Chapter 2
Key Aspects of Sustainability in Fashion Retail

Jochen Strähle and Viola Müller

Abstract The purpose of this paper is to explain the key aspects and growing relevance of sustainability in fashion retail and to evaluate the possibilities of fashion retailers to act sustainable in supply chain management as well as carving out the challenges they have to deal with. The research methodology applied for this purpose is a critical literature review examining books and articles. The findings demonstrate the rising importance of sustainability in fashion retail. In this regard, fashion retailers play a key role and responsibility for sustainability in the fashion supply chain, from the beginning up to the end. This paper mainly analyzes sustainability in the fashion supply chain. It does not analyze topics like second-hand shopping or social media sustainability.

Keywords Sustainability · Fashion retail · Supply chain management · Five-R analysis green washing

2.1 Introduction

2.1.1 Landscape of Textile and Fashion Industry

The current world population has passed over the number of 7.3 billion people. Basic needs of these people are food and clothing. So the textile and fashion industry plays a major role all over the world. The textile and fashion industry has experienced considerable growth and success over the last two decades. This has led to new arising topics in economic, environmental and social areas within the industry. Facing challenges of global textile and fashion supply chains requires global solutions (Shishoo 2012).

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As the fashion industry becomes more and more competitive, most of the fashion retailers are trying to differentiate themselves in the market. They hope to design an optimal business model, the most efficient production patterns and strong corporate values. According to the researches carried out by the Sustainable Brand Insights (Sustainable Brands Insights 2012), "understanding the latest sustainability trends, consumer insights and industry-specific best practices" is necessary to maintain the competitiveness in the market.

Sustainability has become an omnipresent word in recent years. Organizations around the world are increasingly incorporating the requirements of sustainability into their day-to-day operations. They do so not only because of the social and environmental risks and the governance challenges the supply chain poses, but also because of the benefits supply chain sustainability can deliver. Sustainable supply chain management can be a strong driver of value and success, for business as much as for society. There are many definitions about sustainability but there is little known about the actual drivers and barriers to adopting environmentally sustainable practices within organizations.

The textile and fashion industry is considered to be one of the most polluting industries in the world. Large fashion retailers can play a key role in promoting sustainability because they are intermediaries between producers and manufacturers on the one hand and customers on the other hand. Durieu (2003) for example, argued that retailers "can greatly influence changes in production processes and consumption patterns and are positioned to exert pressure on producers in favour of more sustainable consumer choices". Sustainability in the textile and fashion industry can be controlled along the supply chain. From fibre production up to the end consumer use, in each stage there are different factors influencing the environment. In Fig. 2.1, the social and environmental impacts along the clothing supply chain are shown.

This work is determined to give an overview about the topic of sustainability in fashion retail. It contains the different social and environmental impacts along the fashion supply chain. Therefore, a literature review was conducted and the findings are presented in the following order. First, a definition of fashion retail and sustainability will be given to set the basis for the following sections. Then a closer view of the reasons to "go green", the relevance of sustainable supply chain

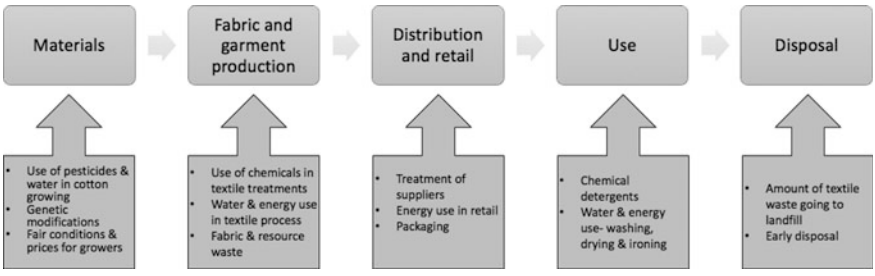


Fig. 2.1 Clothing supply chain. Adapted from Gwilt (2014)

management and in connection with that the challenges of sustainable fashion value chains are given. The third section is dedicated to define and explain the term "green washing" and the "seven sins". The following section shows an exemplary process for a fashion retailer, who wants to implement a sustainability and energy management system in his retail stores and an example of a fashion company that is already using such sustainability and an energy system is given. In the end of this paper, a conclusion will be given and the limitations of this work will be pointed out in order to make suggestions for further research.

2.1.2 Fashion Retail

The textile and clothing industry consists of companies that are involved with fibres, primary textile manufacturers, who produce yarns and fabrics, as well as add coloration, apparel manufacturers and retailing enterprises, where the textile product interfaces with the consumer (University of Northernlowa 2015). It is an international and highly globalized industry, with clothing often designed in one country, manufactured in another and sold in a third. This industry has been radically evolving in recent years due to retail consolidation, globalization and e-commerce. Christopher et al. (2004) defines fashion markets as typically exhibiting the following characteristics: short life cycles, high volatility, low predictability and high impulse purchasing.

In this paper, the definition of the whole textile and clothing industry is used for the term "Fashion Retail".

