In 2000 the world’s consumers spent around US$1 trillion on clothing—split roughly one-third in Western Europe, one-third in North America and one-quarter in Asia (Make Trade Fair and Oxfam International 2004). Seven per cent of total world exports are in clothing and textiles. Significant parts of the sector are dominated by developing countries, particularly in Asia, and above all by China. Industrialised countries are still important exporters of clothing and textiles, especially Germany, Italy in clothing and the United States in textiles. According to Allwood et al. (2006), the developing countries now account for half of world textile exports and almost three-quarters of world clothing exports.

Because of the size of the sector and the historical dependence of clothing manufacture on cheap labour, the clothing and textile industry is subject to intense political interest and has been significantly shaped by international trading agreements.

Estimating the number of people working in these sectors is extremely difficult because of the number of small firms and subcontractors active in the area and the difficulty of drawing boundaries between sectors (Allwood et al. 2006). According to statistics from the UNIDO (United Nations Industrial Development Organisation) Industrial Statistics Database (INDSTAT), around 26.5 million people work within the clothing and textiles sector worldwide (ILO 2006).

Also the same report indicates that of these 26.5 million employees, 13 million are employed in the clothing sector and 13.5 million in the textiles sector. These figures are only people employed in manufacturing—not retail or other supporting sectors (Allwood et al. 2006).

* Our special thanks go to the review panel for their outstanding work. This book would not have been possible without their dedication and commitment.
Around 70% of clothing workers are women (Hernández 2006). In the garment industry, women typically sew, finish and pack clothes. Supervisors, machine operators and technicians tend to be men—who earn more. In the past five to ten years, employment in the sector has increasingly been concentrated in China, Pakistan, Bangladesh, India, Mexico, Romania, Cambodia and Turkey. All of these countries, apart from India, have shown increases in clothing and textile employment from 1997 to 2002 (Allwood et al. 2006).

However, for many smaller developing countries, which are small exporters on a global scale, clothing and textiles exports are their dominant form of external earnings. In Bangladesh, Haiti and Cambodia, clothing and textiles account for more than 80% of total exports. Similar high figures apply to the proportion of the country’s manufacturing workers employed within the clothing and textiles sector.

Setup and switch-over times and costs have traditionally led to large batch manufacture of clothing with long lead times—fashion shows for summer clothing are held in the autumn to allow six months for manufacture. However, this pattern is rapidly changing—with customer demand for so-called ‘fast fashion’ where stores change the designs on show every few weeks, rather than twice per year. This emphasis on speeding up production has led to concentration in the industry with fewer larger suppliers—to take advantage of economies of scale (for instance in purchasing) and to simplify the number of relationships that must be maintained by retailers.

This trend is now more noticeable in the clothing sector with the growth of ‘full package’ companies that are able to supply quick time delivery orders to big retailers (Allwood et al. 2006). Downstream textile finishing and dyeing processes are being integrated into textile weaving factories and further integrated with clothing manufacture and the distribution networks. Such integration supports rapid servicing of the demand for ‘fast fashion’ by avoiding the build up of stock characteristic of long supply chains and providing shorter lead times. There is also a trend towards investing in increased capacity and introducing ‘new industrial robotics’: substituting expensive labour with novel technologies. A variant of such single company vertical integration also in evidence is the development of clusters of businesses supporting each other through regional integration (FIAS 2006).

Given this panorama, there is no doubt that the textile (and fashion) industry is significant to our economy. However, within the context of sustainability, this industry commonly operates to the detriment of environmental and social factors (Gardetti and Torres 2011).

**Understanding sustainable textiles and fashion**

Given the complexities that exist in the textile and fashion industry, and the importance of our cultural and emotional connection with clothes, some issues that will contribute to a better understanding of this book are presented below.
What is sustainable development and sustainability?

Sustainable development is a problematic expression, and few people agree on what it means. One can take the term and ‘reinvent’ it considering one’s own needs. It is a concept that continuously leads us to change objectives and priorities since it is an open process and as such, it cannot be reached definitively. However, one of the most widely accepted definitions of sustainable development, though diffuse and non-operating, is the one proposed by the World Commission on Environment and Development (WCED 1987) report, *Our Common Future*, also known as the Brundtland Report, which defines sustainable development as the development model that allows us to meet present needs, without compromising the ability of future generations to meet their own needs. The essential objective of this development model is to raise the quality of life by long-term maximisation of the productive potential of ecosystems, through the appropriate technologies for this purpose (Gardetti 2005).

