Chapter 7
Sustainable Supply Chain Management in the Slow-Fashion Industry

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Abstract This chapter maps and analyses the supply chain of four micro-organisations operating in the slow-fashion industry utilising the Seven-R framework. It focuses on the challenges these companies are facing, as well as aspects these organisations are handling well within their supply chain. The chapter briefly outlines current events, issues, and challenges faced in the slow-fashion industry before presenting a comprehensive literature review of sustainable supply chain management (SSCM). This chapter utilises a case study approach and analyses its findings by following and extending the Seven-R Framework. The concluding remarks highlight key implications of this chapter and emphasise on potential areas of further study.

7.1 Setting the Scene: Sustainable Supply Chain Management, Sustainable Fashion, and Micro-Organisations

Traditionally, supply chain management (SCM) is defined as the combination of key business processes 'from end-user through original suppliers, that provides products, services, and information that add value for customers and other stakeholders' (Lambert et al. 2006, p. 2). The goal of SCM is to overhaul and improve existing organisational processes, in order to enhance the company's long-term performance and the overall supply chain. This can be accomplished by implementing strategically managed business processes across the organisation (Mentzer et al. 2002). With globalisation, emerging SCM becomes a complex process (Hagelaar et al. 2004) in which issues of the environment and social aspects become key determinants (Beske et al. 2008). A shift from traditional to sustainable supply chain management (SSCM) can be observed, especially with increasingly more suppliers involved within the sourcing process (Beske et al. 2008; Walker and Jones 2012).

SSCM shows strong similarities to traditional SCM; however, SSCM incorporates not only issues surrounding the economic benefits of an organisation but also social and environmental concerns. Thus, SSCM can best be described as 'the management of material, information and capital flows [. . .] while taking goals from all

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the three dimensions of sustainable development, i.e. economic, environmental, and social, into account' (Seuring and Müller 2008, p. 1700). Although SSCM is not a new phenomenon *per se*, the literature available surrounding this topic is limited in nature (Gold et al. 2010; Ashby et al. 2012). The key focus of previous SSCM research predominantly focused either on environmental performance (De Burgos Jiménez and Céspedes Lorente 2001) or green product development (Baumann et al. 2002). Stated alternatively, past studies, whilst instructive, have predominantly concentrated on environmental aspects within SCM. Although both environmental and social aspects are associated with SSCM, various authors emphasise that the social dimension within SSCM is under researched (Seuring and Müller 2008; Ashby et al. 2012). Similarly, previous studies focus on SCM in large organisation (e.g. Beske et al. 2008; Walker and Jones 2012), whilst the majority of fashion research looks either at the fast fashion industry or the luxury market (Joy et al. 2012). The context of this research focuses on the slow fashion industry, which provides the counterpart to the fast fashion industry. Fast fashion is often described as those garments that can be acquired on the high street and is characterised as: cheap, mass-produced, fashionable, has a fast stock turnaround and 'mimic[s] current luxury fashion trends' (Joy et al. 2012, p. 273). Slow fashion on the other hand, whilst being fashionable and at times 'cheap' (depending on the price sensitivity of the consumer), is neither mass-produced, nor does it have a fast stock turnover (Fletcher 2008; Bourland 2011). Organisations operating within the slow fashion industry generally produce a new collection twice a year (BSR 2012); by contrast, the fast fashion industry turns their stock around every 2–3 weeks, which approximates to 20 fashion lines per annum (BSR 2012). The growth of the 'slow fashion movement' and the increased interested in the topic from practitioners and academics, as well as the lack of research currently available highlight the importance of this research (Caniato et al. 2012; Pookulangara and Shephard 2013). Moreover, a further justification for this research project is the fact that it focuses on various under researched fields: the creative and cultural industries, SSCM, and micro-organisations (Chaston and Sadler-Smith 2011).

This research utilises the Seven-R framework to investigate the SSCM in micro-organisations operating in the slow fashion industry. The Seven-R framework is a construct that can be used to measure a company's pollution prevention by focusing on: reduce, reuse, recycle, restyle, rewear, redesign, and reimagine. In this manner, an organisation is able to investigate their supply chain and highlight aspects that are particularly well managed and/or have a lower impact on the environment, and those that may need improving.

Micro-organisations lack research compared to large organisations and small and medium-sized enterprises (SMEs), yet they account for 32 % of the UK's employment and make up 18 % of the annual turnover (Ward and Rhodes 2014). A micro-organisation can be defined 'as an enterprise which employs fewer than ten persons and whose annual turnover and/or annual balance sheet total does not exceed € 2 million' (Europa 2007). Further characteristics of micro-businesses include: first, having a limited financial budget, which depends on the owner-manager's financial backing as the sole risk taker (EC 2013). Second, the companies are seen to be innovative, in terms of, for example their designs and production processes (EC 2013).

Third, they are sensitive to competition, especially if large organisations provide a comparable product and/or service at lower cost (Chironga 2012; EC 2013). Fourth, they seek to employ workers that have transferable skills sets (EC 2013). Last, the owner-manager, as the sole risk taker, not only plays a vital role in determining the organisation's direction but also is the key decision-maker (Kelliher and Reinl 2009). Moreover, in sustainability terms, micro-organisations have a significant impact on the natural environment (Seidel et al. 2009; Wilson et al. 2012), which provides further justification for this research and highlights its importance.

