

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

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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

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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

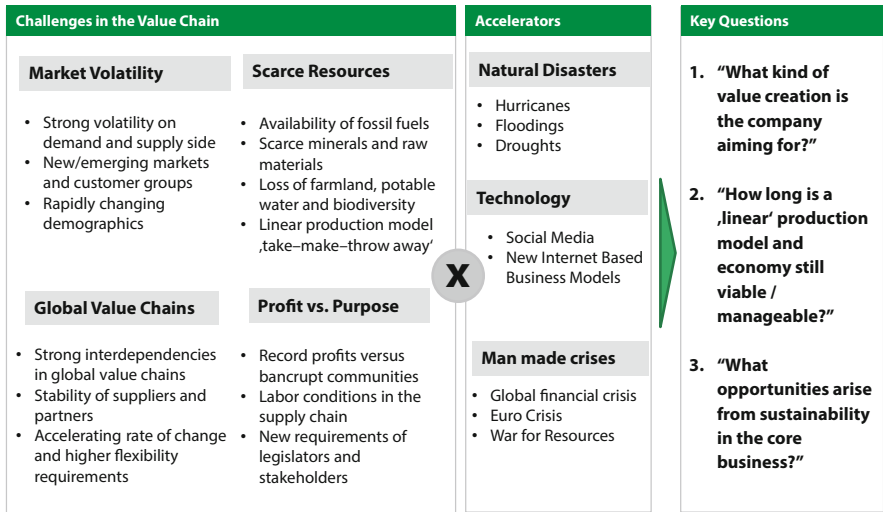


Fig. 1 The “new normal” – the challenges for value chain ecosystems are accelerating (shared.value.chain 2012)

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, CO₂ 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 Nestlé⁴ 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

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

concomitant economic risks. We still see a large number of reports on sustainability and Corporate Societal Responsibility that appear to discuss only “good deeds.”

Greenwashers are running the risk of boycotts, delisting, and warning notices. Some greenwashers even face legal action because of unfair competition or consumer fraud, as witnessed in 2010, when Opel and VW issued misleading green statements to attract customers, when the German Atomic Forum used wind turbines in a promotional image and when Lidl, the retail chain, demonstrably failed to comply with societal and employment standards. The Clean Clothes Campaign even confirmed inhumane working conditions at Lidl suppliers. Lidl issued a cease-and-desist order and the situation did not result in legal proceedings. If companies get involved in Greenwashing, they can expect the same fate as Vattenfall, the electricity group. In 2008, Vattenfall used the print media, the Internet, cinemas, and public places to call on the general public to sign up for climate protection. Given that Vattenfall actually operates climate-damaging coal-fired power stations, NGOs gave the company the “Climate Greenwash Award 2009” (climategreenwash.org 2009).

Customers expect companies to take environmental protection and societal standards seriously – any company that fails to do this, will quickly attract dissent: disappointed customers spread their knowledge of doubtful business practices like wildfire over the Internet and NGOs expose scandals. Even icons like Apple cannot escape the consequences of bad publicity. When the working conditions at the Apple contract manufacturing company, Foxconn, were suspected to be violating basic principles, young members of a Chinese group of activists secured jobs at Foxconn so that they could report on the working conditions from inside a company (after all earlier external requests to review the working conditions were refused by Foxconn). Apple was forced to rethink their value chain practices after activists revealed inhumane working conditions. Apple became a member of the Fair Labour Association as result of the scandal and started to make their supplier base and working conditions transparent. When we consider that Apple, the best-known brand of consumer electronics in the world, is currently in the spotlight, we need to ask ourselves how other electronics industry manufacturers run their value chains.

Even signatories of the Global Compact UN initiative have fallen short to such an extent that caused over 3,100 companies (as of mid-2012) to being excluded from this UN initiative. The approximately 8,700 members in 135 countries, 6,000 of them companies (around 200 in Germany), are now required to demonstrate what they are doing to implement the ten principles of sustainability for ecological and societal responsibility. Collaboration with experienced environmental organizations may be of benefit here. However, environmental and development organization logos are not always certain proof that companies are running their core businesses responsibly. In many cases, these logos are merely used for Greenwashing. In the face of a confusing range of different NGOs, expert Frauke Fischer, biologist at the University of Würzburg, Germany, warns: “It is not enough

