of sample	IF <sup>12</sup> (2014)	SJR <sup>13</sup> (2014)	VHB <sup>14</sup> (2015)	ABDC <sup>15</sup> (2013)
<i>Energy Policy</i>	17	9%	2.575	2.077	B	A
<i>Journal of Cleaner Production</i>	15	8%	3.844	1.588	B	n.a.
<i>Business Strategy and the Environment</i>	9	5%	2.542	1.515	B	B
<i>Global Business and Organizational Excellence</i>	7	4%	n.a.	0.133	n.a.	n.a.
<i>Harvard Business Review</i>	4	2%	1.574	0.577	C	A
Sum	52	29%				

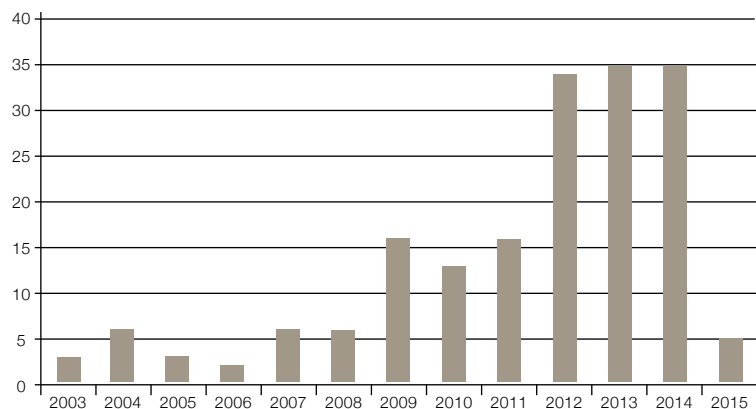
<sup>12</sup> Thomson Reuters' *Impact Factor* measures the average number of citations received in a particular year by articles published on the journal ([http://wokinfo.com/products\\_tools\\_analytical/jcr/](http://wokinfo.com/products_tools_analytical/jcr/)).

<sup>13</sup> SCImago *Journal Rank* is a prestige metric based on the idea that not all citations are the same; it uses an algorithm comparable to Google page rank (<http://www.scimagojr.com/index.php>).

<sup>14</sup> A ranking by the Association of University Professors of Business in German-speaking Countries; ranging from A+ (best) to A, B, C, to D (peer-reviewed) (<http://vhbonline.org/en/service/jourqual/vhb-jourqual-3/>).

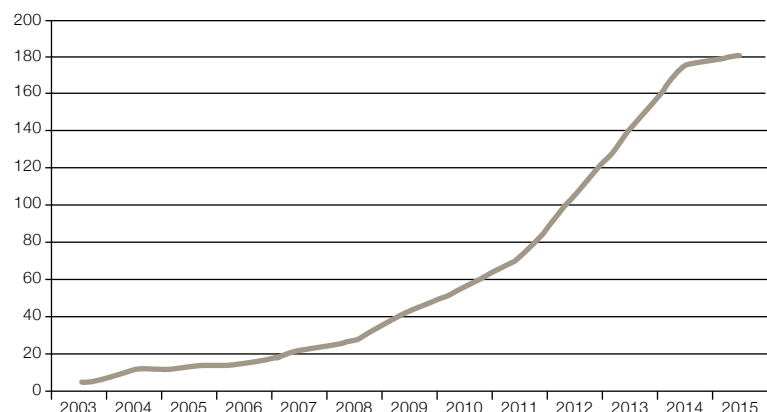
<sup>15</sup> The *ABDC Journal List* is a collaborative list developed by the Australian Business Deans Council; ranging from A\* (best) to A, B, and C (recognized journal) (<http://www.abdc.edu.au/pages/abdc-journal-quality-list-2013.html>).

**FIGURE 23: NUMBER OF BMFS PUBLICATIONS PER YEAR, 2003 TO APRIL 2015**



The peak so far was reached in 2013 and 2014, with 35 articles per year. Our database was compiled in April 2015, leaving it open whether a new peak will be reached this year. Looking at the cumulative development of the total number of publications, we see that it slightly accelerated in 2008 and then again in 2011 (Figure 24).

