CSR, Sustainability, Ethics & Governance
Series Editors: Samuel O. Idowu · René Schmidpeter

Michael D'heur *Editor*

Sustainable Value Chain Management

Delivering Sustainability Through the Core Business

Springer

CSR, Sustainability, Ethics & Governance

More information about this series at
http://www.springer.com/series/11565

Michael D'heur
Editor

Sustainable Value Chain Management

Delivering Sustainability Through the Core Business

Springer

Editor
Michael D'heur
Shared.value.chain
Munich
Germany

ISSN 2196-7075 ISSN 2196-7083 (electronic)
ISBN 978-3-319-12141-3 ISBN 978-3-319-12142-0 (eBook)
DOI 10.1007/978-3-319-12142-0

Library of Congress Control Number: 2014958010

Springer Cham Heidelberg New York Dordrecht London

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Foreword

The Role of CSR in the Value Chain's DNA

Sustainability and Corporate Social Responsibility are valuable economic components emerging as hot topics in public discourse. Today's immense social and environmental challenges provide new opportunities and the need for integrative management techniques, economic specialization, and innovative technologies. Academics and management practitioners discuss this trend with both scientific and practical applications in this series on CSR, Sustainability, Ethics, and Governance published by Springer. The goal is to explain the complex issue of Corporate Social Responsibility (CSR) by providing a breakdown of its application on specific areas of business administration such as Supply Chain Management.

For too long, the subject of sustainability and the assumption of corporate responsibility were depicted in management literature as a predominantly defensive strategy and, therefore, applied practically as a mere cost factor. Until recently, social and environmental issues and the related business opportunities remained generally underexposed. However, CSR and sustainability are now being integrated into a company's DNA, i.e., in the core processes of value creation, innovation management, and organizational development. Therefore, the release of the publication "Sustainable Value Chain Management" has come at just the right time for worldwide discussion.

Throughout economic history the concept of value has been central to business operations. Companies were focused on the efficient organization of value chains.

Value-added processes, however, have become increasingly complex in the wake of globalization and the associated intensified division of labor within businesses. Furthermore, organizational transparency and pressures from various stakeholder groups (customers, employees, NGOs, etc.) are constantly increasing. Value chains need to be newly designed and organized to fit within this context. In addition to economic factors, environmental and social issues play an increasingly large role.

Companies can prepare for the future by developing a sustainable business model in which the creation of business as well as social value is essential.

In this publication, necessary aspects of sustainable value creation are described along with practical examples. Readers are, therefore, cordially invited to use the techniques discussed to aid in their own professional challenges and to partake in intense CSR discussions with the editors, authors, and supporters of this series. Last but not least, I would like to extend my sincerest thanks to the editor Michael D'heur for his extensive commitment, Christian Rauscher from Springer for his assistance, as well as to all the supports of this truly global CSR series. Finally, I wish all of our cherished readers an interesting journey through the various aspects of Sustainable Value Chain Management.

Cologne, Germany René Schmidpeter

Foreword

Sustainable Economics: More of Doing "Good"

What is an inherently good corporation? A "good" corporation has to be successful in economic terms but simultaneously contribute to the environment and strengthen social coherence. Within its various spheres of influence, it has to work according to universal ethical principles. Many corporations already act as a "good" one and without a lot of discussion about it. Yet, there are others, which do not work according to these values at all.

However, how do you distinguish a "better" corporation from a "normal" one? To tell them apart is difficult because there is currently no frame of reference for sustainability which can be applied to all corporations. Such a frame of reference, which enables competition between sustainable business models and value chains, is still to be established. Having a system of equal requirements for all business in place would enable the discussion about sustainable management to be more tangible, comprehensible, and invigorated. Otherwise sustainable economics remains too vague and a matter of publicity rather than actual facts, which in the long run would cause more discontent than trust.

We are a long way from understanding sustainable management as a matter, which requires attention also in economic and business-related settings. In fact, syllabi of economics or business management courses at university currently do not give an account of the current challenges faced by businesses or economic policies, including sustainability. Even better that the book at hand is a practical one, devoted to sustainability in products and value chains and showcasing the problems of sustainability, CSR, and market penetration: diverging juridical spheres, growing global population, demographic change in Europe, and different societal, ecological, and economic conditions. These are the facts that make it problematic to establish one universal frame of reference for sustainability.

The question of whether corporations can be made subject to a more sustainable ecological, societal, and economic development at all poses a further challenge.

20 years ago sustainability was defined mainly in environmental terms; nowadays it considers also societal issues and economic aspects. The globalized economy and worldwide communications make the world a global village. This amplifies the request for peaceful coexistence and social justice from a national to a global context. Therefore, we need a global approach and a framework for comparing economic, societal, and ecological development – in short: for comparing sustainability. As soon as its target, the stakeholder, and tools are more clearly defined, a new dynamic will arise to change the existing markets. Subsequently, investments will be made in corporations that align their strategy, their core businesses, corporate processes, and their governance with sustainable development.

However, this movement has started already. We need stakeholders and investors who decide themselves whether a corporation is active and engaged in sustainability. The public sector, too, needs to align its procurement strategy according to ecological and social criteria and purchase goods and services only from corporations, which act according to sustainable principles in the long term and in a reliable manner.

I am certain that many corporations are well prepared for competition under the premises of sustainability. I am convinced that corporations can benefit from competition which also takes ecological and social criteria into account. But for this, enhanced visibility and critical analysis with one's own sustainability accomplishments are prerequisite. Recognizing and discussing conflicting aims allows one's perspective to widen, which is essential for future market success.

The solutions to the challenges of corporates' responsibility for sustainable development are extremely diverse. There is no "one-size-fits-all" solution. This book discloses many different approaches and offers a practical orientation for other corporations and organizations on their way toward sustainability. I hope this book will address many readers and strengthen the business-related debate and research about sustainability and "doing good."