2.1.3 Sustainability

> Sustainability is not singularly about minimizing negative impact, but also maximising positive impact, allowing individuals, communities and economic systems to flourish. To work sustainably is to question the status quo, challenge convention and find new ways of working that achieve ecological, social and cultural balance that is in tune with human behaviour (Williams et al. 2009, p. 8).

Sustainability has become an omnipresent word in recent years but there is no standard in terms of what identify a sustainable product or process. Most people associate sustainability with environmental protection, being ecological, green or organic. But they do not think about the economy and society. There are more than 70 definitions of sustainability existing in the literature (Pearce et al. 1989). One of the most often-cited definition is given by the Brundtland report. Sustainability as stated in the Brundtland report means to meet "the needs of the present without compromising the ability of future generations to meet their own needs" (Hariembrundtland 1985).

The interaction of this definition and fashion retailers who implemented a whole culture and ethos of sustainability can be found in the so-called "triple bottom line"

Table 2.1 The triple bottom line

	Economic	Environmental	Social
Typical measures	Sales, profit, ROI	Pollutants emitted	Health and safety record
	Taxes paid	Carbon footprint	Community impacts
	Monetary flows	Recycling and reuse	Human rights; privacy
	Jobs created	Water and energy use	Product responsibility
	Supplier relations	Product impacts	Employee relations

Adapted from Savitz and Weber (2006)

(Wilson 2015). This model consists of three categories: people, profit and planet. In other words, it can be said that businesses have to measure their success not only by financial performance, but also by their impact on the economy, the environment and the society in which they operate (Elkington 2002). The goal of fashion retailers is to find a balance between these three factors. The triple bottom line can be seen as a kind of balanced scorecard that determines the degree to which a business is creating value for the economy, the environment and the society (Savitz and Weber 2006). Typical measures for the economic, environmental and social elements are shown in Table 2.1. A product or fashion retailer can only be called sustainable when his whole "cradle-to-grave" life cycle is sustainable (Blackburn and Textile Institute (Manchester, England) 2009).

2.2 Literature Review

2.2.1 Reasons to "Go Green"

Already in the 1960s people started to think critical of the industrialized society. They worry about consumption and large-scale technologies as well as industrialism; this results in the so-called "eco movement". Also in the 1970s and 1980s people started new movements. Due to the fact that many political issues were discussed, criticized and publicized, people changed their everyday behaviour and a new eco attitude was noticed. The eco movement peaked out at the end of the 1970s. Consumers wanted to wear eco-friendly fashion and sign out their disclaimer against the current fashion. Pieces of clothing were practicable and comfortable and not very fashionable because consumers wanted to draw attention to the bad influences of the fashion industry. This development influenced the attitude of today's society. Sustainability is often associated with the slovenly look of the past. But designers and producers nowadays work hard to change the image of sustainable fashion in the customer's mind (Diekamp and Koch 2010).

Due to the large-scale outsourcing of manufacturing to low-cost countries, long lead times and forecast-driven apparel value chains, there are increased forecasting errors, mark downs and lost sales as well as an excess of inventory, more discounted merchandise and greater consumer dissatisfaction (Mattila et al. 2002). This leads fashion retailer to rethink their actual business and take a look at the

topic sustainability. As the European Commission (Europäische Kommission 2009) says "retailers are increasingly recognizing sustainability as a significant opportunity for their businesses to grow, compete and innovate". Therefore, they try to integrate specific, comprehensive sustainability into their business strategies for internal operations and external relationships (Maignan et al. 2005). A lot of companies see sustainability not only as a chance to contribute to social goals, but also as a powerful source of competitive advantage and a matter of corporate survival (Yang et al. 2010). Due to the increasing demand for sustainable products and transparent supply chains the decision of a fashion retailer to "go green" can arise from many reasons but they can be categorized into four distinct groups: social well-being, environmental stewardship, economic prosperity and governance.

Social well-being includes the improvement of labour standards and conditions, enhance communities and the creation and delivery of socially responsible products and services (Mahler 2007). Fashion retailers have to broaden their mind beyond the shop floor and to the consumers, like utilizing point-of-sale literature to educate consumers and to promote more sustainable consumption. Consumers today are not well informed about the topic sustainability. They have to learn how to act in a sustainable way and adopt knowledge.

Fashion retailers must also emphasize and develop their corporate social responsibility (CSR) goals further. Because this leads to completely satisfied communities, customers and stakeholders within and beyond the society in which they operate. Being sustainable in terms of social well-being needs to incorporate socially responsible values and transparency into company's supply chains. The rising transparency leads to rising scrutiny, therefore collaboration across the supply chain is outstanding and organizations are inevitably realizing and gain the benefits of working together (Pui-Yan Ho and Choi 2012). Collaboration also means more than just having a relationship across the supply chain, it means rather working together towards a common goal (Shedroff 2009). Social well-being demands an increase in the quality of life, social justice and social coherence (Lang and Murphy 2014).