While achieving sustainability is the goal of sustainable development (Doppelt 2010), the word ‘sustainability’ has several meanings nowadays, and is frequently reduced by associating it with ‘environment’. Some authors, such as Frankel (1998) and Elkington (1998), define sustainability as the balance between three elements: economy, environment and social equity. Though this definition is closely linked to organisations, it can also be applied at the societal level. But not everybody agrees with Frankel and Elkington: Paul Gilding (2000) argues that much of the ‘complexity’ of sustainability is lost when considering only the three mentioned aspects. Sustainable development is not only a new concept, but also a new paradigm, and this requires us to look at things differently. It is a notion of the world deeply different from the one that dominates our current thinking and includes satisfying basic human needs such as justice, freedom and dignity (Ehrenfeld 1999). It is the vision through which we can build a way of being.¹ Also, Suzuki and Dressel (2002) define sustainability, at the individual level, as the assessment of all human behaviours with the vision of reformulating those that contradict the development of a sustainable future.

What is understood by textile and clothing industry?

According to the European Commission, the textile and clothing industry is a diverse and heterogeneous industry covering a large range of activities from the transformation of fibres to yarns and fabrics and from these to clothing, which may be either fashion or non-fashion clothes.²

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The clothing industry is intensive and offers basic level jobs for unskilled labour in developed as well as developing countries. Job creation in the sector has been particularly strong for women in poor countries, who previously had no income opportunities other than the household or the informal sector. Moreover, it is a sector where relatively modern technology can be adopted, even in poor countries, at relatively low investment costs. These technological features of the industry have made it suitable as the first rung on the industrialisation ladder in poor countries, some of which have experienced a very high output growth rate in the sector (Nordås 2004).

At the same time, the textile and clothing (and fashion) industry has high-value added segments where design, research and development are important competitive factors. The high end of the fashion industry uses human capital intensively in design and marketing. The same applies to market segments such as sportswear where both design and material technology are important.

Textiles provide the major input to the clothing industry, creating vertical linkages between the two. At the micro level, the two sectors are increasingly integrated through vertical supply chains that also involve the distribution and sales activities. Indeed, the retailers in the clothing sector increasingly manage the supply chain of the clothing and textiles sectors.

The textile and clothing industry includes:

- Obtaining and processing raw materials, i.e. the preparation and production of textile fibres. ‘Natural’ fibres include, among others, cotton, wool, silk, flax and hemp. ‘Manufactured’ fibres include fibres resulting from the transformation of natural polymers (cellulosic fibres such as viscose, modal, Lyocell) or synthetic polymers (fibres from organic material such as oil, i.e. polyester, nylon, acrylic, polypropylene) and fibres from inorganic materials (such as glass).

- Production of yarns

- Production of fabrics

- Finishing activities which give textiles visual, physical and aesthetic properties that consumers demand, such as bleaching, printing, dyeing and coating.

- Transformation of textiles into garments that can be either fashion or non-fashion garments (the so-called ‘clothing industry’).
Figure 1  Textile, clothing and fashion industry
Source: authors

**Textile industry**

- Fibre production*
- Spinning
- Dyeing (yarn)
- Weaving
- Finishing**
- Textile design

**Clothing and fashion industry**

- Tailoring
- Distribution centres
- Retail
- Use/Consumer
- Disposal/Re-use
- Fashion shows***
- Fashion design

**Transport**

- * For some particular fibres that includes dismounting and cleaning
- ** includes dry-cleaning and printing
- *** includes other events

**Material flow**

- ** - > Information flow

Figure 1 graphically summarises the above-mentioned processes. In this figure the dotted lines represent information flow, while continuous lines represent goods and services flow. The direction of the arrows indicates a system driven by demand. Information flow begins with the consumer and set the base for what and when is being produced. It is also worth mentioning that, in many cases, information flows directly from retailers to textiles facilities.

The relationship between fashion and sustainability: History and contradictions

Linda Welters, in her work ‘The Fashion of Sustainability’ (2008), presents the connection points between sustainability—as understood today—and fashion since the year 1600. Welters highlights that sustainability is not a new concept in the history of fashion but it has been part of its repertoire.
Basically, fashion is the way in which our clothes reflect and communicate our individual vision within society, linking us to time and space (Fletcher 2008).