Berlin, Germany Marlehn Thieme

Foreword

Moving from a Postindustrial to a Sustainable Age

Already in 1969 Alain Tourrain pointed toward the fact that a new form of society, which he labeled "postindustrial," is coming into being. With his statement he wanted to indicate that it was time to see off the industrial age. Yet, at that point it was not clear where exactly the journey would lead. Today, more than 40 years later, the new era seems to materialize increasingly. The process is accelerated by intensifying crises – may they be economic, related to climate, scarcity of resources, or demographic change – showing that our focus on economics and the development model based on Gross Domestic Product (GDP) is no longer sustainable.

At least in Europe there is a growing consensus that our future economic and social model needs to reach a balance between economics, ecology, and social values. In order to attain such balance in the long term, a new understanding of growth is required. The discussion increasingly focuses on qualitative growth, which the European Union understands to be innovative, inclusive – meaning to take in all social groups, resource efficient, as well as environmentally friendly. Such kind of growth can no longer be expressed in straightforward GDP terms.

This does not merely call for constraints, but mainly offers chances that can be used in an innovative way. A new dynamic comes into being, which is not primarily focused on GDP growth, but is connected to an augmentation of quality of life – the new notion of prosperity.

In European societies, this basic concept has already been accepted widely and its basic ideas have even made its way into the Treaty of Lisbon. Nevertheless, as long as corporations, the most important economic players, do not adopt this concept it is not of much practical use. The concept of CSR, which basically describes and measures to what extent a corporation has committed itself to the new understanding of economic action, has existed for a long time now. It is the responsibility of our society and the state to make CSR standards comparable with

each other, and furthermore to ensure that existing incentives and tax legislation support those corporations that implement CSR and that do not hold on to old principles.

For corporations it has to be profitable to act according to CSR. It should be in our interest to remove any obstacles on the journey toward a more sustainable society.

Corporations which have committed themselves to CSR or which have embedded CSR in their management strategies have to face many limits of implementation. On the one hand, this is because they do not find themselves in a fair condition for competition; on the other hand, because the increasingly interwoven structure of our economy makes it difficult for a single corporation to practice CSR in its complexity. Because of this, it is a logical step to merge production and value chains in order to use the numerous synergies within these chains.

This book offers a solid analysis of what is possible to achieve in terms of CSR and effective supply chain management. Numerous practical examples intend to encourage entrepreneurs and businesses to move toward the new economy.

Alpbach, Austria Franz Fischler

Contents

shared.value.chain: Profitable Growth Through Sustainable Value Creation

Michael D'heur

1 Definitions and Context

The question how Corporate Social Responsibility (CSR) (Schneider 2012: 19 et seq.) can be incorporated with integrity in a company's core business (i.e., products and supply chains) is subject to public debate and different levels of interpretation. Embedding CSR (or sustainability to use a more current term) requires a range of decisions and subsequent implementation steps across all management levels and departments of an organization. In this article the term "**sustainable value creation**" is used to describe the desired target/ideal situation, where sustainability aspects are considered in all dimensions of conducting business. The fundamental orientation of sustainable value creation is based on a combination of three individual concepts, namely "**sustainability**," "**sharing**," and "**value creation**." Given that these individual concepts are interpreted in many different ways in public debate and when used by companies, it is important to describe each one of them, before we eventually combine them to set the context of shared value creation.

1.1 The Concept of "Sustainability"

The public perception of the term "**sustainability**" covers a wide range of definitions, some of which are extremely vague. The scope is broad, ranging from environmental protection to conservation of resources, habitat preservation, biodiversity, recyclable/pollution-free products, sustainable (in the sense of stable) operations, and fair working conditions. Even the concept of sustainable profit is

M. D'heur (✉)
shared.value.chain, Adams-Lehmann-Str. 56, 80797 Munich, Germany
e-mail: mdheur@sharedvaluechain.com

M. D'heur (ed.), *Sustainable Value Chain Management*, CSR, Sustainability, Ethics & Governance, DOI 10.1007/978-3-319-12142-0_1

used. In 2012, Siemens AG defined sustainability primarily as the achievement of the goals of the "One Siemens" initiative. This initiative defined sustainability as the achievement of revenue growth, capital efficiency/profitability, and capital structure. Sustainability relates here to sustainable profit and increasing the value of the company (Siemens 2010: 12)[1]

Despite many different views on what sustainability is and how it can be achieved, the definition that currently describes "**sustainability**" in the most concise way and the one most often quoted was formulated by the Brundlandt Commission in 1987 when the term "sustainable development" was introduced:

> **"Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. An economy where natural resources are used only to the extent that they can regenerate" (United Nations 1987).**

As result of the Brundlandt report the world's first Earth Summit in Rio de Janeiro in 1992 was held, to put the recommendations into action. Since then numerous definitions and interpretations were created, clarifying partial aspects of sustainability and expanding on the definition provided by the Brundlandt Commission. To name one example, the Federal Republic of Germany issued its National Strategy for Sustainable Development, in which it addresses fiscal sustainability, sustainable growth, climate and energy and sustainable water policies as our current challenges to sustainability (Bundesregierung 2012). The strategy also offers guidance, indicators, and goals in order to make sustainability a driver of growth and development.