Environmental stewardship stands for the environmental responsibility fashion retailers have. It can consist of, for example, conserving energy and resources, consuming more renewable and less-polluting, increasing recycling, minimizing packaging and reducing the retailer's carbon footprint (Mahler 2007). In other words Vezzoli and Manzini (2008, p. 6) state "The term environmental sustainability refers to systemic conditions where neither on a planetary nor on a regional level do human activities disturb the natural cycles more than planetary resilience allows, and at the same time do not impoverish the natural capital that has to be shared with future generations". Companies can also achieve an advantage by renewed target marketing or create eco-market space and product differentiation by experimenting and innovation, such as looking for sustainable resources and new raw materials. Furthermore it is possible or moreover necessary joining with other companies and to form partnerships to exposure and highlight the importance of environmental stewardship (Pui-Yan Ho and Choi 2012).

In 1958, companies in general had an average tenure of 61 years in the Fortune 500. The Fortune 500 is an annual list compiled and published by Fortune magazine that ranks 500 of the largest US corporations by total revenue for their respective fiscal years. By 1980 this had reduced to 25 years and it is today only 18 years. Main reasons to this development are increasing competition and the notion of creative destruction (Foster 2012). To achieve long-term growth companies have to be highly sensitive and responsive to market forces because as one retailer develops a new and successful strategy the others have to react and develop me-too or differentiation strategies (Porter 2004). De Geus (1988) proposed "The ability to learn faster than your competitors may be the only sustainable competitive advantage". In other words, it is important that a learning company is based upon ecological principles. This offers opportunities to reach major advantages. As Mahler (2007) says economic prosperity comprises of promoting profits, creating jobs, attracting customers, reducing costs, anticipating and managing long-term risks and fostering long-term competitiveness. Economic sustainability requires a long-term perspective regarding the handling of financial assets and human resources. Furthermore, it focuses on the carrying capacity and diversity of industry structure and consumption patterns (Lang and Murphy 2014).

The fourth reason to "go green" is governance. This should not be mistaken with the term government. Governance is not as formal and is more an arrangement for member groups who have accepted each other as stakeholders: public and private, profit and non-profit, national and trans-national, expert and amateur, producer and consumer, large and small. All these members have an enhanced awareness of interdependence. These arrangements can set up standards and monitoring systems for a sustainable business programme (Lang and Murphy 2014). These member groups are often more accepted from consumers. Fashion retailers who hold on these standards become more competitive and increase their image from a consumer's point of view. Therefore, it is necessary to create a strategic business plan with measurable success factors.

2.2.2 Sustainable Supply Chain Management

From the traditional point of view, it was supposed that the most important players in the development process are the company and the customer. But the most effective organizations have learned to consider input, needs and cooperation with suppliers, distributors, retailers and other business partners throughout the whole supply chain. The more systems-oriented an organization is and the more it considers the full spectrum of sustainable issues (managing and using human, natural and financial capital), the wider is the circle of concerns and actors to involve (Shedroff 2009).

Cooper et al. (1997, p. 1) defines the supply chain management as "The process of planning, implementing, and controlling the efficient, cost-effective flow and storage of raw materials, in-process inventory, finished goods, and related

information flow from point-of-origin to point-of-consumption for purpose of conforming to customer requirements."

Supply chain management concepts have been implemented to improve operating performance, provide new sources of competitive advantage while offering a better value to consumers, and ultimately develop excellent managed organizations and inter-organizational relationships (Trent 2004).

Characteristics of supply chain management especially in fashion retail are retail-led, usually stochastic systems with all kinds of inherent uncertainties (on demand service and value), relatively short product life cycles and decisions in fashion supply chains are highly consumer demand driven (Choi 2014). In addition to the definition of general supply chain management the following definition is related to the fashion retail supply chain management:

> Fashion Retail Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistic management activities in the fashion retail supply chain. It includes coordination and collaboration with supply chain partners. In essence, Fashion Retail Supply Chain Management integrates supply and demand management within and across the fashion retail supply chain with a goal of satisfying the customer requirements under the leadership of the retailer (Choi 2014, p. 2).

The trend driven by the consumers' increased level of awareness and concerns on environmental protection as well as the fact that the traditional fashion apparel supply chain use toxic chemicals, consumes high numbers of water and electricity, produces a lot of waste and air emissions, long transportation ways and excessive packaging, highly affects the sustainable supply chain management practices in fashion apparel. It leads to a new sustainability mind-set (Five-R model) and the use of environmental management systems (Choi 2013; Muthu 2014). Even though the motives of fashion retailers vary, the key target is generally to include an interest in achieving sustainable streams of products, services, information and funds to provide maximum value to all involved stakeholders (Salzmann et al. 2005). Sustainable supply chain management can be defined as the traditional supply chain management practices which integrate "environmental, social and economic impacts throughout the lifecycles of goods and services" (Global Compact Office 2011).