In the UK fashion industry, the notion of sustainability and SSCM first emerged in the 1960s, when people became more conscious about the natural environment (Peattie 1995; McCormick 2001; Brown 2011; SustAinability 2011). However, during this period, slow fashion, which is often referred to as *eco* or *green* fashion, was seen as being 'crusty and granola and tie-dyed and hippie and all that kind of stuff' (Brown 2011). The 1980s and early 1990s brought anti-fur campaigns, which led to a majority of brands eliminating fur from their collections, ensuring 'good animal welfare conditions' (BSR 2012, p. 1). The 1990s further renewed interest in ethical and ecofriendly clothing, due to media attention focusing on labour practices (Brown 2011). These labour practice issues are still current today with news outlets reporting about the Rana Plaza incident in Bangladesh in which more than 1100 workers lost their lives (Parveen 2014). Factory accidents such as the Rana Plaza incident are not single occurrences, the previous year, in 2012, 300 workers lost their lives in a burning factory in Pakistan (Ruhman et al. 2012). These accidents are partly caused by a consistent decrease in pricing of fashion garments (Pasquinelli 2012), whereby manufacturers are pressured into continuously lowering their prices (Skov 2008), which the supply chain has to bear. In this way, the 'fashion appetite' (Sharma and Hall 2010, p. 2) on the consumer side has both 'environmental costs and implications' (Sharma and Hall 2010, p. 2), which might be considered as issues that need to be challenged, but are not likely to change in the near future (Tynan 2013). Thus, two conclusions can be drawn so far: First, it can be said that there is a consumer trend to demand more sustainably produced clothing (Lacy 2013; DPA 2014), and second, due to increased media coverage and pressure from nongovernmental organisations, consumers, and the government, businesses put a stronger emphasis on sustainable production (De Brito et al. 2008; Deloitte 2013), which links to the importance of investigating SSCM.

The early 2000s see the slow fashion movement emerge (Fletcher 2007), which is often described as the 'farmers' market approach' (Johansson 2010, p. 28) to clothing production. In other words, an integral part of slow fashion is to incorporate aspects of the triple bottom line (TBL; Elkington 1994) into the manufacturing processes, thereby paying workers fair wages (Tran 2008), produce environmentally friendly garments by utilising organic materials or sustainable techniques (Shephard and Pookulangara 2014), and create collections that can best be described as timeless (Joy et al. 2012; Shephard and Pookulangara 2014). Slow fashion provides manufactures with the opportunity to investigate their supply chain in a holistic manner, thereby focusing on a cradle-to-cradle approach, which incorporates the decision-making process from the early stages in a garment's life cycle to educating consumers about end-of-life treatment (Clark 2008). Thus, organisations have

started to focus more on economic and environmental changes and examine their supply chain accordingly (Wu and Pagell 2011), by also looking at a collaborative approach that sees stakeholders as enablers to further guide organisations towards sustainability (Lozano 2007). Moreover, 'current research lacks approaches from a SME supplier perspective to understand how—and to what extent—sustainability related demands are integrated' (Acosta et al. (2014).

With this in mind, this chapter seeks to explore the two following research questions:

1) Which aspects of the supply chain are managed well according to the Seven-R framework?
2) What challenges do micro-organisations face within their SCM?

This research investigates sustainable practices in slow-fashion micro-organisations utilising the Seven-R framework, which was previously used in a similar context by Ho and Choi (2012) to analyse a Hong Kong-based fashion organisation. The framework provides a point of reference in analysing a company's efforts to include sustainability practices into their organisational processes. Due to the individual components' loose interpretation, which is highlighted in the following sections, it can be easily applied to the SME context. Moreover, Ho and Choi (2012) emphasised that the framework is not 'mutually exclusive' (p. 168) and can be expanded and/or reduced.

7.2 The Rise of Sustainability in the Slow Fashion Industry

Issues surrounding sustainability are not new phenomena and have received increased attention from practitioners and academics for the past decades (Chabowski et al. 2011). The concept of sustainability and sustainable development emerged from the Brundtland Commission's report *Our Common Future*—a milestone for sustainable development (WCED 1987)—emphasising the necessity of 'meeting needs of the present without compromising the ability for future generations to meet their needs' (UN 2011). Stated alternatively, sustainability is the ultimate goal that embraces the human needs for survival and well-being (US-EPA 2010).

Although initially organisations have resisted changes in the environment, more recently companies have felt the need to adapt and transform their supply chain to not only obtain economic benefits but also integrate social and environmental aspects into their supply chains (Elkington 1998; Wu and Pagell 2011). This, as previously highlighted, is due to increased interest and pressure from, for example the media, consumers, and governmental organisations (Deloitte 2013). Interestingly, these TBL aspects have predominantly been investigated as standalone concepts without considering their potential relationship between one another (Carter and Jennings 2002). In the same vein, the textile and apparel industry has seen changes in consumer behaviour towards not only more environmentally friendly products but also eco-innovation and design (Gam and Banning 2011). It can be said that the green movement has extended to a wider range of organisations in the fashion industry, which emphasises more on sustainability (Black 2008).