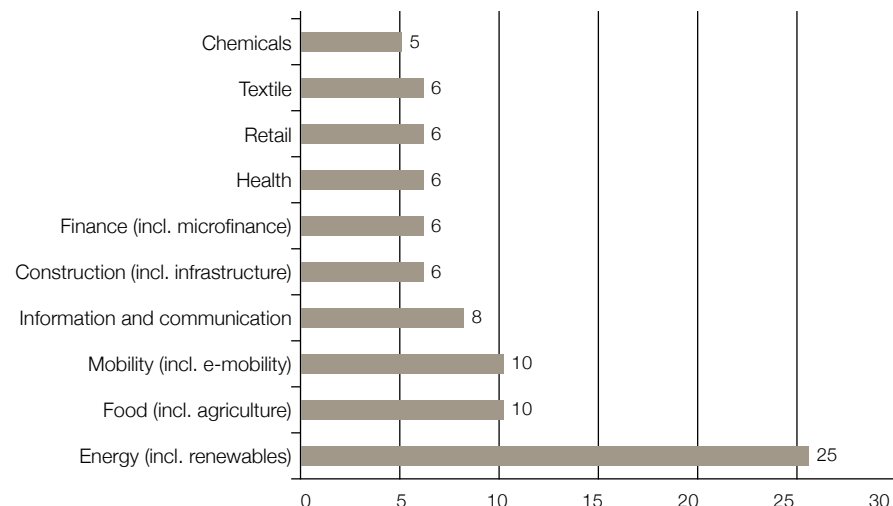
**FIGURE 24: CUMULATIVE DEVELOPMENT OF TOTAL NUMBER OF BMFS PUBLICATIONS, 2003 TO APRIL 2015**



## INDUSTRIES ADDRESSED IN BMFS PUBLICATIONS

Specific industry contexts could be identified for 113 articles. Figure 25 summarizes the top 10 industries that could be extracted from our sample of publications.

**FIGURE 25: TOP 10 INDUSTRIES ADDRESSED IN BMFS PUBLICATIONS (NUMBER OF ARTICLES)**



In line with the topical foci of those journals that contribute a lot of articles (such as *Energy Policy*), we see that the sample is skewed towards the energy industry, but it also contains some articles dealing with food, mobility, and information and communications technology. One of our findings with regard to the broader topical landscape of BMfS research is that these industries are often dealt with in both developed and developing country contexts, as are opportunities for new ventures and established corporations.

# appendix II: overview of BMfS definitions

Distinct conceptual and theoretical BMfS definitions are scarce. The following examples were found in our sample of reviewed publications.

**TABLE 14: SELECTED DEFINITIONS OF BUSINESS MODELS FOR SUSTAINABILITY (IN CHRONOLOGICAL ORDER)**

DEFINITION	SOURCE
<p>“An organization adopting an SBM develops internal structural and cultural capabilities to achieve firm-level sustainability and collaborates with key stakeholders to achieve sustainability for the system that the organization is part of.”</p>	<p>Stubbs &amp; Cocklin, 2008, p. 123</p>
<p>“A business model for sustainability is the activity system of a firm which allocates resources and co-ordinates 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.”</p>	<p>Lüdeke-Freund, 2009, p. 56</p>
<p>“...a business model for sustainability can be defined as supporting voluntary, or mainly voluntary, activities which solve or moderate social and/or environmental problems. By doing so, it creates positive business effects, which can be measured or at least argued for. A business model for sustainability is actively managed in order to create customer and social value by integrating social, environmental, and business activities.”</p>	<p>Schaltegger, Lüdeke-Freund, &amp; Hansen, 2012, p. 112</p>
<p>“Business model innovations for sustainability are defined as: Innovations that create significant positive and/or significantly reduced negative impacts for the environment and/or society, through changes in the way the organization and its value-network create, deliver value and capture value (i.e. create economic value) or change their value propositions.”</p>	<p>Bocken, Short, Rana, &amp; Evans, 2014, p.44</p>
<p>“Business leaders should develop alternative business models that incorporate a broader range of values and ideals than those associated with traditional economic modelling. Explicit inclusion of a firm’s social responsibilities can be implemented via social accounting procedures and its mission statement.”</p>	<p>Stirling, 2014, p. 812</p>
<p>“We define a sustainable business model as the rationale of how an organization creates, delivers and captures economic, environmental, and social forms of value simultaneously.”</p>	<p>Joyce, Paquin, &amp; Pigneur, 2015, p. 3</p>

# appendix III: comparing CSR, corporate sustainability, and shared value

A comparison of CSR, corporate sustainability (CS) (Section 3.1), and creating shared value (CSV) (Section 2) shows that Porter and Kramer define the latter as an approach to achieve both strategic competitive advantage and societal progress (Porter & Kramer, 2011). CSR is seen to focus on the environmental and societal issues and responsibility of firms, i.e. duties companies have to fulfill, whereas CSV is about identifying and making use of new business opportunities that are aligned with societal needs. While the conceptual differences between CSR and CSV might be comprehensible, mainly due to the explicit strategy perspective and far-reaching integration of shared-value thinking with market-oriented activities (see also Porter & Kramer, 2006), the differences between CS and CSV are more subtle.