To arrange environmental operations and work flows, the ISO14000 standard can help fashion retailers to identify processes, develop a performance measurement system, measure the supply chain system, prioritize processes, develop alternatives to processes, select approaches and establish auditing and improvement procedures (Pui-Yan Ho and Choi 2012).

There are many models for fashion retailers to adapt in their quest for sustainability. This paper discusses the so-called Five-R model more specific. It is formed by the five-R's: recycle, reuse, reduce, re-design and re-imagine (Fig. 2.2).

Recycling is the process by which materials are collected, processed into reusable forms and subsequently used as raw materials for new products. In general, there are two types of waste: post-industrial waste and post-consumer waste. At the post-industrial waste, the content and composition of the product and material is

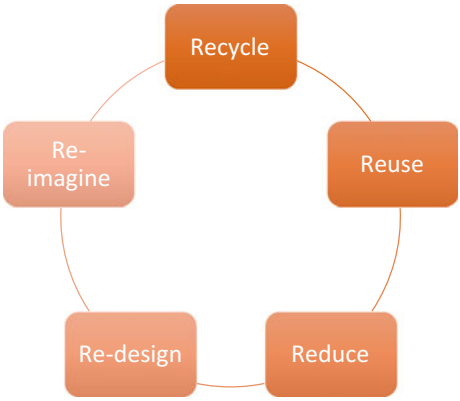


Fig. 2.2 5R's of sustainability. Own figure based on Esty and Winston (2006)

known (Pui-Yan Ho and Choi 2012). From Shedroff (2009) point of view recycling is an important principle of sustainability, but to be really effective, products need to be easily disassembled into component parts and separated by material. Therefore, the post-consumer waste it is a more complicated separation process, because the product has undergone many changes since the initial industrial process. This leads to a more resource and capital intensive recycling process, despite the higher value in doing so (Pui-Yan Ho and Choi 2012).

Reuse is another way to close the loop. The term reuse refers to the fact to use an item or product in its original form for several times instead of discarding it. Through this behaviour the usage life of a product can be extended. In the fashion branch this could be cloak pins, garment packaging or sewing needles (Pui-Yan Ho and Choi 2012). Instead of the extending the use of garments and make them last longer, Shedroff (2009) recommended to deign the company's operation and components to be easily exchanged so that the majority of components stay in use. Additionally to this there has been a growth in online sales or exchange of garments through retailers such as eBay which has helped to increase the flow and accessibility of second-hand clothing (Muthu 2014).

The third R is reducing. This implies a source reduction and a waste prevention. Waste prevention includes strict avoidance of waste generation, qualitative and quantitative reduction at source, and reuse of products (pre-waste 2015). In fashion, this could for example mean to look more carefully on the fabric sourcing. Obtaining fabrics locally instead of a global procurement leads to shorter transport distances and thereby to lower environmental pollution. Each transportation sends different levels of pollution into the environment and affects different populations and ecosystems around the world (Muthu 2014). If it is necessary to source global, fashion retailers could try to minimize their safety stock ordered to prevent fabric procurement. During "the garment manufacturing process, sophisticated lay planning software can help map out the ideal layout for pattern pieces which would result in less fabric wastage following the fabric cutting process" (Pui-Yan Ho and Choi 2012, p. 168). The idea of eco-effectiveness defines not only to reduce the waste, but also to eliminate the concept of waste (Shedroff 2009).

A re-designed product means that the item was developed in a way that reduces environmental impacts for someone somewhere in its life-cycle journey from supplier inputs to product to end-of-life disposal (Esty and Winston 2006). The re-design process includes different perspectives. The first one is on product design. Product design involves topics like the use of materials. The second perspective refers to the process re-design. One example for the process of re-design is the so-called business process re-engineering (BPR) scheme. Companies can try to streamline their existing business processes to enhance their efficiency. In context with supply chain management and BPR commonly, the change or simplification of business processes to reduce logistic-related wastes as well as enhancing workflows with reduction of wastes is planned (Pui-Yan Ho and Choi 2012).

The fifth and last R is re-imagine. Before the process of re-designing starts, fashion retailers should also keep in mind the re-imagination of their products and processes. Re-designing and re-imagining have the aim of thinking direct environmentally creative, heartening to seek new opportunities to add value to what companies do and realize that re-designing and re-imagining precludes the former Three-R's in generating greater profit and long-lasting company value and vision (Pui-Yan Ho and Choi 2012). As Powell (2010) explains the so-called concept "Design for Environment", designers create products by taking the environment into account. It is less expensive to design a low-impact product than to manage or to rebuild a high-impact product.

2.2.3 Challenges of Sustainable Fashion Value Chains

The barriers of sustainable fashion value chains can be summarized in four challenges: fashion logistics challenges, challenges of overproduction, challenges of irresponsible consumption and challenges of fulfilling social responsibility. Each challenge will be explained in the following.