just to work with any long established environmental organisation, as there is no independent auditing of the performance of nature conservation organisations.” As long as this is the case, companies need to analyze carefully which organization delivers “the best product for their money.” Analysts in research agencies add that they rate collaborative research projects positively if they contribute toward increasing business sustainability performance in an important area. This is also the case if there are measurable objectives and deadlines for environmental protection, for example, and if collaboration runs right through the company. On the other side of the coin, collaboration is a sensitive issue for NGOs too. “Collaborating with multinational companies in particular involves the risk of being suspected or even blamed, and betraying your own ideals,” says Bernward Geier, Director of Colabora, which supports the process of dialogue that the Rainforest Alliance (RA) enters into with other organizations. Tchibo, Kraft Foods, and Chiquita procure goods from agricultural companies that are certified by the Rainforest Alliance: for example, Chiquita buys RA-certified bananas. However, the Alliance faces the continuous criticism that it is not stringent enough and that employment laws have been breached on certified plantations.

Many NGOs pull the plug when the risk to their reputation becomes too great. WWF Netherlands ended its collaboration with the energy provider Essent in 2009 when it was taken over by RWE, the biggest emitter of CO₂ in Europe (Aachener Stiftung Kathy Beys [2013a](#)).

Indeed, there are different ways of measuring the manner and speed with which changing customer requirements and global value creation impact on companies, depending on the industry sector, product portfolio and company size. One thing is certain, however, namely that a purely reactive approach does not go far enough. The approaches historically adopted by companies regarding the issue of Corporate Social Responsibility are inadequate in terms of meeting the expectations of well-informed customers. As described in the standard works “Corporate Social Responsibility” by Schneider and Schmidpeter (see Schneider and Schmidpeter [2012](#)), the practical implementation of sustainability in companies and society is still either from a strongly philanthropic viewpoint or alternatively, from pure cost considerations. It is noticeable that CSR has been adopted in company departments, but that these departments do not work in close connection with actual core business, i.e., operations or the value chain.

2.3 *Going “Beyond the Label”: What’s in a Value Chain*

But how do we get “beyond the label,” to really fill the concept of sustainable value creation with life?

In order to understand the constituents of a company’s value creation process, one needs to understand which processes are interacting to deliver value. Every company that wants to generate the necessary/expected profit, does so in combining product development and all other value creating processes (the supply chain) in an integrated fashion, because “all companies are a collection of activities whereby a product is designed, manufactured, distributed, delivered and supported. . . these activities can be described as a value chain” (Porter 1989: 37). The concept of the value chain (also referred to as supply chain or service chain) coined by Professor Michael E. Porter from Harvard Business School describes corporate core and support processes. Figure 3 shows a schematic representation of the linked business activities making up the commercial goods production process.

According to Porter, there are five primary activities that describe the actual value creation process: internal logistics, production, external logistics, marketing & sales, and services. There are also four support activities supplementing the value creation process: corporate infrastructure, human resources, technology development, and sourcing. Each individual business activity constitutes an opportunity for differentiation, contributing toward the company’s cost position in relation to the competition (Gabler 2013). Harting describes the “value chain” as “the stages of a transformative process that a product or service goes through, starting from the basic raw material to end use” (Harting 1994). The current interpretation of the **value chain is as a series of closely-linked linear steps leading to a seamless flow of products – from raw material to customer**. The ultimate goal is maximum operational efficiency for planning and business processes, ranging from sourcing to production and distribution of the end product to the customer. This goal is achieved through improved coordination of resource implementation in the value chain, based on the interaction between people, financial data, systems, and operational facilities (So et al. 2012).

There have been many different versions of operational implementation since Porter introduced the concept of the value chain and Harting provided the interpretation. The Supply Chain Council (SCC) has carried out pioneering work in this field. It is an independent, nonprofit organization that has taken on responsibility for developing the Supply Chain Operation Reference Model (SCOR), a process reference model to describe supply chains. The Supply Chain Council was founded in 1996 by Pittiglio Rabin Todd & McGrath (PRTM) and AMR Research, two business consultancies in Boston. The SCC started out with 69 members; since then the number has risen to over 1,000. Most of the members are companies from various sectors, industries, and stages of the supply chain. Although the emphasis is on exchanging experiences about the practical application of the model, the work of the SCC also includes input from scientists and advisors. The creation of the SCOR