Within the UK fashion industry, the TBL has gained greater importance with people working in the industry becoming more aware of the effects clothing production has on the natural and social environment (Walsh 2009; Goworek 2013). Looking at the individual dimensions more closely, one can see that *economic performance* relates to the manufacturing processes of goods and/or services. To be 'sustainable', the production process must be able to produce goods and/or services on a continuous basis, must be financially viable and prevent any *imbalance* that could damage or destroy the agricultural and/or industrial production within a country (Harris 2003). *Social performance* focuses on improvements that can be made, in order to strengthen a society, in terms of investments in public facilities, including, but not limited to, leisure facilities, schools, and community centres, thereby making the company's surrounding location more attractive for people to live in (Holmberg 1992; Harris 2003). Moreover, it is concerned with the actual working conditions and environment employees operate in, and ideally, ensure that these conditions meet the regulatory standards and requirements (Hubbard 2009). *Environmental performance* looks at the impact an organisation has on the natural environment, thereby focusing on raw materials used and the production processes involved to create a garment (Harris 2003). Concentrating business activities around the TBL helps to raise awareness about the implications the production has on the environment (social, economic, and environmental) and raises motivation amongst employees and stakeholders towards sustainability as an environmental and economic performance tool (Bowden et al. 2001; EC 2001; Siebenhühner and Arnold 2007). Thus, incorporating these bottom lines into business processes leads to sustainable development, which is 'a dynamic process, [that] enables all people to realise their potential and [. . .] simultaneously protect and enhance the Earth's life support systems' (Chambers et al. 2008, p. 3). However, due to the apparel industry being change-intensive (Kunz 2005) and following the principle of seasonality and fashion trends (Doeringer and Crean 2006; Easey 2009; Gibson and Stanes 2010) incorporating sustainable practices may be challenging and not always feasible for micro-organisations (Hillary 2004; Battisti and Perry 2011).

In summary, it can be said that although sustainability has received increased interest in the past decades (Chabowski et al. 2011), past research has predominantly focused on environmental and economic aspects, rather than the social strand (Ashby et al. 2012). Moreover, the fashion industry, as one of the greatest polluters has seen dramatic changes (UNEP 2013) not only in consumer behaviour but also in terms of organisations actively seeking to adapt to the changing environment and incorporate sustainability aspects into their supply chain (Walker and Jones 2012).

7.3 SSCM —A Brief Overview

Traditionally, the term supply chain describes an organisation's overall processes starting from the selection of raw materials to the finished products, to the distribution channels used to reach the consumer. In other words, a traditional supply

chain comprises of five parts: raw material, industry, distribution, consumer, and waste (Ho et al. 2009). SCM then seeks to coordinate the individual parts of a supply chain with the goal to improve an organisation's overall performance in the long term (Mentzer et al. 2002; Lambert et al. 2006). In comparison to traditional SCM, SSCM incorporates additional environmental and social aspects. The previous section has highlighted that issues concerning the natural and social environment emerged as hot topics in today's fashion industry, thus more and more organisations start to examine their current supply chain procedures (Minney 2011; Winter 2014). The aim is to not only surpass challenges in regards to increased raw material prices but also to actively engage with global challenges, such as climate change (Wu and Pagell 2011). Recent events (Ruhman et al. 2012; Parveen 2014) have elicited changes in the fashion industry, whereby action was taken by various retailers, including, but not limited to, John Lewis, The Arcadia Group, and Marks & Spencer, to improve working conditions and prevent similar accidents from happening again (Davies 2013). Tragedies in the supply chain are not the only motivational drivers behind the sustainability agenda, further motivators include, but are not limited to: shortages of raw materials (Srivastava 2007), increased wastage, particularly at landfills, as the average consumer bins 30 kg of clothing and textiles per capita per annum (EFF 2008; WRAP 2012), regulatory requirements, and pressure from increasingly knowledgeable consumers (Srivastava 2007).

Lozano (2007) highlights that especially in organisations that have sustainability at their core, collaborations with members of the supply chain and other stakeholders can be beneficial for solving challenges that can be related to climate change. This highlights that research into the social dimension of SSCM is vital. In this manner, various authors (Bowen et al. 2001; Zhu et al. 2010) mention anchor companies as playing an important role in SSCM. Anchor companies can best be described as global or international companies that, in this case, have their headquarters in the UK (Meechan 2014; Welsh Government 2014). These anchor companies can act as role models in implementing sustainable practices across the whole supply chain. Stated alternatively, if an anchor company decides to change their supply chain and focuses more on TBL aspects, all members involved in this supply chain, ideally, also change their behaviour and processes in order to comply with the guidelines set out by the anchor company. Improvements are then incorporated steadily with the individual members helping, guiding, and supporting one another on the way (Carter and Easton 2011; Ahi and Searcy 2013). An example of an 'anchor company' that seeks to change behaviour is Tesco (UK), who works together with London-based 'sustainable brand' *From Somewhere* in an attempt to make use of *waste* materials in one of Tesco's textile warehouses (Pasquinelli 2012). The waste material results from fast seasonal fashion trends in a change-intensive industry, challenges which large companies try to overcome through these collaborations (Kunz 2005). The venture with Tesco and *From Somewhere* emphasises how large organisations are increasingly aware of the environmental impacts their actions have and how to counteract them to become a 'good corporate citizen' (Sheehan 2013). It shows that in today's economy individual corporations have more options to practice sustainable development than might have been feasible in the past, especially within the

fashion industry by utilising 'think-tanks' (Gam and Banning 2011). A noteworthy observation of the current literature is that there seems to be a lack of information in regards to SMEs and their ability to incorporate supply chain initiatives (van Hoof and Thiell 2014), which further highlights the importance of this research.