2.2.3.1 Fashion Logistics

The biggest challenge of fashion retailers to an efficient logistic in a globalized network are long lead times from the order up to the delivery. This is also known as "the lead time gap" (Fernie and Sparks 2004). Muthu (2014) says that lead times in a traditional fashion business (up-front buying based on seasonal forecasting and planning) can be up to 36 weeks. The result of a research od key performance measures of major European fashion retailers (traditional product design and slow response), made by Cachon and Swinney (2011) is that traditional fashion companies such as Mango (Spanish branded retailer), Lindex (Swedish branded retailer) or John Smedley (UK branded retailer) have production lead times up to 26 weeks. The majority of this time is non-value adding and generates costs. Long lead times are also caused by the the geographical extension and attended with that the

necessity of long-range forecasts ahead of sales seasons (Christopher et al. 2004). This fact influences the financial performance in a negative way, caused by imprecise accuracy leading to loss of revenues and profits, surplus of inventory and hence a large number of products which must be sold on discount prices as well as the risk that customers not finding what they want in the shop (Mattila et al. 2002). Today a 48 weeks lead time is common and assumed that it causes sales forecast errors of about 40 %. Furthermore, the radical relocation of the production sites towards Far East lead to higher transportation costs, loss of employment in the manufacturing sector and higher carbon footprints (Allwood 2006). There is no concrete definition of the term carbon footprint, but there are some key characteristics that are accepted. This results in an open definition from Peters et al. (2010, p. 23): "The carbon footprint of a functional unit is the climate impact under a specified metric that considers all relevant emission sources, sinks and storage in both consumption and production within the specified spatial and temporal system boundary."

Another important and challenging element of fashion logistic in the broadest sense is the packaging of a product. Caused by short life cycles, the amount of packaging on the markets is almost equal to the amount of packaging waste, whereof most of the packaging is composite packaging. This contains materials like laminated foils, aluminium foil or polyethylene. These materials are difficult to recycle and causes high costs and low resale value. To palliate the public concerns, politicians have supported recycling and reuse strategies, to reduce the demand for raw materials and decrease the quantity of waste going into landfills (Xie et al. 2013).

2.2.3.2 Overproduction Caused by Forecasting Error

Forecasting error has serious consequences on sustainable fashion value chains. Mattila et al. (2002) says that fashion retailers on average only sell two-third of their seasonal fashion products at the full price. The rest of the products are sold on a discount price. There are different business strategies to improve retail performance measures such as the optimization of the flow of information and merchandise between value chain members to maximize consumer satisfaction (Ko and Kincade 1997). By realizing different technologies like sharing POS information, EDI, electronic transmission of orders and invoices, computer-aided design (CAD), the use of computer technology and manufacturing and electronic point of sale that means collecting sales information at the cash register from barcodes. This leads to efficiently reduce safety stocks, avoid overproduction and minimize unsold merchandise. The reduction of overproduction has a big impact on the environment, keeping in mind the fact that textile and apparel raw materials production are henpecked by energy-intensive processes, the use of toxic chemicals and the high water consumption (Christopher et al. 2004). "At the operational level it is crucial to take timely decisions on what to buy, what to move, and what to make, vital supply chain planning to counter demand uncertainty" (Muthu 2014, p. 233).

2.2.3.3 Irresponsible Consumption and Uninformed Consumer

The high precariousness in the demand pattern of fashion products that leads to an increase in unsustainability is not only caused by the production system. The manufacturing process generates pollutants as well as the consumption of goods. Consumers are today as well irresponsible, considering the fact that German women have on average 118 pieces of clothing in their closet and men 73 pieces. Every fifth piece of clothing is almost unworn. Clothing consumption contains the acquisition, storage, usage, maintaining and throwaway (Grooten et al. 2012). Most consumers do not keep in mind the environmental impacts of their clothing purchases. During the different stages of a product life cycle, everything from the manufacturing of fibres to the disposal of garments results can worsening the ecosystem health. "As long as the unsustainable consumption of clothing products persists, environmental degradation will continue as well" (Muthu 2014, p. 43). This implicates that an overall sustainability can only be achieved if fashion retailers produce more environmentally friendly products but at the same time the clothing consumption behaviour of individuals change and become more environmentally responsible and good-natured. The change in consumer behaviour assumes that the knowledge of sustainability is present. To expand the understanding of environmentally significance a focus on increasing fundamental knowledge and how factors like information, incentives and constraints combine and interact with personal values, attitudes and beliefs, to inform and shape the consumer decision-process is necessary (Daneshvary et al. 1998).

2.2.3.4 Fulfilling Social Responsibility

Fashion retailers have to be aware of their social responsibility. They have to determine their corporate social responsibility (CSR) along their fashion value chain. This can be spilt up into three main sectors: wages, working hours and working conditions (Perry and Towers 2013). The whole fashion branch is imputed of paying low wages. As Carson (2013) says, there are traditional monitoring methods such as codes of conduct and inspections in place but fashion retailers have failed to pay a living wage to their workers, they accepted child labour, have misuse human rights and assert minimum labour standards in the workplace. Diverse scandals due to the infringement of ethical values in the fashion value chain of global fashion retailers like Zara, Gap, Nike or Marks & Spencer, have been reported. In this connection, four main categories of mechanisms aiming to encourage supplier to assume socially responsible practices can be defined: international standards, extended frameworks, supplier codes of conducts and supplier social audits (Awaysheh and Klassen 2010).