Clothing is the material thing that gives fashion a contextual vision in society (Cataldi et al. 2010).

Fashion is something that always changes, while its meaning remains unaltered. Fashion, which is a deep cultural expression and aims directly at who we are and how we connect to other people, frequently suggests a passing trend, something transient and superficial.

As Walker (2006) points out, these negative connotations of fashion pertain only to the way in which it is manifested and used. Change itself is inherently neither positive nor negative—it is the nature of the change that matters. Sustainability, by contrast, has to do with long-term perspective. Fashion can be defined as the discarding of clothes that are fully functional for purely semiotic or symbolic reasons (Koefoed and Skov undated). The fact that the production and use of fashion garments generate a great amount of waste, would make it appear as an impediment for sustainability.

But, beyond these contradictions, fashion should not necessarily come into conflict with sustainable principles. Indeed, it has a role in the promotion and achievement of sustainability and it may even be a key element in working towards more sustainable ways of living (Walker 2006)

According to Hethorn and Ulasewicz (2008), fashion is a process, is expressed and worn by people, and as a material object, has a direct link to environment. It is embedded in everyday life. So, sustainability within fashion means that through the development and use of a thing or a process, there is no harm done to the people or the planet, and that thing or process, once put into action, can enhance the well-being of the people who interact with it and the environment it is developed and used within.

**Textiles and fashion impacts**

Several authors and organisations have analysed textiles and clothing industry impacts. Some of them are Slater (2000), Allwood et al. (2006), Fletcher (2008), Defra (2008), Ross (2009), Dickson et al. (2009) and Gwilt and Rissanen (2011).

One specific study is *Fashioning Sustainability: A Review of Sustainability Impacts of the Clothing Industry*, which Stephanie Draper, Vicky Murray and Ilka Weissbrod conducted in 2007 for WWF, financed by Marks & Spencer.

*Figure 2* shows, schematically, environmental and social impacts of the textile, clothing and fashion industry.
Regarding the **obtaining of fibre as raw material**, the use of pesticides during this process leads to health problems for workers, causes soil degradation and the loss of biodiversity. Water is such a necessary element in the processing of cotton in particular, that this crop has been called the ‘thirsty crop’. While the use of agro-chemicals tends to be reduced, the use of genetically modified organisms for such purposes could lead to another type of impact.

Abuses of working conditions are also commonly seen in other stages of these industries; many times, human rights are violated in so-called sweatshops which are characterised by low wages and excessive working time. The risks are even greater if health and safety systems are not appropriate.

In turn, many of the synthetic fibres are derived from a non-renewable resource such as oil. In general, environmental abuse combines with ethical issues when there is an excessive use of water and when land for food production is usurped.

Considering the whole **textile chain, from spinning to finishing**, it cannot be ignored that the use of chemicals may have carcinogenic and neurological effects, may cause allergies and may affect fertility. During these processes, large amounts of water and energy are used and, in general, non-biodegradable wastes are produced.
In the **marketing and sales processes**, subsidies and quotas with great impact on developing countries arise. The lack of international regulation on these issues creates a ‘win–lose’ scenario. In addition, prices should allow a fair distribution of profit throughout the supply chain. These stages also involve the use of energy and lots of packaging as well as the generation of carbon emissions (CO$_2$). The paradox, in this case, is that for its survival, the workforce depends on a system that seems to be destroying the world’s capacity to withstand such a force. In both textile and fashion **design**, sustainability is, in general, perceived as an obstacle. Finally, major impacts derived from **transport**, are carbon emissions and waste generation.

**The consumer (use and disposal)**

Impacts generated by consumers deserve a special mention. It is not only Ehrenfeld (1999 and 2002) and Suzuki and Dressel (2002) who place sustainability at the **individual level**. Previously, D. Early, in the work ‘What is Sustainable Design’ from 1993, defined sustainability as the integration of natural systems to human behaviour patterns. While Vieira—also in 1993—maintains that sustainability identifies a concept and a developing attitude that observes the land, water and energy resources as integral aspects of development. Teresa Presas, in her work ‘Interdependence and Partnership: Building Blocks to Sustainable Development’ (2001), claims that a real transition towards sustainable development requires a new way of thinking. It requires the use of a collective learning mechanism for all types of environments and stakeholders and the creation of the necessary space for a structure of dialogue on what our vision of sustainable society is. But a sustainable society is not possible without sustainable individuals (Cavagnaro and Curiel 2012). That is, individual capacities seem to be at the heart of the issue.