It can be said that there are various reasons for organisations to implement sustainability practices into their supply chain, such as reducing waste generation and discouraging, in this case, throwaway fashion (Vachon and Klassen 2008). Whilst these aspects increasingly gain importance the most vital aspect underlying the implementation of these sustainable practices is the creation of a competitive advantage and, in the long-term, economic benefits (Yang et al. 2010; Ho and Choi 2012). To achieve sustainability within a supply chain, organisations have the opportunity to participate in reverse logistics (Abraham 2011). Reverse logistics is 'traditionally defined as the process of moving product from its point of consumption through channel members to the point of origin to recapture value or ensure proper disposal' (Schatteman 2003, p. 267). This implies that the main focus of reverse logistics lies with the end of the product's life cycle, thereby, through design, seeking to improve, what has been described as the Three-R abilities: the reduction of waste, the reuse of materials, and the recycling of the product when it reaches its end in the life cycle (Alumur et al. 2012). Thus, it can be said that the scope underlying the SSCM can range from reactive monitoring schemes to proactive practices, which can incorporate aspects of the Seven-R framework (Srivastava 2007).

To reiterate a previous point further, a key framework that enables investigations into SSCM is the Three-R (reduce, reuse, and recycle) framework (Almur et al. 2012), which was extended by two further components (Etsy and Winston 2009)—redesign and reimagine—to reach its final stage of the Seven-R framework by incorporating restyle and rewear (Ho and Choi 2012). The Seven-R framework was utilised by Ho and Choi (2012) in a similar context to this research, focusing on a single case study of a Hong Kong-based fashion company. Within this research the framework is applied to a multiple case study approach, focusing on four UK-based micro-organisations. Data was collected in form of an extensive, comparative case study approach, utilising various methodological tools: employee shadowing, semiotics, social media analysis, semi-structured interviews, and questionnaires. A case study approach was seen as appropriate as it is 'an empirical inquiry that investigates a contemporary phenomenon within its real-life context' (Yin 2003, p. 13). Stake (1995) mentions that this kind of research is concerned with the complexity and particular nature of an organisation and is of particular use where the research topic needs to be studied within its context. Thus, this specific research method allows not only for a broader understanding (Punch 2005) of the individual companies but also for an in-depth analysis of the stakeholders' perceptions.

In summary, it can be said that sustainable supply chain initiatives focus on all aspects related to the manufacturing processes, the usage and distribution of a product, the logistics behind individual processes, and activities relating to waste management (Srivastava 2007). Stated alternatively, sustainable supply chain models enable an organisation to identify areas in which waste occurs, whilst furthermore highlighting emerging opportunities to reduce current waste through reusing and

recycling materials as well as re-manufacturing goods (Ho et al. 2009). The Seven-R framework provides a baseline for investigating a micro-organisation's SSCM, highlighting aspect that are well established and challenges that are faced.

7.4 The Seven-R Framework

The Seven-R framework acts as a guideline to analyse components that have been highlighted within the pollution prevention framework that 'shifts the emphasis from controlling pollution once it has been created to preventing its creation in the first place' (IISD 2013). In other words, the Seven-R framework can be utilised to identify areas in the supply chain that might lack attention (Vachon et al. 2001).

The Seven-R framework focuses on: recycling, reusing, reducing, redesigning, reimagining, rewearing, and restyling. 'Recycling' takes economic and regulatory factors into account (Srivastava 2007) and is concerned with the processes by which materials and fabrics are collected and broken down into useful raw materials, which can then be reused within new products (Ho and Choi 2012). The recycling process can take on various forms: on the one hand old textile fabrics can be recycled, shredded, and eventually reused to produce a new garment, and on the other hand consumer waste, such as plastic bottles can be utilised to create new fashion items (Humana Nova 2014). It is noteworthy to highlight that within the UK alone 1 million tonnes of textile fabrics are binned each year, of which 50 % would be recyclable. Nevertheless, statistics indicate that of these 50 % only 25 % are reused or recycled within the UK (EFF n.d.). 'Reuse' focuses on extending a product's useful life by utilising it again in its original form (Ho and Choi 2012). Within the UK government initiatives such as Waste & Resources Action Programme (WRAP) actively encourage the reuse of fashion items, providing workshops that bring together local authorities and the general public to learn about various options available to extend the life cycle (WRAP 2014). 'Reduce' on the one hand focuses on limiting the actual waste materials produced, whilst on the other hand it can also refer to the carbon footprint of a piece of clothing. In other words, not only pattern design and cutting can reduce waste but also 'thinking critically about materials [. . .], which is not an isolated solution, but part of a considered and linked chain of positive choices along the supply chain' (Turner 2012). Moreover, Ho and Choi (2012) highlight that sourcing raw materials locally or even producing within the country may reduce the carbon footprint of a piece of clothing. 'Redesign' is linked to what is known as sustainable design in the fashion industry and emphasises on the *timelessness* of a garment. This implies, the piece of clothing is not bound to seasonality, thus, does not go *in* and *out* of fashion (Joy et al. 2012; Aakko and Koskennurmi-Sivonen 2013). 'Reimagine' links to the production process as a whole and the implementation of new innovative techniques that could enhance the supply chain (Thompson 2012). 'Rewear' is focusing on giving a product an extended life cycle by, for example encouraging a second hand culture (Ho and Choi 2012). 'Restyle' is linked to extending a product's useful life through adding decoration or tailoring it to the person's needs (Ho and Choi 2012).

In summary, this research focuses on the slow fashion industry and micro-organisations, which have been identified as key contributors to environmental pollution (BSR 2012; Wilson et al. 2012). The Seven-R framework not only provides an opportunity to identify areas that, thus far, have been managed well by organisations but also highlights potential challenges they may face. Identifying areas of need furthermore enables organisations to actively engage in and change processes by showcasing innovative behaviour (Choi et al. 2001). Moreover, the Seven-R framework has been utilised previously within a similar context, and has been extended from the Five-R to the Seven-R framework. Thus, this research seeks to apply the framework to a different context to previous studies and extend the model by two further R's: reclaim and reconfiguration.