Critics argue that the term sustainability has been twisted and used by governments and business in variations to conduct business as usual. In an undertaking to renew its commitment to promoting sustainability, the European Union Commission revised its "Europe 2020" strategy to provide a new, more concrete definition (where the concepts of Corporate Societal Responsibility and sustainability are interchangeable) in October 2011:

> **"CSR is the responsibility of enterprises for their impacts on society"**

With this definition, the EU Commission has for the very first time moved away from the purely voluntary definition of CSR/sustainability, placing corporate responsibility at the forefront. For companies to be able to adopt a responsible approach across the board, it is necessary to take economic, ecological, and societal

[1] Please find more detailed information on how Siemens AG is embedding sustainability in their value chain in the chapter "Siemens: Managing Sustainability Along the Entire Value Chain to Benefit Our Customers."

goals into consideration. Human rights and consumer concerns also need to be incorporated as part of management procedures and corporate strategy through close collaboration with stakeholders. Companies are encouraged by the EU Commission "to adopt a long-term, strategic approach to CSR, and to explore the opportunities for developing innovative products, services, and business models that contribute to societal wellbeing and lead to higher quality and more productive jobs" (European Commission 2011: 8). The Commission recognizes the promotion of societal and environmental responsibility within the value chain and the consideration of non-financial indicators as an important cross-functional requirement (Schneider 2012: 21). Sustainability therefore needs to be addressed strategically. The aim is to achieve competitive advantage on the market via new products and services and innovative business models. Economic efficiency and sustainability are therefore no longer opposites, but rather two sides of the same coin (Schmidpeter 2013: 16). Countless innovations are required to enable companies to "take responsibility for their impact on society" – this does not mean societal commitment outside the core business, but responsible management of the core business and a departure from the voluntary approach advocated thus far.

One common factor shared by all definitions of sustainability is that they describe the requirements of societal responsibility for organizations in general and companies in particular, in a logical and intuitive way. However, in terms of recommendations for the practical implementation of sustainability, the definitions and concepts remain often very vague. Current approaches to sustainability have been mostly voluntary and have led companies to constantly emphasize that they are committed above and beyond the legal requirements. However, sustainability activities often remain superficial, not necessarily addressing the products, value chains, and services of a company.

In this article the terms "**corporate societal responsibility**" and "**sustainability**" are used interchangeably, while sustainability stands for the more recent term that is used. Many practitioners in companies believe that CSR is already an outdated concept and that the understanding of the issues at hand has moved on to use sustainability as a more comprehensive approach. From a business perspective, both terms should be inseparably linked; indeed, over time the meanings of these terms have coalesced (see Schneider 2012: 11f and Crane et al. 2008, who do not see sustainability as a separate topic, but as a concept that can be subsumed under CSR).

1.2 The Concept of "Shared"

The term "**shared**" likewise is perceived by the general public as well as businesses to have a variety of meanings and expectations. The concept of "shared" in a value chain context means involving all direct and indirect stakeholders consciously and deliberately in the product creation process and operational value creation. From a company's viewpoint, stakeholders are not restricted to business customers and end consumers in their role as primary customers for goods and services. It is much

more a case of maintaining an active dialog with investors, suppliers, employees, business partners, and above all the communities where companies operate their value chain. Dialogue is a driver for product innovation and improved value creation. This ultimately generates value-add for all parties involved.

Due to mutual dependencies, this type of collaboration requires a systemic approach and an understanding that sustainability in the core business cannot occur solely within a company's "own 4 walls." Whereas in the past companies had extensive control over their own value chains due to a high degree of vertical integration, today's globalized economy is characterized by mutual dependencies and interrelated effects. Even medium-sized companies now often have global value chains. Opportunities and risks depend on the intensity of collaboration. This requires a change of perspective to adopt a network approach on the basis of transparency, collaboration, and flexibility. This network approach forms the basis of a company's flexibility and adaptability to new circumstances. The conscious removal of previous barriers to collaboration presents a challenge, as a great deal of trust must be built up between the partners. However, it is this very collaboration based on trust that makes it possible to explore new avenues, create value, and build a stable base for future growth.

1.3 The Concept of "Value Creation"

Due to its many different applications in a range of different sectors of the economy such as business management, finance, and economics (particularly macroeconomics), the term "value creation" is hard to define. The basic principle consists of generating the highest possible level of operational value-add, i.e., generating profit on a regular basis and increasing the value of the company. This definition of value creation is currently implemented in most profit-oriented companies, often driven by the demands of the capital markets to achieve continuous growth and the necessity of showing a profit every quarter.

Based on the increased recognition of value creation being more than a linear process, the circular economy model is becoming increasingly popular. A company's product responsibility does not end with its responsibility for the waste generated by the production process; companies also need to take into account the safe disposal of their products after use. In many countries this is not a voluntary decision but rather a statutory act, as for example in the German Closed Substance Cycle and Waste Management Act. An ecological corporate strategy therefore requires the flow of materials and information to be circular.

The realization that a linear economy, where "disposable products" – many with harmful constituents – are produced on a large scale, is not compatible with natural cycles, caused architect Bill McDonough and chemist Michael Braungart to develop the Cradle-to-Cradle approach (Braungart and McDonough 2002). The Cradle-to-Cradle approach is aligned with nature: its aim is for product design and manufacturing methods to be structured in such a way as to ensure that the highest

possible percentage of a product can be returned to a biological or technical cycle at the end of the product's lifecycle. As there is no concept of waste in nature, McDonough and Braungart call for the symbolic elimination of the concept of "waste" in order to pave the way for adopting a corresponding change of perspective. With this approach, economic activity and environmental protection are not opposing concepts, but closely intertwined.

1.4 Sustainable Value Creation

The concepts "sustainable," "shared," and "value creation" jointly form the basis of "sustainable value creation," which we define as follows:

Sustainable value creation stands for a company's commitment to structure all aspects of its core business (i.e., products and supply chains) in ways that deliver economic, ecological, and societal value-add at the same time.

Sustainable value creation builds upon the basic understanding that economic, ecological, and societal value-add can only arise where the approach is purposefully embedded within the company's core business by the Senior Management Team and is adopted at all management levels. In this context, the term "core business" means "the combination of customers, sales channels, products, internal capabilities, and markets enabling companies to grow through sustained profits. From the customer's perspective, this is synonymous with differentiation from the competition and therefore signifies a company's unique market positioning. This is where a company's specific capabilities play a role, such as special production systems and technology, first class marketing concepts, customer-aligned innovation systems, and sophisticated supply chain management" (Bain and Company 2010).