2.3 Green Washing

> The World's leading Ozone destroyer takes credit for leadership in ozone protection. A mammoth greenhouse gas emitter professes the precautionary approach to global warming. A major agrichemical manufacturer trades in a pesticide so hazardous it has been banned in many countries, while implying it is helping feed the hungry. A petro- chemical firm uses the waste from one polluting process as raw materials for another hazardous process, and boasts of an important recycling initiative. Another giant multinational cuts timber from virgin rainforest, replaces it with monoculture plantations and calls the project "sustainable forest development." (Kelly 2008, p. 1)

The upcoming theme of environmental sustainability puts pressure on fashion retailer as they have been portrayed as one of the key causer of the climate change and environmental problems. In general company statements are not required by law and publishing environmental policy statements is voluntary. There is no third-party which proves if the company statements are implemented. Green washing is a relatively new concept but there are several definitions of the topic. One definition of greenwashing is stated by Ramus and Montiel (2005) "disinformation disseminated by an organization so as to present an environmentally responsible public image." Another definition comes from Walker and Wan (2012, p. 357), in their point of view green washing is defined "as a symbolic information emanating from within an organization without substantive actions. Or, in other words, discrepancy between the green talk and green walk." A third one is published by Laufer (2003, p. 253): "green-washing, a strategy that companies adopt to engage in symbolic communications of environmental issues without substantially addressing them in actions, has been identified by both academia and the mainstream media."

Underwriters Laboratories has identified seven different categories of green washing claims, the so-called "The Seven Sins" (The Seven Sins|The Sins of Greenwashing 2015):

- Sin of the hidden trade-off: a product is perceived as being "green" because it is just based on a narrowly defined set of attributes
- Sin of no proof: the environmental claim is unsubstantiated
- Sin of vagueness: a claim that is vague or ambiguous ("All-natural" is not necessarily "green")
- Sin of worshiping false labels: the company uses words or images that give the impression of a third-party endorsement where no endorsement exists (fake labels)
- Sin of irrelevance: irrelevant claims are employed ("CFC-free"- already banned by law)
- Sin of lesser of two evils: using descriptions for a product professing a green attribute when the overall product is commonly regarded as environmentally unfriendly (organic cigarettes)
- Sin of fibbing: the claims are false, so the unauthorized use of stamps, symbols and labels

As mentioned in the seven sins, product labelling or symbols can be false or misunderstood. Today we have a flood of labels and certifications which seem to mark a product as being "green". Fashion retailers can use their own labels to signal an ethical focus. Consumers often cannot judge the legitimacy and credibility of such labels.

But why do fashion retailers do green washing? Beside the mentioned upcoming pressure, companies have an incentive of publishing environmentally policy statements. Statements can positively influence public perceptions of the retailer commitment to environmental protection and sustainable development. Possibly this results in increased market share and improved stakeholder relations. All these positive effects could probably be annulled if an increased number of companies make claims to sustainable development through these policy statements because consumer will wonder if these policies are just a form of green washing. It is difficult for stakeholder outside a company to know if the published policy commitments results in internal organizational greening activities (Ramus and Montiel 2005).

2.4 Sustainability in Fashion Retail Store

Not only the implementation of sustainability aspect in the main part of the supply chain of fashion retailers is from great importance, also to mention the fashion retail store itself. Despite the increased interest in sustainable products and production processes there is not much information about the environmental friendliness of a fashion retail store (Thompson 2007). Figure 2.3 shows an exemplary process for a fashion retailer, who wants to implement a sustainability and energy management system in his retail stores. There is no standard solution for each retailer. The sustainability management system has to be customized for each business requirements.

The first step is to "Develop a Sustainability Strategy". Retailers should define a clear long-term oriented strategy and develop a plan of action to meet the strived goal. Commitments to sustainability and energy have to be formalized, core metric will be established and baselines have to be evaluated. Furthermore, a database of successes is compiled, performance is validated versus market benchmark data and an internal workgroup is formed to review sustainability issues gained. Up to this moment it is necessary to review the performance in periodic intervals and internal stakeholders are engaged and educated as well as a communication plan for progress is established. The result of step one is a sustainability roadmap document with detailed goals, benefits and risks (Jamieson and Hughes 2013).