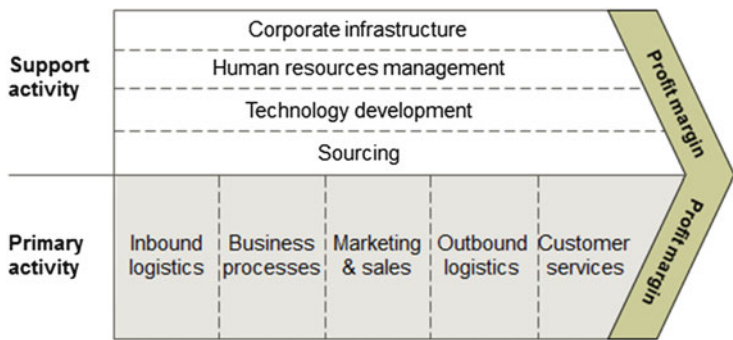


Fig. 3 Schematic value chain model according to Porter (1989)

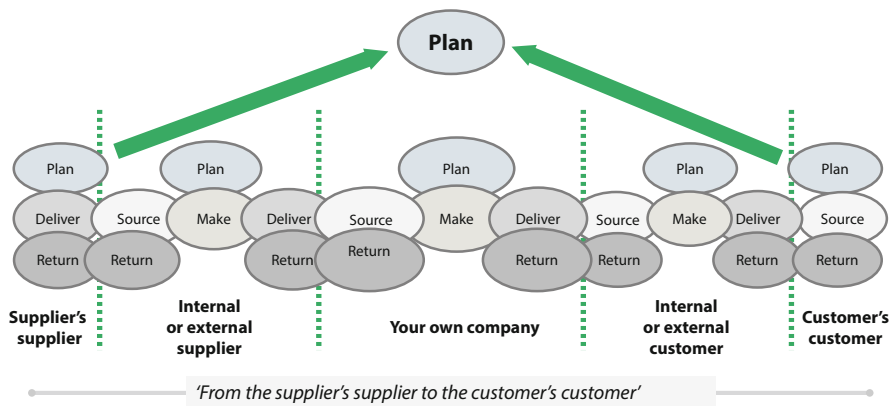


Fig. 4 Integrated end-to-end supply chain according to the SCOR® model (SCC 2006)

model has provided a reference framework that is now used in many companies to model their supply chains and supports further their development.

The main aim of the Supply Chain Council is to provide a reference model for efficient supply chain management. Developing the model further through the exchange of information between practitioners is acknowledged as an essential part of building the “body of knowledge” for state of the art supply chain management. Knowledge obtained in this way is fed into the model in the form of new or extended process steps and best practices. The standardized SCOR model helps companies to increase efficiency, reduce the input of resources, and accelerate supply chain processes. An important aspect of the SCOR model is to ensure that companies remain consciously aware of their supply chains from an end-to-end perspective, i.e., ranging from the “supplier’s supplier” through the company’s own organization right up to the “customer’s customer.”

Figure 4 is a conceptual representation of the interaction between the various processes of PLAN, SOURCE, MAKE, DELIVER, and RETURN. Describing an

integrated supply chain end-to-end and then putting it into daily practice entails setting clear targets and bridging the internal divisions between roles and departments. The SCOR model provides a uniform language and clear definitions for achieving this.

The SCOR model provides a definition of the core processes PLAN, SOURCE, MAKE, DELIVER, and RETURN. The process hierarchy underpinning the SCOR model starts with a description of the most important parameters of the Value Creation Strategy (competitive basis: innovation leadership, cost leadership, service, etc.) and proceeds to break down these parameters into four detailed hierarchical levels containing standardized process elements, detailed information, the relevant key performance indicators, and best practices. The best practices of the model also take into account the characteristics of various industries and are developed on a continuous basis.

These process elements can then be used to define and describe any supply chain “configuration” (see Fig. 5). Depending on the industry, market conditions, product portfolio, and competitive situation, it is possible to take various levels of integration and manufacturing strategies into consideration. Make-to-Stock, Make-to-Order, Assemble-to-Order, and Engineer-to-Order are the most modeled configurations. Each different strategy impacts the design of the supply chain and describes interaction with customers, suppliers, and other partners. Various processes in the supply chain can be mapped in a model, resulting in supply chain “configurations.” Companies with a global presence and a diversified portfolio generally operate several configurations at the same time.