These definitions should lead to a more responsible attitude from the consumer. They refer not only to reducing water and energy consumption and chemicals and detergent use, but also—and according to Fletcher (2008)—to material consumption patterns. While, during the production phase, material choice and efficiency are very important issues when considering social and environmental impacts, the benefits derived from this are often lost if laundry practices by consumers are not influenced. Several authors (Easter 2007; Fletcher 2008; Dombek-Keith and Loker 2011) agree that, for frequently washed garments, the effects of reducing water and energy use during washing, drying and ironing processes are greater than the possible effects of modifying production methods.

Annie Sherburne, designer from Kingston University, UK, in a work from 2009 titled ‘Achieving Sustainable Textiles: A Designer’s Perspective’, points out:

> The biggest impacts of textiles and garments occur when they are being used by the consumer (estimated at 75–95% of the total environmental impact) and is mainly explained by the use of electricity, hot water and washing and drying processes. This contributes to the generation of greenhouse gases and global warming.
It is also important to consider the large amount of waste caused through consumption.

According to Kate Fletcher (2008), the process of transforming the industry into something more sustainable—and more sensitive to our needs—takes time. It is a long-term commitment to a new way of producing and consuming that requires widespread personal, social and institutional change. In the shorter term, there exist other, more easily won, opportunities to tackle consumers' patterns, such as those that come from subverting well-recognised social and psychological mechanisms that induce blind consumption such as: the pressure to compare themselves to others, such as through the accumulation and display of possessions; the continuous replacing of things with their ‘updated’ versions; the cultural obligation to experience everything and buy things accordingly; and the constant consumption as part of a continuous process of identity formation.

The need for a wider vision in the textile sector

For Kate Fletcher (2008, 2009), though little recognised, deep issues such as consumption patterns, globalisation of fashion, physical and mental health associated with fashion trends (each one of these reflecting cultural visions and social norms that influence the textile industry), should be part of the substantive debate of sustainability in textiles, which is frequently reduced to technical aspects.

Sustainability issues in textiles require taking into account the influences emerging from outside the boundaries of the conventional textile industry. These ‘external’ influences—ranging from agricultural practices to international energy policies, passing through consumption patterns and levels of ecological notions of society—have a great influence on the sustainability of the sector as a whole. Ecological and social systems extend beyond the boundaries of companies and individual industries; therefore to develop a more sustainable textile industry we need to commit ourselves with these issues at the level they correspond to and connect with other disciplines, industries, communities and international groups, beyond their own boundaries.

The timeline and the now...‘the design of a journey’

Some years later, in 2005, R.S. Blackburn as editor, published *Biodegradable and Sustainable Fibres*, while in 2006, Youjiang Wang published *Recycling in Textiles*. In 2007, M. Miraftab and A.R. Horrocks, both as editors, published *Ecotextiles: The Way Forward for Sustainable Development in Textiles*, which presents a selection of 23 works, submitted at the EcoTextile 2004 Conference (University of Bolton, UK) while in the same year, the publishing house Earth Pledge released *Future Fashion: White Papers*, which was the first book to integrate the issue of fashion in relation to sustainability.

In January 2008, Kate Fletcher published *Sustainable Fashion and Textiles: Design Journeys*, a work in which she presents information about sustainable impacts of fashion and textiles, alternative practices for global sustainability, design and social innovation concepts. Fletcher challenges—holistically—existing ideas about the essence of sustainability in the fashion and textile industry. Also at the beginning of 2008, more precisely in February, two books were published: *Eco-Chic: The Fashion Paradox* by Sandy Black, who shows the relationship between fashion and the environment, and *Sustainable Fashion, Why Now? A Conversation about Issues, Practices, and Possibilities*, edited by Janet Hethorn and Connie Ulasewicz.