7.5 The UK Micro-organisation Case Studies: Organisations 1, 2, 3, and 4

Organisation 1 Is owned and run by a single designer and was established in 2007. Currently one full-time and four part-time staff are employed at the firm. Organisation 1's expertise is with women's wear and has been described as a sustainable fashion specialist within the city. Their main focus is on upcycling and recycling techniques. The company produces all its garments within the UK and is exporting globally. Organisation 1 does not have a physical store space and distributes its garments through an array of channels, including online direct sales, marketplace websites, and third party stores.

Organisation 2 Is in its 12th year of existence. Since established in 2002, the organisation has grown steadily and now employs ten full-time workers. The company focuses on the children's wear industry, and more specifically, specialises in kids' shoes. The manufacturing site is in the UK, with the key customers of this organisation being in China, Taiwan, and Singapore. Organisation 2 has both business-to-customer and business-to-business sales. With no physical store, the method of distribution is through their own online portal.

Organisation 3 Is a co-operative that is run and owned by one designer. It was established in December 2012, in conjunction with the Mary Portas fund and governmental support, helping to revive the high street. The shop currently provides employment for four members of staff on a full-time basis. Organisation 3 does not produce any specialised collections, but rather provides a manifold of garments and accessories, ranging from high-end upcycled collections to traditional African-fusion inspired clothes, to vintage bags and jewellery. Organisation 3 is customer facing and based in a city centre location, just off the main high street.

Organisation 4 Is a co-operative, which was founded in August 2012, with only personal funds utilised. The company is equally owned by a group of ten people and managed by one individual designer. The company does not employ any workers *per*

se, but is operated by the founding members. The physical store space is located in a shopping mall just outside of the main pedestrianized high street. Organisation 4 specialises in women and children's wear.

7.6 Seven-R Framework Applied to Slow Fashion Micro-organisations

Before providing a detailed analysis of the Seven-R framework, it is vital to highlight that within this research's context the owner-manager of the individual micro-organisations plays a key part within the supply chain. The introduction emphasised that the owner-manager is not only the sole risk taker of the business but also the decision-maker (Kelliher and Reinl 2009). This has various implications: First, the overall supply chain is developed and designed by one individual, who, in this context, not only decides upon the direction of the business, but also is part of the supply chain. Stated alternatively, the owner-managers only work with like-minded brands and organisations that complement their own values, vision, and goals. Second, the implementation and development of 'sustainable practices' into the business' supply chain solely depends on the owner-manager and their attitude towards 'change'. Depending on how the owner-manager understands and interprets the term 'sustainable fashion', various options are available: Some owner-managers may further enhance their knowledge about sustainable techniques, such as upcycling or recycling, others may feel more strongly about learning about certified raw materials. Third, the data has indicated that relationships with supply chain members (suppliers, agents, and other micro-organisations) and stakeholders (employees, consumers) are vital to the owner-managers, which is a key indicator that the social component plays a major role within these micro-organisations. This links to a previous point: thus far, there is not only a lack of research on the social component in SSCM (Ashby et al. 2012), but also the implementation of SSCM in SMEs is under researched (van Hoof and Thiell 2014). Furthermore, whilst the Seven-R framework provides an opportunity to analyse, in this case, the effectiveness of a SSCM in slow-fashion micro-organisations, the model lacks an R that focuses on the role of the owner-manager, their involvement, and attitude towards sustainability. Within this research, data indicated that the owner-managers' attitude, knowledge, and information they have about sustainability plays a key role in the overall process.

Table 7.1 provides the analysis of the four case organisations according to the Seven-R framework. The second column highlights the findings, the third column provides answers to the first research question: what these micro-organisations are currently doing well, whilst the last column highlights the challenges faced by these businesses.

Recycling All four case organisations produce their garments and accessories locally (within the UK), with three out of four also sharing their facilities with other members of the creative and cultural industry. All studios were equipped with dedicated recycling facilities. Moreover, the owner-managers ensured that the packaging

Table 7.1 Findings

Seven-Rs	Findings	Research question 1	Research question 2
Recycle	Provide recycling facilities in studio Utilise both upcycling and recycling techniques UK-based manufacturing and shared facilities—low carbon footprint Recycled packaging material	Use production techniques that are less harming to the environment Utilise recycled packaging material	Unable to identify origin of raw material
Reuse	Opportunity to provide upcycling and recycling workshops Build collaborations and relationships with stakeholders and supply chain members—allows to exchange 'waste products' and thus extend usefulness of raw material	Develop relationships with supply chain members and stakeholders	Collaboration processes not fully developed
Reduce	Local production and sourcing (where possible) Acquired specialised sewing machine that reduces thread waste Machines have power-saving device, which further helps to reduce electricity	Sourcing process and collaborations	Not all raw material can be sourced locally No control over facility energy efficiency
Re-design	Pattern cutting machines allow for precise cut outs and reduce waste Collections incorporate recycling and upcycling techniques, thus every collection is unique as the raw materials are continuously changing Innovative design that allows fast sewing techniques	Sustainable design	Raw materials used for collections are continuously changing Inefficient design
Re-imagine	Active involvement of society and stakeholders	Long-term relationships that allow co-creation of value	Struggling to create a lean straight-line supply chain process
Re-wear	Actively promote swop-shops and community workshops that educate stakeholders about after 'useful' life options available Actively involved with charity that collects clothing and other accessories to be send to Cambodia, helping children in needs	Promote and educate sustainable fashion	Lack of clarity what entails sustainable fashion

Table 7.1 (continued)