The advantage of the SCOR model is that it is sufficiently generic to be applied in a range of different industries. It is also flexible enough to be adapted to specific requirements. Using key performance indicators (KPIs), the SCOR model can be

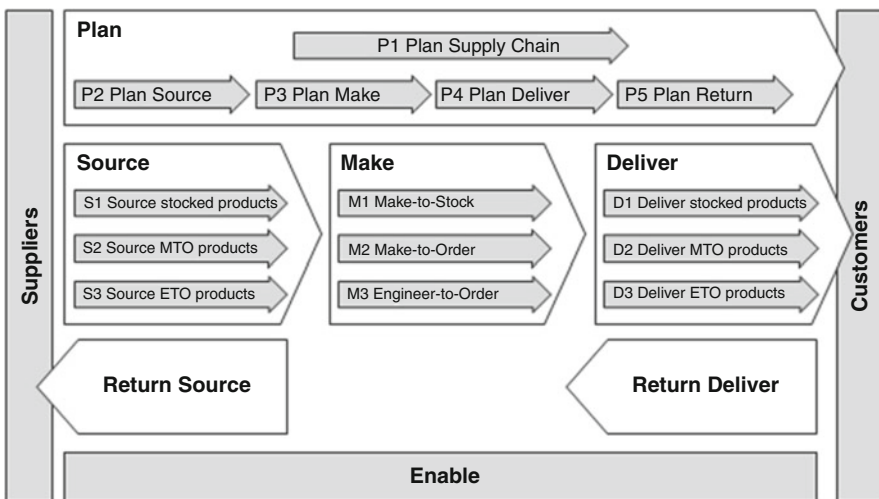


Fig. 5 SCOR[®] model process elements (SCC 2006)

applied as a basis for benchmarking supply chains. By comparing the performance of a supply chain in a specific industry (or even across industry sectors), company managers can obtain important indicators showing where potential for improvement lies or establish specific performance levels for certain processes. Using the experience gained from application of the SCOR model, companies have been able to refine and develop their core processes, best practices, and KPIs over time.

From the outset, the SCOR model included a description of the product RETURN process, although for a long time this only played a role in terms of handling requests for repairs and the associated logistics management process. The topic of sustainability was not addressed until version 9 of the SCOR model (released in 2008). Thanks to the inclusion of “Green” SCOR in Version 9, it was now possible to map “green” aspects, but also to describe these aspects via the best practices processes and KPIs. The work on Green SCOR itself had started much earlier back in 2002, when it had been developed by a research group in the USA, which then went on to win an academic excellence prize for its work just 1 year later. As a result of the work carried out by this group of Supply Chain Council practitioners, Green SCOR was incorporated as one of the standards in the 2008 model (Wilkerson 2008). This principally involved adding the environmental aspect to the existing process categories. For the very first time, the environmental impacts of a supply chain could be identified via a process model. Green SCOR extends the scope for considering the aspects of customer use and end-of-life recycling. On the basis of the SCOR model, the PLAN, SOURCE, and DELIVER processes are correspondingly applied to these areas. The area of waste management was specifically added to the model. Best practices were also incorporated, such as working with partners on the issue of environmental problems, reducing energy costs and packaging materials. The relevant indicators relate to CO₂ emissions and air pollutants, liquid/solid waste, recyclable waste proportions, energy costs, and units per cargo load (Wilkerson 2008). The Total Environmental Footprint is measured by adding up the total of CO₂ emissions, air pollutants, fluid/solid waste, and then deducting the proportion of recyclable waste across all production stages (MAKE). By standardizing the modeling options available for the SCOR model, companies can implement sustainability within the supply chain systematically (So et al. 2012).

With the introduction of Green SCOR, the link between product design and supply chain structuring became the focal point (see Fig. 6). **The trigger came when the working group realized that product costs as well as environmental impact could largely be determined by decisions that were made at the beginning of the product development cycle.** Close and consistent cooperation between product development and the supply chain department is required in order to address these aspects within product development and the supply chain. However, actual implementation is often difficult, because decisions on product design are typically the responsibility of development departments, whereas all other decisions (from raw material extraction to product end-of-life) are generally influenced by the supply chain department.