By 2009, R.S. Blackburn, again as editor, presented *Sustainable Textiles: Life Cycle and Environmental Impact*, a book which reviews the different path to obtain more sustainable textile materials and technologies, and Liz Parker and Marsha A. Dickson published *Sustainable Fashion: A Handbook for Educators*, which presents practical ideas on how to teach and integrate environment and social aspects in the fashion industry. Also in the same year, V. Ann Paulins and Julie L. Hillery presented *Ethics in the Fashion Industry*, which addresses the complex aspects of the fashion industry, and Marsha A. Dickson, Suzianne Loker and Molly Eckman presented *Social Responsibility in the Global Apparel Industry*, which introduces the reader to the social and environmental aspects of the clothing industry accompanied by an analysis of how enterprises can improve their (social) responsibility across their value chain. A year later, in 2010, Sass Brown presented those companies that are making the difference in the field of sustainable fashion design in her book *Eco-Fashion*.

Alison Gwilt and Timo Rissanen published, in 2011, *Shaping Sustainable Fashion: Changing the Way We Make and Use Clothes*, which illustrates—divided into four areas—creative solutions along the life-cycle of garments, while Marion I. Tobler-Rohr, also in 2011, presented the *Handbook of Sustainable Textile Production*, which contains an important compilation of economic, technical and environmental data in the manufacturing textile chain, becoming a key piece to integrate sustainable development into textiles.

In 2012, *Fashion & Sustainability: Design for Change* was published by Kate Fletcher and Lynda Grose, a book which examines how sustainability has the potential to transform the fashion system and introduces innovative people that
work on it. Also in the same year, Gardetti and Torres were guest editors for a special issue of *The Journal of Corporate Citizenship* on ‘Textiles, Fashion and Sustainabil-

**Sectoral initiative in the Global Compact and the Principles for Responsible Management Education**

The Nordic Fashion Association and the Nordic Initiative Clean and Ethical (NICE) have developed a code of conduct for the fashion industry, named *The NICE Manual*, released in 2009, which contains 13 principles that provide ethical, responsible and sustainable guidelines for facing the great challenges of the industry and links them to the United Nations Global Compact principles. This code has given rise to *the first initiative of the Global Compact in this sector*. This initiative concerns a (new) code of conduct, this time jointly developed between the Nordic Fashion Association, NICE and the Global Compact, which was publicly presented at the Copenhagen Fashion Summit on 3 May 2012, known as the *NICE Code of Conduct and Manual for the Fashion and Textile Industry*. In the words of Georg Kell, Executive Director of the United Nations Global Compact:

> As an industry facing serious and widely publicized social and environmental challenges, the fashion and textile industry is uniquely positioned to launch a sectoral initiative under the umbrella of the UN Global Compact... We are very excited about this effort and look forward to collaborating with NICE and its partners (Kell 2012).

The Global Compact is a joint initiative of the United Nations Development Programme (UNDP), the Economic Commission for Latin America and the Caribbean (ECLAC) and the International Labour Organisation (ILO), aimed at fostering the development of corporate social responsibility, promoting human rights, labour standards, environmental stewardship and anti-corruption. The main objective of the Global Compact is to facilitate the alignment of business operations and strategies with ethical objectives universally agreed and internationally applicable, in order to achieve a global and inclusive economy (Kell 2003). This process allows the United Nations to know in which way to work with other sectors, particularly the private sector (Annan 2004).

**Table 1** shows the UN Global Compact’s ten principles and the application areas. The principles are inspired by the Universal Declaration of Human Rights, the International Labour Organisation’s Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development and the United Nations Convention against Corruption.

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3 For further information: [www.unglobalcompact.org](http://www.unglobalcompact.org)
Miguel Angel Gardetti and Ana Laura Torres have been founders and are currently coordinators of the Sustainable Textile Centre, which is the first initiative with an academic and research profile in Latin America promoting a holistic, multidimensional and more sustainable vision of the textile and fashion sector, through knowledge generation and transfer, education and capacity building, and the development of strategic partnerships. The Centre adheres to the Principles for Responsible Management Education, principles that have been agreed with different schools of business and academic associations from around the world, which are intended to be a guiding framework on which the bases of a common and integrated education settle, within an increasingly globalised society, which requires new values for a more sustainable development of the world. These principles are shown in Table 2.