Seven-Rs	Findings	Research question 1	Research question 2
Re-style	Work together with stakeholders to gain best consumer experience	Promote and educate sustainable fashion	Lack of clarity what entails sustainable fashion
Reclaim	Utilise factory waste materials Incorporate traditional tailoring techniques	Rescue material from landfill Recollect traditions	Lack of collaborations
Reconfiguration	Close relationship with their supply chain members and stakeholders Actively involve them in business decisions Owner-manager creates the organisation as version of themselves	Building and maintaining long-term relationships Keep communication constant	Lack of guidelines

material utilised is not only recyclable, but also produced from recycled materials. In the same vein, the majority of the case companies employed sustainable production techniques: upcycling (making a new, different product out of an old one) and recycling (mending and changing existing products). Whilst these practices fit in well within SSCM, a challenge that emerges is the fact that the origin of recycled fabrics cannot always be determined. In terms of the sustainable fashion industry, which prides itself on producing garments that are not only less harmful to the environment, but also produced in good working conditions (Liggett 2010; Barnard 2014), this cannot be guaranteed for the raw material.

Reuse The data highlighted that the case companies promote and facilitate upcycling and recycling workshops, which are geared towards stakeholders interested in extending the useful life of their garments. Through these workshops the owner-managers establish close relationships with various stakeholder groups that provide the opportunity to co-create value (Lusch and Vargo 2006). Stated alternatively, incorporating the social component of the TBL plays a significant role for these micro-organisations, providing them not only with a competitive advantage through co-creating value (Lusch and Vargo 2006), but also by establishing a bond with their stakeholders, which can lead to greater brand loyalty (Hallawell 1999; Yang and Peterson 2004). Although this aspect is positive not all of the focal companies have managed to establish close relationships built on mutual trust. Identifying the perfect fit between the organisations and stakeholders that can co-create value and thus enhance the competitive advantage is challenging and takes a long time (Vernette and Hamdi-Kidar 2013).

Reduce The companies are not only based in the UK, but also produce and source (where possible) locally. Throughout the data collection, it became apparent that the owner-managers saw this as their key competitive advantage and highlighted that this is the main reason for them to classify their businesses as being sustainable. Moreover, the majority of participants have sewing machines that automatically cut off threads to reduce wastage, as well as have a built in electricity saving device. The data indicated that these micro-organisations foster long-term relationships, which can start as early as the initial idea of when the business is born to a more mature stage. These relationships provide the organisations with valuable opportunities by collaborating and working together closely with their stakeholders and members of the supply chain. Although each company seeks to utilise energy efficient machinery and locally produced raw materials this is not always possible. The plastic packaging for one of the garment producers for example cannot be produced locally, but has to be imported from Asia. Moreover, only one out of the four organisations owns their premises and is able to make a conscious decision on which electricity providers or light bulbs to use. Thus, whilst the owner-manager would like to be more environmentally conscious, this is not always possible, due to either restrictions in the ownership agreement or availability of resources on the market.

Redesign The garment design is influenced by the owner-managers educational background and focuses strongly on sustainable design, which emphasises on the

timelessness of a garment. This implies the piece of clothing is not bound to seasonality, thus, does not go *in* and *out* of fashion (Joy et al. 2012). Moreover, specialist machinery allows accurate pattern cutting that leaves hardly any waste materials. This implies that these micro-organisations decrease their environmental impact by reducing the materials they are using within their production processes. However, due to their main production methods (upcycling and recycling techniques) the owner-manager has to continuously work on varying designs and amend them according to the raw materials available. This means that the actual design and production process needs continuous time investment, which implies financial costs.

Re-imagine In order to continuously redevelop their fashion collections the individual owner-managers seek to actively involve their stakeholders and society in broader terms in their production processes. Through workshops, pop-up events, tradeshows and festival visits these micro-organisations engage with people interested in their brand and seek to involve them in feedback sessions, which are sometimes incentivised by give-away competitions. However, data indicated that the interactions between stakeholders and the organisations lessen over time and might even come to a complete hold once incentives are stopped. Moreover, owner-managers find it challenging to decide which suggestions to take into account. From the in-depth research it became apparent that the daily routines and the overall business processes felt unguided, which left the overall supply chain unstructured. In other words, they struggle to create lean supply chain processes as they continuously redevelop their garment collections and implement changes to the products.

Re-wear Each owner-manager believes that sustainable fashion is more than simply designing upcycled and recycled garments. The findings indicated that they have a passion for creating garments that not only provide pre-loved items with an extended life cycle, but also seek to encourage people to wear their fashion items longer. Thus, the majority of the case companies get involved in promoting the UK's second-hand culture by putting on swop-shops, whereby stakeholders can exchange unwanted garments. Moreover, one organisation went into partnership with the Hope Agency, a charitable organisation helping Cambodian children in need. This specific owner-manager encourages her stakeholders to donate clothing and soft toys for this specific cause. Thus, it can be said that all owner-managers seek to educate their stakeholders about what 'sustainable fashion' means to them, which can range from producing fashion with sustainable techniques, providing workshops on upcycling, or extending the usefulness of individual garments by donating them to charitable organisations. This highlights that sustainable fashion can mean different things to different people. Although the owner-managers all promote rewearing garments, they also actively encourage stakeholders to purchase their newest collections.

Re-style Similarly to reimagine, restyle implies that stakeholders are incorporated in production processes to co-create value (Lusch and Vargo 2006), not only in terms of the garments, but also in terms of the overall shopping experience. However, as has previously been mentioned, the owner-managers are the sole risk takers and decision-makers in the organisations, whilst they take suggestions and advice into account, the final decision lies with the owner-manager. This implies that it depends

on their understanding of the term sustainable fashion and hence their decisions on what they see as appropriate and complimenting their current fashion lines.