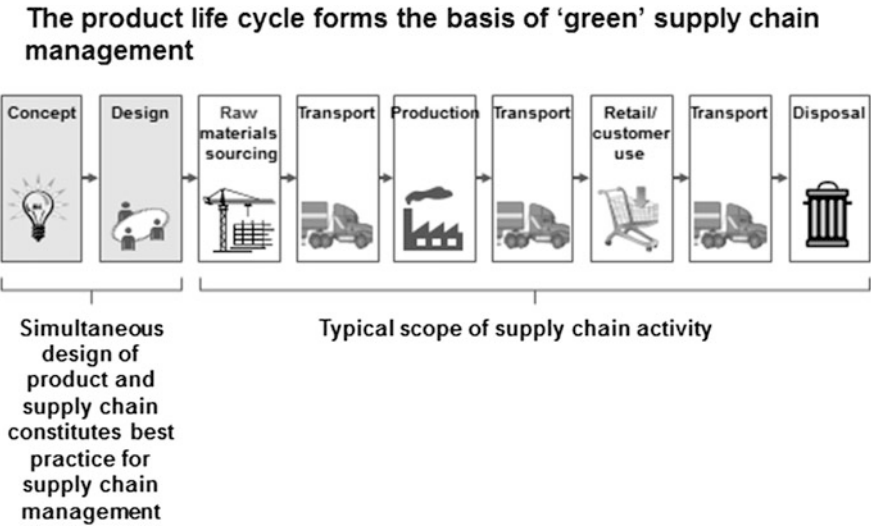


Fig. 6 Green SCOR as a further development of the SCOR model (Wilkerson 2008)

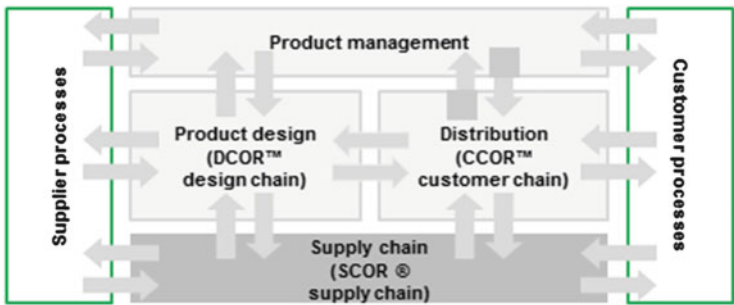


Fig. 7 From “supply chain” to “value chain” reference model (SCC 2012)

Encouraged by the success of implementing the SCOR model within companies, the Supply Chain Council decided to apply the basic idea of a reference model to other business areas (see Fig. 7). Whereas the SCOR model focuses on the supply chain and end-to-end aspects of the flow of materials and information, further reference models were made available for product design (Design Chain Operations Reference – DCOR), sales and customer service (Customer Chain Operations Reference – CCOR), and product management. The models take interactions between customers and suppliers into consideration. An integrated model of a complete value chain is mapped by modeling a supply chain covering all aspects of product creation across operational value-creation processes and customer-aligned processes.

The “value chain” is the combination of products and supply chains of a company.

$$\text{VALUE CHAIN} = \text{PRODUCTS} + \text{SUPPLY CHAINS}$$

The value chain is the company backbone – it is the manifestation of a company’s value systems and strategy. Implementing sustainability primarily means implementing it in products and supply chains.

SCOR and its extensions provide a means of describing the interaction of processes, people, and systems in the value chain. However, in the past other models were also developed alongside the SCOR model, providing an alternative means of describing value chains.

A good example of this is the Value Reference Model (VRM), developed by the US trade consortium Value Chain Group. The VRM provides an open semantic dictionary for value chain management, where the reference model covers the areas of product development, customer relations, and supplier networks. As a process framework, the VRM is aimed at modeling, designing, and measuring those processes that involve the planning, relationship management, and the customer-related aspects of a business. The Value Chain Group claims that the VRM model is *the* tool for describing the next generation of business process management, resulting in product, operational, and customer excellence. Equally popular is the EFQM model, a Total Quality Management system developed by the European Foundation for Quality Management (EFQM) in 1988.