Table 1 United Nations Global Compact principles and application areas
Source: Fuertes et al. 2004; United Nations 2004

<table>
<thead>
<tr>
<th>Areas</th>
<th>Principles</th>
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<tbody>
<tr>
<td>Human rights</td>
<td>1. Businesses should support and respect the protection of internationally</td>
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<td></td>
<td>proclaimed human rights</td>
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<td></td>
<td>2. Business should make sure that they are not complicit in human rights</td>
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<tr>
<td></td>
<td>abuses</td>
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<tr>
<td>Labour</td>
<td>3. Businesses should uphold the freedom of association and the effective</td>
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<td></td>
<td>recognition of the right to collective bargaining</td>
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<td></td>
<td>4. The elimination of all forms of forced and compulsory labour</td>
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<tr>
<td></td>
<td>5. The effective abolition of child labour</td>
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<tr>
<td></td>
<td>6. The elimination of discrimination in respect of employment and occupation</td>
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<tr>
<td>Environment</td>
<td>7. Business should support a precautionary approach to environmental</td>
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<td></td>
<td>challenges</td>
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<td></td>
<td>8. Undertake initiatives to promote greater environmental responsibility</td>
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<td></td>
<td>9. Encourage the development and diffusion of environmentally friendly</td>
</tr>
<tr>
<td></td>
<td>technologies</td>
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<tr>
<td>Anti-corruption</td>
<td>10. Businesses should work against corruption in all its forms, including</td>
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<td></td>
<td>extortion and bribery</td>
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4 For further information: www.ctextilsustentable.org.ar
5 For further information: www.unprme.org. Within this frame—and based on a mailing exchange between Jonas Haertle, Head of the Principles for Responsible Management Education (PRME) secretariat of the United Nations Global Compact Office, and Miguel Angel Gardetti from the Sustainable Textile Centre—there exists an initiative for the creation of a working group on ‘textiles, fashion and sustainability’, that could be pursued if the Schools of Business adhering to the Principles express interest in this and if financial resources to sustain the activities are obtained.
Table 2 Principles for Responsible Management Education (PRME) of the United Nations Global Compact

<table>
<thead>
<tr>
<th>Principle</th>
<th>Purpose</th>
<th>Values</th>
<th>Method</th>
<th>Research</th>
<th>Partnership</th>
<th>Dialogue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>We will develop the capabilities of students to be future generators of sustainable value for business and society at large and to work for an inclusive and sustainable global economy</td>
<td>We will incorporate into our academic activities and curricula the values of global social responsibility as portrayed in international initiatives such as the United Nations Global Compact</td>
<td>We will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership</td>
<td>We will engage in conceptual and empirical research that advances our understanding about the role, dynamics and impact of corporations in the creation of sustainable social, environmental and economic value</td>
<td>We will interact with managers of business corporations to extend our knowledge of their challenges in meeting social and environmental responsibilities and to explore jointly effective approaches to meeting these challenges</td>
<td>We will facilitate and support dialogue and debate among educators, business, government, consumers, media, civil society organisations and other interested groups and stakeholders on critical issues related to global social responsibility and sustainability</td>
</tr>
</tbody>
</table>

The book

This book is a complement to the special issue of *The Journal of Corporate Citizenship* on 'Textiles, Fashion and Sustainability'. As with the call for papers for the special issue, the call for papers for this book intended to explore the different dimensions of the textile, clothing and fashion industry. This call attracted 60 submissions, 53 of which were invited to the second round for full manuscript review. Finally, and with the help of the review panel throughout this process, 23 top-quality papers were selected which deal with the essential aspects in these areas.

For a better understanding, the book has been divided into four sections, which are presented below:

1. **The systemic vision and the value chain in the textile and fashion industry**, which includes chapters dealing with a broad vision of the industry, the supply chain, processes, design and the disposition phase.

2. **Marketing, brands and regulatory aspects in the textile and fashion industry**, involves chapters about brands, retailers, communication strategies and regulatory aspects.
3. **The practice in textiles and fashion**, section in which several cases related to the industry are presented.

4. **Consumer: purchase, identity, use and care of clothing and textiles**

The first section, *The systemic vision and the value chain in the textile and fashion industry*, begins with a chapter by Carlotta Cataldi, Crystal Grover and Maureen Dickson called ‘Slow fashion: Tailoring a strategic approach for sustainability’ which explores a strategic approach to move the fashion industry towards sustainability. Instead of focusing on the unsustainable mainstream fast fashion model, the authors took an appreciative look at the Slow Fashion movement. Further on, Lynda Grose, in her chapter ‘Wisdoms from the fashion trenches’, gives voice to the insights of individuals working in the fashion trenches. She maintains that, as a collective, they quietly challenge fashion industry norms and open up more opportunities to inspire change for sustainability.