The value chain forms the company's backbone. All of the important decisions and parameters laid down in the corporate strategy are ultimately implemented in the value chain. As a result, the value chain accounts for a significant proportion of a company's success in economic, ecological, and societal terms. The interaction between customers, business planners, buyers, suppliers, internal/external production facilities, logistics, and operational control has a significant role in determining a company's success. A radical restructuring of production processes to make procedures "greener" or "less harmful" is not enough. Companies need to adopt sustainability as a core business requirement, necessitating collaboration along the entire extended supply chain (Lee 2010). Products and supply chains are no longer merely a means to achieving an economic goal. They are the manifestation of the implementation of a sustainable corporate strategy – one aimed at creating value for all concerned stakeholders. Sustainability that is driven "inside-out" from a company's core business entails a continuous assessment of the type of economic, ecological, and societal value being created. Decisions are made on the basis that

there will be positive outcomes for profitability, the environment, and the people involved. Sustainable value creation means that intentions and words are followed up with tangible actions, so that it is transparent what is "beyond the label" of sustainability: it is the tangible implementation of a sustainable corporate strategy that is supported by all management levels and linked by means of an effective internal and external communications strategy.

In this context, special attention must be given to the internal and external "interface" with regard to value creation. New opportunities (extending to new business models) arise when in-house collaboration takes on board the potential for innovation offered by customers and suppliers. A systematic approach is essential for understanding dependencies and identifying opportunities. This leads to economic, ecological, and societal value creation and provides a platform for profitable and sustainable growth. Growth is not measured in uniquely quantitative terms, ranging from increased turnover, market share gain, and GDP. Ecological factors (environmental protection, biodiversity, etc.) and societal factors (societal activity, cultural activity, and long-term effects) also have a role to play alongside economic factors. All of these factors combined determine our quality of life (Braungart and McDonough 2002: 37).

Above and beyond this interpretation, the term "sustainable value creation" is used in this article with a focus on sustainable product design on the one hand and the application of sustainable practices across the entire supply chain on the other hand.

The value chain consists of the product development and supply chain processes of an organization. It covers all stages of the lifecycle from idea/concept, raw material sourcing, production, distribution, end customer use to the point where the product goes back to a biological or technical cycle, thus closing the loop.

It should be the aim of product design to ensure that products can be reused in subsequent cycles at the end of their initial lifecycles. This means that during the design phase, the aim should be to achieve positive societal and ecological value alongside pure economic utility. Similarly, the effects on customers and the environment need to be thought through as part of a lifecycle analysis *before* the product itself is created. Therefore, product components need to be selected for their minimal impact on people and the environment, and ideally for their capacity to be returned into a closed cycle. Should this not be possible, the input of resources should at least be continuously minimized, with the intention of achieving the greatest possible level of efficiency. Additionally, the use of harmful materials and substances should be totally eliminated. Sustainability also means that there are no negative effects when a product is being used. Alongside the aspect of product design, the way in which the product is sourced, manufactured, and distributed through the company's value chain is of major importance. Products need to be selected and business processes designed with cost-efficiency in mind and with the

least possible impact on employees and the environment. This operational aspect should include the entire value chain through all production stages, from raw materials to customers and back.

Alongside theoretical concepts and stakeholder viewpoints, valuable information and inspiration can in essence only be provided by practical examples of corporate implementation. Sustainable value creation is not a concept reserved solely for the corporate world. Public institutions also need to apply it, playing a pioneering role in spreading its use. For example, the procurement practices of public institutions can be aligned more consistently with sustainability and shared value creation. Even NGOs, many of which operate or influence value chains, should have a greater emphasis on shared value creation. With this interpretation, sustainable value creation can form the basis of current and future growth for companies, the environment, and society. Despite the many efforts made by companies and society to establish value creation on a more sustainable and shared basis, we are still in the early stages of a major but necessary change in terms of core business sustainability.

2 The Gap Between Sustainability Ambition and the Core Business

2.1 The Consequences of a "Linear" Economy

A multitude of rapid changes in the economic and societal environment has made leaders in charge of companies and governments realize that new flexible concepts are required to keep pace with increasing market volatility. Many studies conducted by internationally recognized academics have confirmed that the way global business is conducted today is not sustainable in the long run (Randers 2013). Although sustainability is a permanent topic of public and corporate discussion, the majority of global economic activity is still oriented toward chasing the paradigm of perpetual growth and accelerating a linear economy: "Bigger, better, faster, more" rules!

The call for continuous growth and regular (mostly short-term) success is driven specifically by the global finance sector. Because investors have the opportunity to transfer massive flows of funds in a short time, companies with a national and international presence are continuously exposed to the demand for short-term growth and profit. Driven by business, investment banks, and hedge funds, the hunt for short-term profits, where credit risk is seen as just another form of merchandise, has led to a financial crisis of an unprecedented degree. Over the last decade, we have seen a change which is part of a comprehensive process labelled "financialization." This refers to the increased importance of the financial sector over the "real" production of goods and services (Nölke 2012). Emanating from the USA and the UK, this phenomenon has now reached the German financial system, although savings banks and cooperative banks have been less affected in comparison. The process began after the collapse of the Bretton Woods Monetary System at the beginning of the 1970s and the consequent liberalization of the

financial sector, encompassing the deregulation of financial transaction controls, the concomitant intensification of transactions between banks and an increase in profits due to financial activity. However, financialization does not merely mean that profits in the financial sector have risen more steeply than in the "real" economy, but also that the power of the financial sector over the "real" economy has increased, to an extent that companies aligning themselves with the expectation for short-term yields commonly expected by financial markets.

Banks and the real economy are inseparable, as the real economy would be unimaginable without banks. At the same time, there has been a perceptible change, with an ever-widening gap between banks and the real economy. This is a problematic process, especially considering the underlying vulnerability of banks to crisis, which has increased even further due to financialization (Nölke 2012). There are not only effects and risks for companies; anyone who is reliant on crude oil or food and agricultural products will ultimately be affected by speculation in these markets.