What all models have in common is that they aim at eliminating waste from operational processes. In recent years, optimization methods such as Six Sigma, Lean, Inventory Management and Sales & Operations Planning have also appeared within the sphere of the value chain. A large number of IT systems have emerged, that provide the supporting technology for the management of integrated value chains. The desired result is an overall reduction in operating costs, thus contributing to company profitability. Now as in the past, these optimization models are also a major aid in helping companies increase their market share and meet customer requirements.

The value chain presented by Porter and interpreted by Harting has developed further in line with changes in the business environment. Günther’s “Value-Creation-Cycle” describes a further development of the value chain, where every production system sees the environment as having the role of both supplier (resource supplier) and customer (receiving environment). This creates a direct connection with sourcing, sales, and disposal (Günther 2008). Given that economic activity is not possible without interaction with the environment, there is a need to break away from a linear economy and move toward a closed circle economy. Whereas the value chain model proposed by Porter focuses on in-house process stages, the Supply Chain Council purposely incorporates multi-stage relationships with customers and suppliers, where the role played by the RETURN process is anticipated at an early stage. Günther’s Added-Value-Circle also adopts the concept of the end-to-end

supply chain, emphasising aspects of a product's lifecycle and the very process of value creation itself.

Public, political, and corporate awareness of the necessity for sustainability has increased in recent years. Companies have intensified their efforts, so far with the emphasis on public image. This is a positive trend, but one with huge potential for improvement. Whereas the public perception of companies also depends on efforts made in the area of sustainability communications, a crisis of confidence occurs when there is a scandal linked to a product or value chain. However, there does not have to be a scandal for consumers to become distrustful of a company's products.

It is therefore increasingly important to base product development and value chains on sustainability criteria.

Public debate on how to achieve greater economic sustainability is characterized by complex issues with a range of different viewpoints. However, what is the current state-of-play in terms of implementing sustainability within companies and value chains?

Aside from the requirements described in terms of sustainability communications, a change has occurred in the value chain in recent years that has often gone unnoticed (see Fig. 8): the value chain has been transformed from a necessary component within a company into a company's strategic capability for flexibility and future competitiveness. In the past, the purpose of the value chain was to bring about cost reductions and continuous improvement of all processes in order to ensure high delivery capacity with simultaneous low inventory levels. The 2008 financial crisis was the pivotal point in transforming value chains and increasing their significance.

2008–2010: In an initial transformation phase marked by great uncertainty, companies introduced a process resulting in the evaluation of value chains. A phase of strong economic growth and market share acquisition was followed by a focus on liquidity, cash flow, and profitable growth. This turnaround was not driven by any

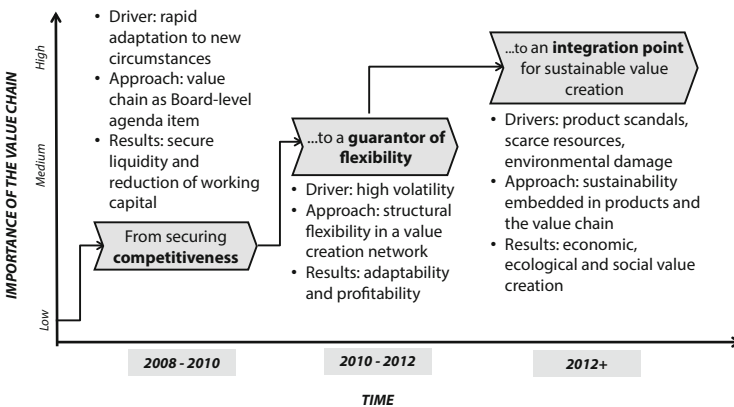


Fig. 8 Value chains are becoming the integration point for sustainable value creation (shared.value.chain 2013)

motive relating to sustainability. In many cases, it was about company survival, with the corresponding focus on securing liquidity and running down inventory levels. Many companies used this phase to make structural changes. In this tough economic environment and period of crisis, sustainability commitment and activity was often driven by short-term goals in the background. At that time, CSR was applied for reasons of absolute necessity (compliance). On a positive note, awareness grew about the enormous importance of the value chain. In many companies, value chain and operations managers were appointed to the Senior Management Team to keep a tighter control on liquidity and inventory risk. This made it possible to react quickly to market requirements. The focus in this case was on current assets, liquidity, and inventory levels.