The next chapter, ‘From principle to practice: Embedding sustainability in clothing supply chain strategies’, by Alison Ashby, Melanie Hudson Smith and Rory Shand, undertakes to understand how firms can address their responsibilities across the supply chain.

Kristin Fransson, Yuntao Zhang, Birgit Brunklaus and Sverker Molander then present a chapter describing the information flows regarding chemicals in textile supply chains, entitled ‘Managing chemical risk information: The case of Swedish retailers and Chinese suppliers in textile supply chains’. Harrie W.M. van Bommel, in his chapter based on quantitative research among fashion/clothing companies in the Netherlands, ‘Innovation power of fashion focal companies and participation in sustainability activities in their supply network’, poses the question of the extent to which the innovation characteristics of the ‘focal’ company (the innovation power) itself and the cooperation characteristics of its supply network can explain the sustainability strategy in its supply network. The sixth chapter that composes this first part bears the title ‘Sustainable colour forecasting: The benefits of creating a better colour trend forecasting system for consumers, the fashion industry and the environment’, written by Tracy Diane Cassidy. Her chapter refers to the benefits of changing the colour forecasting process and the implications that this proposal has for the industry. It sets out the theory of planned obsolescence and explains how the current process contributes to product waste within the fashion retail sector. A better system is then given with an overview of how this could promote style rivalry to provide a longer-term solution.

In relation to design, two chapters are presented. One of them, ‘Fashioning use: A polemic to provoke pro-environmental garment maintenance’ by Tullia Jack, argues that a consideration of the way clothes are used allows designers to embed pro-environmental practices in garments with vast resource conservation potential, and this is supported by examples of garment design that shape the way people wash clothes. The second one, by Lynda Grose, focuses on the educational aspect. She wonders how a designer of material goods is to practise responsibly. The author looks reflectively and critically at the undergraduate Sustainable Fashion
Design classes taught at California College of the Arts. The chapter, entitled ‘Fashion design education for sustainability practice: Reflections on undergraduate level teaching’, aims to note successes and continued challenges, including institutional inflexibility, society’s perception of design and mounting economic pressures on students.

Closing this first section, two chapters dealing with the disposal phase are presented. The first one, ‘Upcycling fashion for mass production’, is written by Tracy Diane Cassidy and Sara Li-Chou Han. Here, the authors explore the concept of upcycling fashion on a mass industrial scale as a potential long-term solution to the textile waste issue. The upcycling process is then described in a fashion context. The challenges that the industry would need to address are highlighted and some suggestions for a way forward are given. The second one, ‘Creating new from that which is discarded: The collaborative San Francisco Tablecloth Repurposing Project’, is by Connie Ulasewicz and Gail Baugh. This chapter chronicles the challenges and innovations of industry professionals in the San Francisco Bay Area sewn products trade association, PeopleWearSF as they design, manufacture and market new products from the repurposed tablecloths.

The second part of the book, Marketing, brands and regulatory aspects in the textile and fashion industry, opens with a chapter written by Ines Weller called ‘Sustainable consumption and production patterns in the clothing sector: Is green the new black?’ This chapter first presents the way in which supply and demand in ecological clothing has developed over the last 20 to 30 years in Germany. It then goes on to give an overview of the important ecological and social hot spots in the textile chain and presents the requirements for sustainable consumption and production patterns in the clothing sector based on the ecological hot spots identified.

Later, Cameron Neil, Eloise Bishop and Kirsten Simpson present the chapter ‘Redefining “Made in Australia”: A “fair go” for people and planet’. This chapter discusses the challenge (and opportunities) for Australian fashion brands of becoming ‘ethical and green’ and also the authors briefly discuss the state of the Australian fashion industry, the local and global context of ethical and sustainable fashion, and introduce Ethical Clothing Australia. The third chapter presented in this part of the book is by Iain A. Davies and Carla-Maria Streit, and is titled “Sustainability isn’t sexy”: An exploratory study into luxury fashion. The authors wonder if there is room for sustainability in the high-end luxury fashion market and discuss the role of ethics in luxury fashion markets.