Reclaim This theme emerged throughout the data collection and, to our knowledge has not previously been discussed. Reclaim implies incorporating factory waste, such as off-cuts or faulty material, into the new garment collections as 'highlight' pieces. It also refers to 'reclaiming' traditions, in that the UK used to be a hub for the textile and fashion industry, however, the majority of factories and cotton mills closed down with the industrial revolution leading to globalisation. The owner-managers seek to incorporate traditional manufacturing techniques into their garment collections, as they feel proud of their heritage and believe that the job of a traditional seamstress should not die out. Although, theoretically speaking, incorporating 'reclaim' into the production process is beneficial as it adds heritage and thus a competitive edge to the product, due to their size and financial opportunities these micro-organisations struggle to establish long-term collaborations.

Reconfiguration Reconfiguration focuses on the social aspect associated with the individual micro-organisations. Through close relationships with their supply chain members and stakeholders the owner-managers seek to co-create value, which ultimately leads to higher sales turnovers. In other words, by incorporating their various members into the decision-making processes the owner-managers make them a vital part of the business, create brand loyalty and provide greater satisfaction to their stakeholders, due to them (members of supply chain and stakeholders) being able to voice their opinion and bring their ideas into the production process. A challenge that these micro-organisations face however is to be able to guide the process of value co-creation. As previously highlighted change can occur at any time, which implies that there are no set guidelines and structures in place that provide any party involved with information on how to act in or contribute to the process.

7.7 So What?—Discussion of Findings

There are various observations that can be made from the analysis: First, a traditional supply chain was described as comprising of five parts: raw material, industry, distribution, consumer, and waste (Ho et al. 2009). Throughout the analysis it became apparent that the product, design, and sourcing process seem to be key parts of a micro-organisation's supply chain. In other words, the supply chain within a micro-organisation incorporates the following aspects: initial design considerations of a product, the material choices, the sourcing and production process, the initial product, its distribution, the consumer, and the end-of-life treatment. Although the order of the individual stages can be changed, this research highlighted that in order to produce sustainable fashion garments decisions on design, sourcing and the product itself need to be accounted for. This implies that within this research four stations, which, depending on the owner-manager, can be interchanged, extend the traditional

five components of a supply chain. It is noteworthy to highlight that the owner-manager, as the sole risk taker influences all parts of the supply chain and makes the final decisions. Although all stages were present within the four micro-organisations, their positioning varied within their individual supply chain mapping.

Second, similar to what has previously been described, the owner-manager plays a central role within any part of the Seven-R framework. This finding is not surprising, as micro-organisations have been characterised as being strongly influenced by their sole risk taker, who guides the direction of the business and, in this case, refers to the owner-manager (Kelliher and Reinl 2009). It is their innovations, ideas, and product designs that bring the business forward (EC 2013) and guide the overall direction of the organisation. In other words, the owner-managers are the drivers and motivators in either shifting their supply chain towards SSCM, or initially set up their business following sustainability aspects and practices. Although, as has been highlighted, the organisational processes are often unguided and lack structure, the owner-managers are open to suggestions and can adapt to changes in the environment quickly, which provides them with a competitive edge.

Third, the owner-managers seek to incorporate their stakeholders (employees and consumers), as well as their supply chain members (suppliers and agents) into the SCM process. This observation links to gaps in the literature: the fact that social aspects within SSCM (Seuring and Müller 2008; Ashby et al. 2012) are lacking, as well as what the extent of sustainability related demands are that are integrated in an SME's supply chain (Acosta et al. 2014). This research distinguished between two groupings that are engaged with the individual micro-organisations: stakeholders and supply chain members. Stakeholders in this research comprise of employees and consumers, who have the opportunity to be involved in both the up- and downstream process of value co-creation (Vernette and Hamdi-Kidar 2013). This implies that within the upstream co-creation process, stakeholders are asked to contribute ideas and suggestions during the product development phase. Thus, the organisation makes use of their stakeholders' input before the product is sold on the market (Vernette and Hamdi-Kidar 2013). Contrariwise, downstream co-creation focuses on suggestions made and feedback given by stakeholders once the product is readily available on the market and stakeholders had the opportunity to experience its functionality (Vernette and Hamdi-Kidar 2013). Supply chain members on the other hand are predominantly asked for advice on packaging and materials rather than the actual products. Stated alternatively, the individual owner-managers actively engage their stakeholders and supply chain members in the product creation processes. Linking this back to the Seven-R framework, micro-organisations incorporate these two groupings at various stages in the pollution prevention process, including, but not limited to reuse, redesign, reimagine, restyle, and reconfiguration. Thus, one can see a triangular relationship, in which the owner-manager seeks advice from outside groups whilst taking charge of the supply chain and the implementation of pollution prevention practices. Whilst the owner-manager makes the final decisions in terms of what they feel compliments their companies' values and goal settings, they also seek advice and guidance from them. Although these three parties are in constant communication it is noteworthy to highlight that the owner-managers act as anchor companies (Meechan 2014) in that

they stimulate and drive change. These owner-managers see sustainability not simply as an add-on strategy, but rather as the core of their business. The owner-managers are conscious to incorporate sustainable production techniques and purchase machinery that helps reduce energy levels. Whilst the owner-managers do not keep track of any improvements that result from changes implemented, they ensure that their partners comply with their regulations, values and guidelines. Thus, it can be said that sustainability or the way they interpret it as individuals and as businesses is an integral part of who they are, thus in order for these owner-managers to establish relationships, especially their supply chain members need to comply with their values, which has also been remarked in the literature (Friedman 2008). Moreover, without the active involvement of stakeholders and incorporating their ideas and suggestions into their organisational processes, these micro-organisations would not be who they are. Stated alternatively, the social aspect provides the four case companies with a unique selling proposition that not only allows them to produce garments and accessories that cater for their consumers' needs, but also create loyalty to their brand and overall organisation by making stakeholders and supply chain members part of the business.