The second step is to "Implement Strategic Energy Sourcing". This step contains the monitoring and analyzing of data to prioritize efficiency initiatives by return on investment. Market information across multiple geographies have to be analyzed to identify saving possibilities and reduce operating expenses. This step is also very important to negotiate with business partners about improving contract terms as well as rate structures have to be conducted. Additionally, rates and tariffs have to

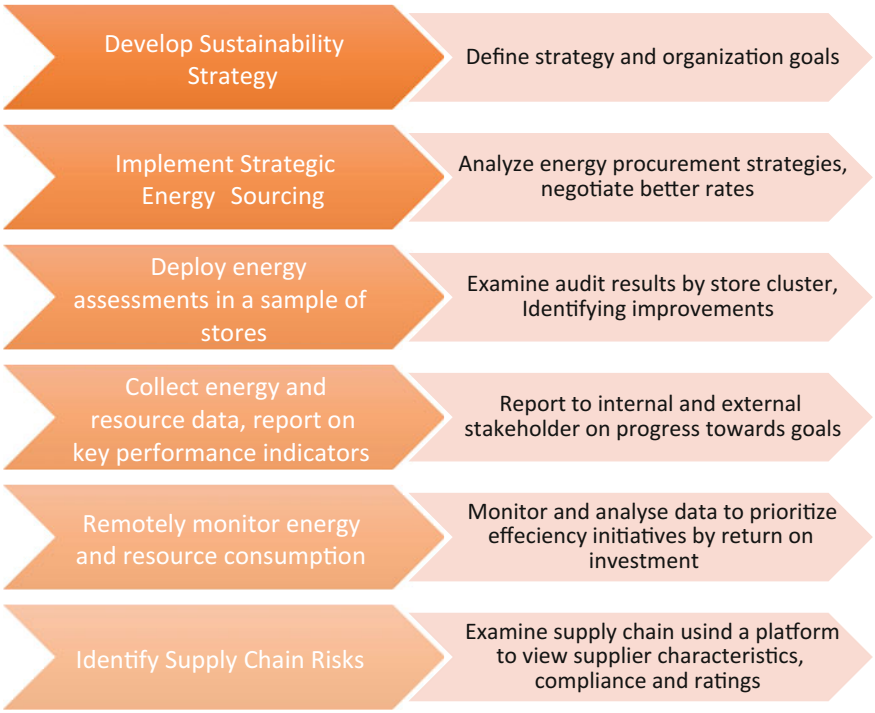


Fig. 2.3 Sustainability and energy management system implementation. Adapted from Jamieson and Hughes (2013)

be analyzed, energy market research will be performed and risk tolerance is determined. Ongoing reports on contracts, market changes and opportunities are produced which include clear recommendations on how to move forward (Jamieson and Hughes 2013).

Step number three is to "Deploy energy assessments in a sample of stores". Fashion retailers have to use this step to examine audit results by store cluster and identify improvement. Stores have to be organized in categories such a building type and age or by equipment which is installed (Jamieson and Hughes 2013). Not only the equipment is important but also facts like using green energy and low energy bulbs for lightening. Green energy means to use power sourced from renewable or non-polluting energy sources. With the decision to source energy in a green way fashion retailers can support the general development of new and cleaner technologies that will reduce the environmental impacts (Thompson 2007). Not all stores, only a selection of stores undergoes in depth assessments to find inefficiencies because this procedure is much more cost effective than auditing all stores. Audit results can be used to find inefficiencies in similar categories of stores with similar characteristics (Jamieson and Hughes 2013).

The fourth step is to "Collect energy and resource data, report on key performance indicators". During this step, a report will be passed to internal and external stakeholders on progress toward goals. "A metering infrastructure which uses existing data collection infrastructure is designed and commissioned for new and current stores. Monitoring systems are defined to meet business-specific requirements." To be able to prepare a wide visibility into disparate data sources to internal and external stakeholders, energy and resource consumption data has to be collected and reports generated (Jamieson and Hughes 2013).

Step number five is to "Remotely monitor energy and resource consumption". This is necessary to make improvement recommendations. Therefore, energy and resource data has to be aggregated and centralized in a software and reviewed by remote energy experts to discover inefficiencies and recommend initiatives to optimize process or equipment. After that a ranking of the expert recommendations has to be done to improve efficiency based on the organizational goals. If there is a need, fashion retailer can also make site visits to implement initiatives in selected stores (Jamieson and Hughes 2013).

The last step is to "Identify Supply Chain Risks". This includes the examination of the supply chain, using a platform to view supplier characteristics as well as compliance and ratings. Furthermore, supplier information has to be analyzed to identify potential risks. This could vary from one retailer to another based on what is most relevant for the business. If retailers use an internet based platform for a supplier database, the supplier itself can add information. This assuaged the ranking according to supplier characteristics, survey response and compliance. It is more easy to compare and evaluate prospective supplier's sustainability profiles in an effort to minimize risk and promote compliance with identified sustainability targets (Jamieson and Hughes 2013).

Jamieson and Hughes (2013) say that a well-planned energy and sustainability management programme can reduce energy costs by 10–30 %. From their point of view, the triple bottom line is a good tool to support sustainability initiatives with harder to measure metrics such as organizational efficiency, customer loyalty, reduce environmental impact and productivity.