Ilaria Pasquinelli and Pamela Ravasio then present ‘Ethical fashion in Western Europe: A survey of the status quo through the digital communications lens’. The authors argue that from fast fashion to couture, the sustainability agenda can no longer be ignored by the fashion industry. The acknowledgement and reputation of efforts, however, is fully dependent on the style and content of a company’s communications. In this chapter the communication strategies of 42 European fashion brands and retailers with respect to their sustainability commitments are analysed.

Closing this part, Claude Meier presents his chapter, ‘Effectiveness of standard initiatives: Rules and effective implementation of transnational standard initiatives’.
(TSI) in the apparel industry: An empirical examination'. Guided by an analytical framework, the contribution empirically examines which elements of the institutional designs of the Fair Wear Foundation (FWF) and the Business Social Compliance Initiative (BSCI) lead to effective implementations of ILO core conventions in the apparel industry in risk countries.

The third part of the book, The practice in textiles and fashion, presents five interesting cases. The first contribution, ‘Corporate responsibility in the garment industry: Towards shared value’ by Anna Larsson, Katarina Buhr and Cecilia Mark-Herbert, is a comparative case study which offers a contextual understanding of conditions for corporate responsibility from a garment retailer perspective. Following that is the chapter by Kim Poldner, entitled ‘Zigzag or interlock? The case of the Sustainable Apparel Coalition’. This qualitative case study zooms in on the Sustainable Apparel Coalition, a group of leading apparel companies that work towards a more sustainable global textile industry.

Patsy Perry in her chapter, ‘Garments without guilt? A case study of sustainable garment sourcing in Sri Lanka’, maintains that the inherent conflict between CSR principles and the characteristics of fashion supply chains may be reconciled by adopting the supply chain management (SCM) philosophy of long-term orientation and shared goals between trading partners. This case study of Sri Lankan export garment manufacturers shows how successful implementation of CSR has enabled the country to compete as a low-risk sourcing destination for global fashion retailers.

The fourth case study, ‘Next one, please: Integrating sustainability criteria in the procurement of operating-room textiles: The case of Germany’, is by Gabriel Weber, Edeltraud Günther, Holger Hoppe and Julia Hillmann. The authors assess how life-cycle management and, moreover, life-cycle costing could be used for a better integration of sustainability criteria within the setting of the case study hospitals.

Finally, Sarah E. Heidebrecht and Joy M. Kozar, in their chapter, ‘Development and the garment industry: Commonwealth of the Northern Mariana Islands’, illustrate how the effects of the garment industry in a small, developing island nation, the Commonwealth of the Northern Mariana Islands (CNMI), are dramatically affected by a trade arrangement, the Multi-Fibre Arrangement (MFA). They also expose the effects of dependency when the garment industry is used as the main source of revenue.

The fourth and last section of this book, Consumer: purchase, identity, use and care of clothing and textiles, presents three chapters. The first of them, ‘Young academic women’s clothing practice: Interactions between fast fashion and social expectations in Denmark’, is by Charlotte Louise Jensen and Michael Søgaard Jørgensen. The authors investigate how young Danish academic women’s clothing practices are shaped. The aim is to analyse environmental impacts, environmental concerns and conditions for ‘greener’ clothing practices.

Next, Fernando F. Fachin presents ‘Connecting meanings and materials: Identity dynamics in sustainable fashion’. In the context of sustainable fashion, the
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The objective of this research is to explore identity constitution processes of entrepreneurial ecodesigners. More specifically, with a sociomaterial approach, this chapter considers the constitutive interaction of meaning and material in processes of identity formation of ecodesigners. Last, Helen Goworek, Tom Fisher, Alex Hiller, Tim Cooper and Sophie Woodward make their contribution with the chapter ‘Consumers’ attitudes towards sustainable fashion: Clothing usage and disposal’, which explores consumers’ views in relation to the sustainability of clothing maintenance and divestment and the potential impact of these views on the clothing and textiles industry.

**Figure 3** shows the relationship between the chapters in this book and the different components of the textile, clothing and fashion industry.

**Figure 3** Relationship between the chapters in this book and the different components of the textile, clothing and fashion industry

Note: Chapters written by more than an author are mentioned with ‘et al.’ in order to simplify the figure

Source: authors
Finally, these diverse contributions represent a major step forward in expanding the knowledge base of this nascent relationship (textiles–fashion and sustainability). It is certainly a wide and representative compilation of writings on the subject. Note that this initiative has received a large international response and we hope it will continue to stimulate further debate.

**Bibliography**


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