As a consequence of such a dominant commercial orientation, prosperity and growth have widely become the norm in industrial countries. Even emerging and developing countries have benefited from this development. Life expectancy increases with a higher standard of living. Medical supplies and education become widely available. Agricultural productivity is increased through new methods and food storage is improved. Electricity and telecommunications raise the standard of living (Braungart and McDonough 2002: 26). In contrast, however, the negative consequences of today's "linear" economy are becoming increasingly apparent. According to McDonough/Braungart, these negative consequences are the result of a design fault in the globally deployed "production system" (Braungart and McDonough 2002: 18), that creates the following results (among others):

- Millions of tonnes of poisonous substances are deposited into the atmosphere, water sources, and the soil.
- Materials are produced that are so dangerous that they have to be monitored for generations to come.
- Huge mountains of waste are produced.
- Valuable materials are buried in landfills and nothing can ever be recovered from them again.
- Thousands of complex regulations are needed to restrict the negative impact of the economy.
- Productivity is measured by how few people are employed.
- Prosperity is achieved through the depletion of natural resources, only for them to be buried or burned at the end.
- Biodiversity is diminished and cultural practices are threatened with extinction.

The design fault manifests itself in an economy that is oriented toward perpetual growth, optimization, and profit maximization, resulting in products that are made according to the principle of "Take–Make–Use–Throw Away," causing major environmental and societal problems.

The consequences of the current linear economy and its globally distributed value creation are complex and diverse (see Fig. 1). The unprecedented growth phase in the world economy that started in 2004 was followed by a global financial

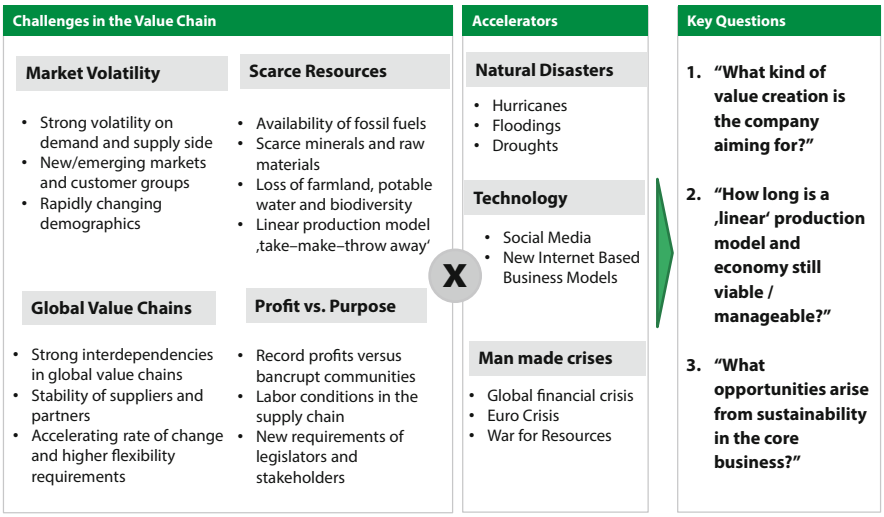

Fig. 1 The "new normal" – the challenges for value chain ecosystems are accelerating (shared.value.chain 2012)

crisis in 2008 and a series of natural disasters. The continuing euro crises, is placing heavy demands on companies, society, and consumers. The consequences of today's economy become increasingly visible in the form of gradually scarce raw materials, global warming, more frequent natural disasters, overburdening of eco-systems, environmental pollution, and harmful product constituents. In addition there are social consequences, such as the outsourcing of employment to low-wage countries, food speculation, and the under-funding of communities—often alongside record profits for companies that minimize their contributions to the communities where they operate through tax dodges.[2] Shocks and crises are occurring with greater frequency and their impacts are becoming more severe and longer-lasting.

In this particular context, it is interesting to observe that although there has been heated discussion about the need for behavioral change among groups of companies, the financial sector, stakeholders, customers, and academia, historically these groups have generally been unable to reach a consensus. The recent past has seen a great deal of reaction, but very little real action. Even the Rio+20 Climate Summit led by the United Nations will be remembered more for its failure than any success in solving the problems caused by uncontrolled growth.

Studies of corporate attitudes to CSR and sustainability reveal a number of interesting differences: firstly between countries. The view held by Milton Friedman: "the societal responsibility of business is to increase its profits" [see Wirl (2012) and The Economist (2011)] is dominant in developing and emerging

[2] Thanks to a sophisticated but legal tax avoidance model, Apple pays only 2 % tax in the USA and Ireland.

countries. In Germany and a number of northern and western EU countries however, there is greater emphasis on CSR. Secondly, attitudes to CSR vary between industries. Whereas oil companies in particular are strongly oriented toward CSR (which is not always a successful strategy, as the case with BP), other extraction industries refer less frequently to CSR (Wirl 2012: 2). Looking at the sustainability efforts of companies the following observation now generally applies: the closer a product is to the everyday needs of the consumer, the greater the effort made by companies to position them with a sustainability message.