2010–2012: In the second transformation phase, flexibility within the value chain was raised to the status of a principle factor for competitiveness. The importance of an integrated value chain increased in terms of being able to react more quickly to higher rates of change (in terms of frequency and scope). At that point, Professor Hau Lee of Stanford University coined the concept of “Triple A” supply chains, which have to be Agile, Adaptable, and Aligned in order to meet requirements. New forms of collaboration between participants emerged as a result of this. The necessary consideration from a systemic viewpoint has meant the increased removal of organizational barriers and the transformation of collaboration into the tool for future success. This has led to the appearance of value chains that can be described as “agile, adaptable, aligned, robust, sustainable, and integrated.” According to Hau Lee, in future there will be no competition between companies, but between value chains and value creation networks.

Establishing and managing flexibility within a global value chain might almost be described as the “Holy Grail” of optimization: many strive toward it, but only a few companies come close to the ideal. One of the reasons for this is, that very few companies have a clear definition of flexibility. In order to understand flexibility properly, we must firstly establish a clear definition and secondly examine relationships with customers, suppliers, and partners closely. A company’s adaptability is determined by the relationships and structures within the overall system connecting all participants. On a critical note, it must be mentioned that in this period, flexibility was mainly risk-driven and not driven so much by market opportunities. Risk management in the value chain – a serious topic of debate and a widely-implemented corporate policy during this period after the 2008 financial crisis – clearly indicates that in this period, a reactive approach was the norm. Many companies cut back their sustainability activity to an absolute minimum requirement in the aftermath of the financial crisis. Apart from legal and internal compliance requirements, no special priority was given to developing sustainability in the value chain. This meant that most sustainability initiatives were prioritised for their contribution to cost avoidance, e.g., the prevention of CO₂ emissions and saving energy in the production process in the sense of environmental management.

2012+: In the current transformation phase, the realization is slowly emerging within companies and society that the economic and political situation remains

volatile and that raw materials are becoming increasingly scarce. The political balance has shifted from a few former leading industrial nations (G7) toward new decision-making constellations (G8, G20 or even G0, i.e., there is no real leading country anymore). These new constellations made joint and forward-looking decision making and implementation much more difficult and cumbersome. Flexible and sustainable global value chains are a decisive factor for competitiveness in an environment that is fraught with unresolved monetary crises and an ever-increasing number of serious environmental disasters. The capability to manage a global value chain and the synchronization of product launches together pose a massive challenge for many companies. The complexity of the task requires employees to have the best training, work in several languages, and be able to overcome cultural differences in an international environment with ease. Even the ability to understand and manage a systems approach extends far beyond previous requirements. This involves creating value for customers, avoiding or reducing waste throughout the corporate “system” and accelerating the overall “system” throughput. Corporate value chain optimization – from product development to the procurement, production, distribution, and return of products – has been supported by the application of reference models and information exchange between experts for many years now.

Despite clear changes, 90 % of companies in industrialized countries continue to focus on quantitative growth and maximization of profit. At the moment, securing a foundation that enables sustainable as well as profitable growth appears to be high on the management agenda of only a small number of companies. In fast-growing emerging economies such as Brazil, Russia, India, and China (BRIC), growth and prosperity are part of the local government promise to the people. Despite this, there is still an awareness of the fact that acting according to the past principles of industrial countries leads to consequences that can no longer be controlled. Sustainability needs to be a core component of a viable economic model in industrial and emerging economies alike.

Nevertheless, the focus in the majority of companies when optimizing the value chain is predominantly on efficiency and speed. Sustainability is only of secondary importance and then only of interest if costs can ultimately be reduced through energy, water and waste savings. The financial priorities dictated by shareholder and “lack of interest” in the customer base often referred to by companies are usually nothing more than an excuse.

Speed, flexibility, and sustainability should be the key attributes of any value chain.

However, for reasons of frequent abuse of the term sustainability as “a label,” often with no real substance and insufficient transparency on the implementation of sustainability, there is a perceived gap between economic, ecological, and societal value creation

The short-term focus on profits and the necessity of operating a global value chain even in toughest conditions mean that flexibility is a priority within companies, whereas customers are showing an increasing interest in greater sustainability.