Although Porter and Kramer seem to define sustainability as a rather environmentally oriented and accordingly limited concept, the understanding of CS applied in this report builds on an integrative triple bottom line perspective that acknowledges the concerns of the natural environment, society, **and** economy, as well as their mutual dependencies (e.g. Rockström et al., 2009; Whiteman, Walker, & Perego, 2013). This view is clearly expressed in the CS triangle in Section 3.1.1. Comparing NBS's definition of business sustainability (Section 3.1) and the notion of shared value reveals the proximity of both concepts' encompassing normative orientations. In their detailed critique of the CSV concept, Crane, Palazzo, Spence, and Matten (2014) see a similar proximity, for example, between supply chain sustainability and Porter and Kramer's approach of redefining productivity in the value chain towards CSV.

Table 15 builds on a comparison made by Porter and Kramer in a German translation and adaptation (Porter & Kramer, 2012) of their often referred to *Harvard Business Review* article. The description of CSR is based on their assessment, while we added the column on CS based on Schaltegger and Burritt (2005). If we compare the motivation and drivers to engage in CS and CSV respectively, we see obvious similarities. Both concepts try to turn societal challenges into business opportunities. CSV takes a typical Porter-esque strategy perspective; CS is more concerned with the overall corporate performance in multiple dimensions of value creation. While CS has as a goal contributing to sustainable development, mostly in line with the classic World Commission on Environment and Development definition, CSV strives for a far-reaching change of modern capitalism — an unfulfilled promise according to Crane, Palazzo, Spence, and Matten (2014). All three concepts are instrumental in that they follow a business case rationale. If ecological and social value creation makes sense from a business point of view, companies have a reason to engage in it, i.e. they become internally motivated (Section 5.1.1).

**TABLE 15: COMPARING CSR, CORPORATE SUSTAINABILITY, AND SHARED VALUE (CF. PORTER & KRAMER, 2011)**

	CSR = REDISTRIBUTION OF CREATED VALUE	CORPORATE SUSTAINABILITY = TRIPLE BOTTOM LINE VALUE CREATION	SHARED VALUE = JOINT VALUE CREATION
<b>Motivation</b>	Securing reputation	Sustainability challenges as business opportunities	New business opportunities
<b>Drivers</b>	Stakeholders	Corporate performance	Business strategy
<b>Valuation</b>	Cost measures of CSR projects	Value added for society and economy	Value added for society and economy
<b>Management</b>	CSR department	Integrated across management functions and into core business	Vertically integrated within companies
<b>Societal benefit</b>	Successful CSR projects	Sustainable development of business and society	Far-reaching, sustainable change
<b>Economic benefit</b>	Legitimacy and reduced business risks	Improved business case drivers	Strategic competitive advantage

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# about the research

This report is part of a series on Business Models for Shared Value inspired by the Leadership Council of the Network for Business Sustainability South Africa. The project was conducted by Florian Lüdeke-Freund (University of Hamburg, Germany) together with Lorenzo Massa (Vienna University of Economics and Business and École Polytechnique Fédérale de Lausanne, Switzerland); Nancy Bocken (TU Delft, The Netherlands and University of Cambridge, United Kingdom); and Alan Brent and Josephine Musango (Stellenbosch University, South Africa). The Guidance Committee for this project included Brian Chicksen (AngloGold Ashanti); Christopher Whitaker (Barloworld); Jannette Horn and Pieter van der Walt (Altron); Stephen Elliott-Wetmore (WWF); Sue Lund (Transnet); and Ralph Hamann, Kristy Faccar, and Nicola Ehrlich (NBS-SA).

## About the Network for Sustainability South Africa

NBS-SA is hosted at the Graduate School of Business (GSB) at the University of Cape Town. This South African office is an affiliate of the Network for Business Sustainability, a non-profit based in Canada. The Network for Business Sustainability produces authoritative resources on important sustainability issues with the goal of changing management practice globally. We unite thousands of researchers and business leaders worldwide who believe passionately in research-based practice and practice-based research.

## About our Leadership Council

NBS-SA's Leadership Council is a group of South African sustainability leaders from diverse sectors. At an annual meeting, these leaders identify their business sustainability challenges — the issues on which their organizations need authoritative answers and reliable insights. Their sustainability challenges prompt each of the NBS-SA's research projects.



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