Until now, the link between sustainability and the core business has not been sufficiently recognized by companies as an opportunity: this is an area of great potential for companies, the environment, and society alike. The process of embedding sustainability within the core business means embedding it in products and the supply chain. This is both a challenge and an opportunity for companies. This particularly involves working with stakeholders, suppliers, and society itself. Even nowadays, sustainability and core business are still not considered as an automatic coupling based on mutual dependency. One of the reasons for this lack of understanding is the complexity posed by sustainability in companies and society as a whole. In fact, the context in which sustainable value creation takes place could not be more complex. It runs through the whole of society: from sole traders to multinational groups, governments, interest groups, and NGOs. The multiplicity of sectors, sizes, legal forms, national/international relations, etc. has meant that up until now, there has been a lack of uniform and practical regulations/systems on the necessary scale (Brix et al. 2006). Commercial practices over the last 100 years have been strongly affected by the impact of the Industrial Revolution, which in particular views the environment as an unlimited source of resources. With its focus on raising operational efficiency, the Industrial Revolution placed value on increasing yields, improving product quality, lowering operations costs, and improving service and supply. Over the years, the continuous pressure for improvement has brought considerable economic success. As a result of this, a number of business optimization methods and models have appeared, such as Theory of Constraints, Lean, the Toyota Production System and Six Sigma, to support the continuous improvement process. The complexity of the necessary business optimization has also been marked and accelerated by increased globalization. The importance of value chains as well as a basic understanding of how to manage them, have changed significantly across all industry sectors over the last 30 years. Technological progress, the amount of available capital, and the need to generate further growth have been the main drivers for corporate globalization. In a series of studies conducted by business consultants PRTM, supply chain managers said that they assumed that over 50 % of a company's value creation would be distributed globally in future. Study participants also said that they employed sustainability practices merely to meet legal requirements or in response to explicit instructions from their customers [see PRTM (2008) und PRTM (2010)].

In the field of product development, the World Climate Conference in Rio in 1992 marked the changing point when ecological criteria were taken seriously for the very first time. The "Changing Course" report delivered by the Business Council for Sustainable Development (today: WBCSD) did indeed set the course

toward reduced resource consumption and a sharper focus on environmental aspects with its concept of "eco-efficiency."

However, the recommendations issued by the Council, an association of 48 industrial sponsors (including Dow, Conagra, and Chevron), referred to those aspects that would deliver value-add for companies if they focused on "eco-efficiency." No suggestion was made for a radically different approach to product development in this context and the process of exploiting the environment was merely slowed down and solving the problem transferred to future generations (Braungart and McDonough 2002: 53). Even the strictest eco-efficiency paradigms fail to challenge basic practices: a shoe, building, factory, car, or shampoo can still be designed badly, even if the materials and processes used in production become increasingly "efficient" (Braungart and McDonough 2002: 76).

With the current recycling systems in place, some products are indeed returned to a cycle. However, as these products are not designed for recycling from the outset, the result of the recycling process is often a material that is of lower quality and has lost some of its properties compared to the starting material. This means that primary materials still need to be sourced. The philosophy of "eco-efficiency" certainly addresses the process, but only leads to a deceleration of it. A further problem lies in the "disposal" of waste that contains problematic substances. "Disposal" often consists of exporting waste to far-away areas, often developing countries. The problem is "out of sight, out of mind."

Right from the product design phase, most of the products available today are conceived to be thrown away at the end of their lifecycle. McDonough and Braungart call them "Cradle-to-Grave" products (Braungart and McDonough 2002: 27). In many instances it is easier for consumers to buy a new product or the latest technology instead of repairing or overhauling the existing product. Companies face continuous criticism for purposefully designing products in ways that lead to malfunctions/defects after a certain amount of time and hence requiring to buy a new product. Specialist manufacturers of electronic consumer goods are often suspected of this practice. In his 2006 book "Made to Break" Giles Slade reviewed the practices of planned obsolescence in the US. For Slade "planned obsolescence is the catch-all phrase used to describe the assortment of techniques used to artificially limit the durability of a manufactured good in order to stimulate repetitive consumption" (Slade 2007: 5). Why is it not possible to replace a smartphone battery? Why is the circuit board in a television designed so that a heat-sensitive capacitor is located right next to a heat conductor – even when other design options are possible? Planned obsolescence, is regrettable in terms of sustainability, as the production of another device requires considerably more resources than the replacement of a single component. The situation is aggravated by the fact that the majority of defective devices are not recycled, ending up in landfills. Valuable raw materials are lost or transformed into toxic substances via waste incineration. Besides the design aspects that lead to technical obsolescence, the particular way electronic consumer products are marketed has conditioned customers for "psychological or fashion-based obsolescence" (Slade 2007: 27) – with ever new features/functions. While the approach to stimulate repetitive buying has been invented in the US Automotive industry in the 1950s, it is now the

standard among almost all consumer products, pushed by marketing and media campaigns as well as subsidies from service providers. This leads to situations where properly functioning products like mobile phones or MP3 Players end up in drawers at home. Well-working products and their auxiliaries like cables, chargers, and headphone end up as electronic waste. A survey commissioned in 2014 by the German Federal Association for Information Technology, Telecommunications and New Media (BITKOM) found that in Germany approximately 106 million operable working mobile phones end up as electronic waste in drawers at home, just because a new device was bought shortly after the initial one. This is an increase of 24 % compared to 2013 (86 million operable mobile phones ending up as electronic waste) and represents a number far greater than there are residents in Germany (BITKOM 2014).

Due to the current orientation of the economic system toward regular and (ever-increasing) commercial profits, companies produce predominantly according to "Cradle-to-Grave" designs. However, such an orientation does not just have consequences for product development alone. As a result of growth and margin pressure, products are manufactured with the cheapest raw materials, components, and ancillary materials available on the global market – which means that prohibited and regulated product constituents find their way into the production process and end up in the hands of consumers. While this practice can lead to problems during the product processing phase, critical substances are a particular problem during the utilization phase and at the end of the product lifecycle. The increase in the incidence of cancer, allergies, asthma, and other "unspecified" diseases is only the tip of the iceberg.

Toy manufacturer Mattel is a well-known example of this, as paint containing lead was used by a Chinese subcontractor in its production process. This practice was not only poisonous to production workers, but led to a wide-ranging product recall of the Mattel toy in the USA because the product posed a risk to small children. Not only was Mattel's reputation damaged – the Chinese factory owner also committed suicide.