There are already fashion examples from retailers involving the theme sustainability in their supply chain and especially in their retail stores. One is VF Corporations (VF Corporations 2015). It is a global leader in branded lifestyle apparel, footwear and accessories with more than 30 brands. In their owned retail stores VF take care of reducing the environmental footprint by increased energy efficiency, reduced waste and sustainable materials sourced locally. One brand of VF which became a leadership in energy efficient retail, is "Timberland". With their energy guideline they achieved to consume 30 % less energy than in a traditional retail store. This results out of the implementation of LED spotlights and programmable internet protocol thermostats to control heating and air conditions.

To reduce the waste, VF uses paper shopping bags that are certified by the Forest Stewardship Council (FSC) or the Sustainable Forestry Initiative (SFI). By 2017, VF plans to have for all brands only paper shopping bags with a minimum content of recycled material of 30 %. Many brands (The North Face, Timberland, Nautica

and Kipling) of VF are already using paper shopping bags with recycled content and some brands like "Vans" are also using reusable bags.

In addition to the use of recycled materials in paper shopping bags, Vans launched new hang tags that are made with 100 % post-consumer paper and soy-based inks and Timberland uses hang tags which contain 100 % recycled materials, 80 % of which is post-consumer paper and water-based inks. VF shows that it is possible to reduce costs through sustainable actions and guidelines. By consolidating all hangers purchasing with one supplier, they could reduce their costs for Europe by 20 %. All wooden hangers of VF owned retail stores in Europe have to be certified. Plastic hangers are also made from 100 % recycled materials and metal hangers contain 25 % recycled content. Another point in fashion retail is the furniture. VF brands like Timberland, Ella Moss and 7 For All Mankind only use FSC certified wood furniture and low emitting materials for the floors and floor furniture (VF Corporations 2015).

2.5 Conclusion

To give a conclusion, the findings of this literature review are briefly summarized. The theoretic basis of fashion retail and sustainability were presented in Sects. 2.1.2 and 2.1.3. The term fashion retail in this paper is equal to the definitions of the whole textile and clothing industry. It includes companies that are involved with fibres, primary textile manufacturers, who produce yarns and fabrics, as well as add coloration, apparel manufacturers and retailing enterprises. Sustainability in literature has many different definitions but one is the most cited and accepted. It is the definition used in the Brundtland report. It compromises to pay attention to the current needs of the generation but furthermore to keep in mind the needs of the following generations. The interaction of this definition and fashion retailers which implement a whole culture sustainability can be found in "triple bottom line".

In Sect. 2.2.1, findings about the reasons to "go green" were presented. The eco movement of people since the 1960s plays an important role and influences retailers still nowadays to have a look on the topic sustainability. Due to the increasing demand for sustainable products and transparent supply chains the decision of a fashion retailer to "go green" can arise from topics like social well-being, environmental stewardship, economic prosperity and governance. Afterwards the necessity and content of a sustainable supply chain management is presented in Sect. 2.2.2. To give a review of the whole theme, sustainable supply chain management was explained by the theoretical Five-R model which consists of recycle, reuse, reduce, re-design and re-imagine.

Sustainable supply chain management offers numerous chances, but it also implicates challenges, fashion retailers have to deal with. These challenges were presented in Sect. 2.2.3. Main challenges which were explained are fashion logistics, overproduction caused by forecasting errors, irresponsible consumption and uninformed customers and fulfilling corporate responsibility. Fashion retailers

are often capable to meet these challenges, so they try to compass a real change to a cradle-to-grave sustainable business plan. Nevertheless, they communicate to be a sustainable fashion retailer without acting so. This is called "Green Washing" and can be defined by the Seven Sins that are seven different categories of green washing claims. This topic was presented in Sect. 2.3. The presented findings end with possibilities of sustainability in a fashion retail store in Sect. 2.4. An exemplary six steps process was given if fashion retailers are willing to implement a sustainability and energy management system. Furthermore, an example of a fashion company using a sustainability and energy management system was given.

2.6 Research Limitations and Future Research

The main limitations in literature are the little results concerning the demanded information content of the different understandings of sustainability in different regions of the world. In most literature there is a unification of the topic and cultural differences are not mentioned. The results are limited in their structure and quality. Most studies concerning the added value through sustainability consist of qualitative research methods with an explorative character. Moreover, there is a surplus of information from the United States and China and low level of information from other countries. Despite the increased interest in sustainable products and production processes there is not much information about the environmental friendliness in a fashion retail store and the topic of green washing. Sustainability in form of business frameworks or business plans is in most literature seen as a necessity which causes very low literature about the critical side of a sustainability programme for companies. The literature review of this paper itself is limited in the depth of each topic because it elaborated an overview of the whole topic of sustainability in fashion retail and concentrated on the fashion supply chain. It did not analyze topics like second-hand shopping and the social media part of sustainability.

In order to overcome the presented limitations, the qualitative results concerning the added value through sustainability should be tested with the help of quantitative studies. Especially for fashion retailers operating in international structures, intercultural similarities and differences should be examined as well in further research. Furthermore, sustainability in a fashion retail store as well as topics like second-hand shopping, the social media part and the critical parts of sustainability could be part of further research.

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