The gap is also evident at industry events, value chain conferences, and practitioners meetings, where the agenda often list sustainability as a side or niche topic. At present, the discussion hardly touches on the relationship of sustainability and flexibility as interdependent issues within the core business. Insufficient or imprecise communication in support of “greater flexibility,” “lower costs,” and “greater sustainability” will not lead to consistent implementation within the relevant company functions. Clear and ambitious targets need to be agreed, internal barriers broken down, and roles and responsibilities clearly defined. It is not enough for the Senior Management Team to recognize the importance of sustainability: all relevant parties also need to be involved in the implementation of sustainability. Marketing and communications departments also need to be encouraged to think outside the box. “Marketing and communications people devise campaigns, messages, and product labels to touch a nerve with customers. Additionally, employees in product development and the value chain work with different goals and time frames. In most cases however, it appears that communication happens too fast, that day-to-day business activity cannot keep pace with the sustainability messages and hoped-for market positioning” (Fig. 9).⁵ The rethinking process has begun – initiated by pioneering companies that have started to take responsibility for their entire value chain and that also begin to include external factors (“externalities”), i.e., operations costs that are not borne by the company and that are often neglected in decision making processes.

At this point, we can conclude that an economy with increasingly strong global interdependencies is faced with rapidly changing conditions and customer requirements – companies and governments can no longer make decisions in isolation or hope that there will be no interference. It is true that Senior Management Teams now acknowledge more frequently that sustainability can contribute toward medium- and long-term growth, but in most cases there is still a lack of consistent implementation and embedding within the management system. Continuous optimization of the global value chain is an important prerequisite for commercial success, but it does not go far enough, as it neglects the opportunities provided by sustainability and a shared value creation.

There is a gap between the “need and ambition” for sustainability and its tangible realization within a company’s core business (products and value chain).

⁵ See also chapter “Telling the Backstory: Transparency in Global Value Chains.”

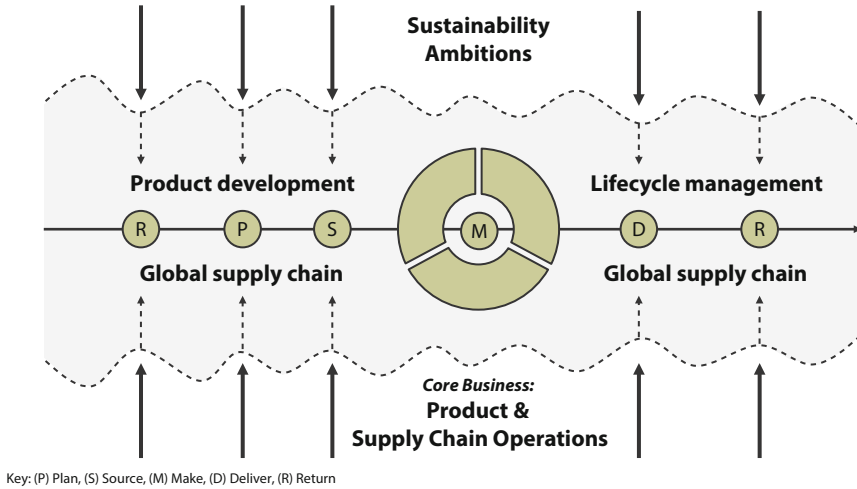


Fig. 9 Gap between sustainability, product development, and supply chain operations (shared.value.chain 2013)

This gap exists because of an economic approach that is primarily focused on commercial goals and a lack of consideration of ecological and societal opportunities/costs. Most consumers cannot see these connections right away. In the meantime, there has been an increasing awareness that we are living beyond our means. Consumers are becoming increasingly critical, asking what contribution companies are making across all value creation areas (economy, ecology, and society). This is where the concept of “sustainable value creation” can make a significant contribution, establishing sustainability within core business, and establishing it “inside-out” via products and supply chains.

3 Sustainability “Inside-Out”: Building Blocks for Sustainable Value Creation

3.1 Toward Sustainable Value Chain Management

The recognition that economic activities in their current form are not viable in the long run has been a topic of societal, scientific, and economic debate for some time now. Michael Porter, the academic “father” of the value chain concept, has been advocating the “Shared Value” approach with Robert Kramer since 2006, promoting a radical rethinking of economic activity (Porter and Kramer 2011).

The “Shared Value” concept proposes three principles that form the basis of future growth and value-add in economic, ecological, and societal terms (see Fig. 10).

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