Ayres and Neese assume that 90 % of consumer goods produced in the USA immediately become waste (Ayres and Neese 1989: 93). It is therefore difficult to understand why valuable raw materials are "disposed" at landfills and incineration facilities, when they have been obtained under difficult conditions and costs have been incurred in sourcing and processing. A further problem is that many products and their constituents are not appropriate for landfill or incineration. McDonough and Braungart call products, that are not designed from the outset to be useful to people or the environment "crude products" or "products plus." What that means is that consumers obtain not only the product they wish to acquire and use, but also obtain a range of possible side effects into the bargain, which are often undeclared (or do not have to be declared) (Braungart and McDonough 2002: 37, 40).

Developing countries (particularly countries such as China, India, Brazil, and Russia) have also adopted the growth mantra that has been prevalent in industrial countries for decades. Because of their high population levels, these countries are attractive growth markets for companies. This makes it necessary to achieve economic growth and revenue so that citizens are able to access consumer goods.

The booming economic growth in China is a good example of this. The Chinese government has succeeded in achieving an annual economic growth average of 8–10 % in recent years. At the same time, several hundred million people are now able to live above the poverty line. In order to build the necessary economic growth, China has not only captured an extensive share of global value creation (especially in the manufacturing sector), but has also stepped up in the role of a global investor to secure access to raw material reserves in foreign countries for itself. In addition to a strong demand for products and services from the West, this necessity for further growth in China has also led to a rapidly increasing consumption of natural resources, leaving a heavy environmental footprint. Many of the country's fresh water reserves are now contaminated and in numerous cases, working conditions do not meet the standards of western countries. Water and air pollution have resulted in a rapid increase in the instance of diseases. Air quality in Beijing was the "worst on record" in February 2013, as the city's pollution monitoring center warned residents to stay indoors with pollution 30–45 times above recommended safety levels (Reuters 2013). Aside from the increased risk of respiratory and cardio diseases, the increase in air pollution has also been linked to other health issues including disorders in neurological developments. In addition to water and air, food is at the center of frequent issues. One food scandal follows another.

Due to the globalization of procurement markets, natural resources throughout the world are being drawn into this system and mutual dependencies are strengthening. The restriction on the export of rare earths imposed by the Chinese government in 2010 led to a drastic rise in global raw material prices and a crisis in the supply of electronic components. In industries such as the electronics sector that are dependent on rare earths, this led not only to price increases but also begged the question of how this dependency could be mitigated. Replacing or substituting rare earths used in products and new concepts for recycling electronic scrap are being discussed as possible solutions. The result of this is that the discussion on sustainability in the value chain is receiving new impetus out of economic necessity. However, these concerns are still operating within the old paradigm. An approach that is "less harmful" or "consumes fewer limited resources" is definitely to be welcomed as a first step, but does not go far enough toward avoiding the use of such resources right from the start in terms of design.

2.2 *Educated Consumers and Their Awareness of Greenwashing*

Despite the globalization of business activity and the effects associated with constant economic growth, there is also a very interesting aspect on the demand side: the globalization of value creation, the availability of Internet technology, and social networks has led to the creation of new and well-informed customers groups. These global groups (Edelman 2010) are linked throughout the world, equipped with a wealth of information at hand and the ability to closely scrutinize corporate messages. Exposing product scandals or similar situations in company value chains

is not the sole right of activists. Bad news travels more frequently, faster, and further than before. The demand for transparency and credibility is increasing.

According to studies conducted by the Edelman Market Research Institute in the US, companies can no longer differentiate themselves in the eyes of their customers solely on the basis of their products (Edelman 2012). Edelman also says that confidence in companies and their management has been on the wane since 2008. High quality products, good working conditions, efficient operating processes ("Operational Excellence") and a leading position in a market are no longer the basis for consumer confidence in a company, but have become an essential basic prerequisite. Companies are expected not only to function well, but also to act with integrity, "do good" in the world and, above all, not cause any harm. Faced with this level of expectation, the interpretation of a company's corporate purpose coupled with the way in which a company communicates and implements this purpose have come to constitute the competitive advantage of the future.

The public expression and communication of a company's purpose extends far beyond corporate social responsibility. It is part of a company's DNA, the company's reason for existence. Jeremy Galbraith, CEO of the public relations company Burson–Marsteller in Europe, regards corporate purpose as an important element of differentiation: "Companies that embed corporate purpose strongly within their corporate strategy and communicate it well both internally and externally, enjoy significant competitive advantages. Communication of the corporate purpose is becoming an important tool for managers wishing to build their reputation and a relationship of trust with stakeholders." These changed expectations pose a challenge to companies, especially as company information that has been publicly disclosed is surely of great interest to competitors. However, the challenge is not so much one of transparency, but more one of credibility. "If you cover up problems, close yourself off and fail to work systematically and transparently on the solution to a problem, you will only struggle from one crisis of confidence to the next," says Georg Lahme, transparency expert for strategic communication consultants Klenk & Hoursch.[3] With access to around-the-clock supply of information that causes them to be globally connected, consumers increasingly make their purchase decisions on the basis of corporate purpose and the visible support of good works. For the same product features and prices, consumers opt for a brand supporting a good cause. They will either recommend or penalize (Edelman 2012). Issues such as corporate purpose, sustainability in product creation and usage, recycling, and societal justice have become critical factors in sourcing decisions for these buyers.

As more and more companies start reviewing their approach to value creation, the concept of shared value is also moving from products and value chains toward brand building itself.

This extension of the widely accepted triple bottom line approach (focus on profit, people, and planet) toward inclusion of brand messaging, shows the importance of putting sustainable value creation at the heart of the brand (see Box 1 for an example).

[3] See also chapter "Telling the Backstory: Transparency in Global Value Chains."

Case in Point: Shared Value as Brand Building Constituent (BBMG)
Raphael Bemporad, Principal of the New York based Brand Building agency BBMG explains the growing importance of Shared Value for Brands as follows:

"The practice of creating shared value is fundamentally about capitalizing on the connections and mutual interdependencies between business and society. A business needs the community to provide demand for its product, natural resources, a supportive regulatory environment and the employees to bring their product and services to market efficiently and effectively. A community needs successful businesses to provide helpful products, jobs and wealth creation opportunities for its citizens.

However, without considering the power and influence of brands and the full participation and co-creativity of consumers, community members and other stakeholders, we're leaving tremendous opportunities for engagement, collaboration, cultural influence and value generation off of the table.

At BBMG, we focus on branding for shared value because we believe it's a transformational way of doing business – combining the foundational purpose and core values of brand building with the environmental imperative of sustainability and the creative potential of innovation.

Branding for shared value must consider the full set of relationships in every part of the value chain – consumer, product, brand, community and planet – and allow for the integration of mutually beneficial roles that we can play as individuals, organizations and as a society (see Fig. 2).

Bringing the full meaning and influence that brands have in society to the forefront of business design and innovation strategy, helps us generate disruptive business solutions and delightful brand experiences that enable shared value creation.

By harnessing the promise of branding, sustainability and innovation, we can meet the needs, hopes and aspirations of new consumers; build more respectful, collaborative and enduring relationships with all stakeholders; and unleash our collective co-creativity to bring better, smarter and more impactful ideas to life in ways that create shared value for all."

Fortunately, against the background of current economic, environmental, and societal issues, the efforts made by companies to position themselves around the subject of sustainability have now increased. However, much of what is currently communicated under the umbrella of CSR and sustainability is actually a sham, as marketing and sales interests are far too often the driving factors. "Green" products can be found everywhere and there are even more copycat products that are sold to unwary customers. False claims of commitment to sustainability are merely "Greenwashing." The term "Greenwashing" mainly refers to companies priding themselves on ecological or societal efforts that are either nonexistent or minimal compared to the negative socioecological effects of their core business. Anyone using advertising or PR activity to "green up" individual products, companies, or

Fig. 2 Brand purpose and shared value as extension of the 'triple bottom line' concept (BBMG 2013)

political strategies is primarily aiming at creating the impression of being particularly environmentally friendly, ethical, or fair. Such an approach is absolutely right if it can be backed up with integrity and transparency. However, in many cases, those who talk about their "green conscience" actually only fulfil the basic requirements, if at all. Consumer confidence can only be won when products and corporate commitment go actively and convincingly beyond the interests of profit (Edelman 2013). "Greenwashing" is the wrong approach in this context and constitutes a bigger risk to companies than previously acknowledged. Neglecting the issue of sustainability has become a serious risk factor for companies: scandals such as environmental pollution, contaminated products, and poor working conditions lead to loss of reputation. Where listed companies are concerned, this can lead to plunging share prices and damage to the brand. If a company is tainted by "Greenwashing," both its reputation and economic basis are under threat.

It is for this reason that large companies in particular adopt practices that have a positive influence on public perception of the company in terms of having a "green conscience." Wal-Mart, the world's biggest retailer, has a deliberate policy of appearing regularly in interregional daily papers, as well as niche and specialist media. Its aim is to send regular targeted "green" messages to a somewhat sceptical specialist audience. Whereas every step toward sustainability is to be warmly welcomed, it still remains to be seen what role sustainability actually plays in Wal-Mart's core business. The business model includes building malls, which are usually located far from city centers and therefore only accessible by car. The construction of malls and car parks, totalling an area of 60,000 ha in the USA alone

by 2012, has resulted in habitat fragmentation and isolation (Gang 2012). The product portfolio also focuses on the cheapest products, which are manufactured according to the "Cradle-to-Grave" philosophy and will certainly add to the growing volume of landfill waste. "Wal-Mart claims that the company is committed to ensuring that the pollution associated with product manufacturing is reduced. This sounds good at first but, at the same time, all Wal-Mart activity is aimed at reducing the shelf life of consumer goods, speeding up the flow of products from factory to landfill and encouraging consumers to make purchases," according to Sandy Mitchell of the US Institute of Self-Reliance (Mitchell 2012). PR-driven stances on sustainability that lack any real substance within a company's core business will always be perceived by consumers as Greenwashing.

For many companies, sustainability and Corporate Social Responsibility raise a considerable number of new and complex challenges ranging from a responsible approach to resources, the ecological consequences of a product, CO_2 emissions, fair working conditions, the promotion of women's rights, anticorruption practices, transparency, and societal commitment – all these elements must be taken into consideration. "Relevance, transparency, and clarity" are the defining factors. Generally accepted standards for products are now abound (organic guidelines, eco-label, and Fair Trade). However, these labels do not currently provide customers with any transparency in terms of the product design itself or the way in which the company's value chain is operated (this applies to mobile phones, food, and any other type of product). Although companies like Nestlé[4] have intensified their efforts to achieve greater transparency, nevertheless there has still been no major breakthrough. It is either impossible or too costly to obtain detailed information. Most of us are familiar with clicking through "greened-up" websites that hide more than they reveal or reading a sustainability report that runs for more than 100 pages.

The case of the British oil company BP is one of the biggest examples of Greenwashing in the world. It devised the "Beyond Petroleum" slogan to have an effect on its target audience and adopted a sun logo; nevertheless, despite record profits, it left oil extraction facilities to fall into disrepair. This made BP jointly responsible for the destruction of the Deepwater Horizon oil platform in 2010 and the biggest environmental disaster in US history. Costs amounted to at least USD 41 billion, the group's share price collapsed and the damage to its image is permanent. Ecological and societal labelling fraud is now being exposed and publicly denounced at an increasing pace. The current reporting practices of companies likewise fail to meet the requirements of all stakeholders (customers, investors, lenders, employees, consumer organizations, NGOs, etc.). Claims still fail to match reality, as internal regulations and organizational structures have not been established in many cases. It is rare that people responsible for sustainability and those responsible for operational activities work together in the same area or even communicate regularly. This shortcoming constitutes a danger to credibility, with

[4] For more details about the Nestlé approach to sustainability, please refer to the chapter "Nestlé: Sustainable Value Chain Management from the Farm to the Fork."