Within their research, Ho and Choi (2012) highlighted that companies 'must take a top-down approach and have their leadership committed to sustainability targets' (p. 171). This research however has indicated that within these four micro-organisations the social dimensions of SSCM plays a significant role: Rather than a top-down approach the owner-managers seek out a bottom-up approach that allows the incorporation of stakeholders and supply chain members into their overall organisational processes. The data indicated that the owner-managers and their various groups involved in the organisations build a seemingly symbiotic relationship, in which all members gain benefits, which may include, but are not limited to consumer and employee satisfaction, and higher sales turnover for organisations.

Last, this research has indicated that there might be two further Rs that concentrate on pollution prevention: reclaim and reconfiguration. Reclaim focuses on going back to the roots, which implies incorporating traditional techniques into the production processes, as well as focusing strongly on heritage. Heritage can be seen as a competitive edge, which, especially since the various factory incidents in the fashion industry (e.g. Parveen 2014), has increased in importance. Moreover, reclaim strongly links with the social aspect of SSCM as it seeks to provide job opportunities and business for local people and factories. Furthermore, this R highlights collaborations and waste reduction in that it outlines the materials used in the production process (offcuts, waste). Reconfiguration solely focuses on the social aspect of SSCM. Although it could be argued that reconfiguration is not directly related to pollution prevention, the contrary is argued: the involvement of stakeholders and supply chain members allows these micro-organisations to not only work closely together with their potential consumers and thus cater for their needs and wants more effectively, but also it allows these micro-organisations to educate these two groupings about sustainability and 'sustainable fashion'. Thus, in an ideal case, reconfiguration leads to a change in consumer behaviour.

In summary, Fig. 7.1 provides a simplified visualisation of what has been discussed: The dark grey shaded box on the left hand side symbolises all available tools

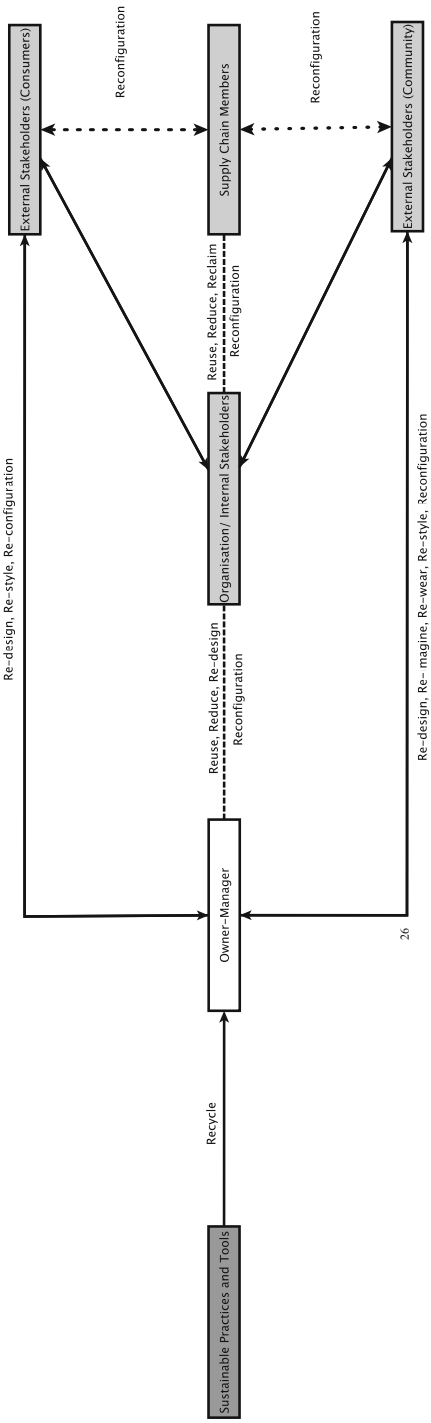

Fig. 7.1 SSCM in micro-organisations—Micro-SSCM

and practices to these micro-organisations, which include, but are not limited to eco-labels, certified materials, and sustainable production techniques. This box links to the owner-manager, who is the sole risk taker and decision-maker of these micro-organisations and thus the key to successfully implement any measures relating to pollution prevention. Due to the organisation being described as the extension of the owner-manager themselves a dotted line was utilised to indicate this relationship with the organisation/internal stakeholders. The boxes on the right hand side split the 'external stakeholders' into various sub-categories: supply chain members, which are dealing directly with the organisation and whom the owner-manager has the most control over. This, as highlighted, is due to the owner-manager being able to choose whom they are working with. The second grouping is external stakeholders, which is composed of consumers and the community in more general terms. Contrariwise to the supply chain members, the owner-manager does not have any control over their involvement in the business. The relationship between the micro-organisations and the Nine-R framework is shown by imposing the individual categories on top of the various arrows (Fig. 7.1). The graphic highlights that the individual owner-manager provides the direction for the business, influences both, the Nine-R framework and a micro-organisation's supply chain. In other words, the owner-manager influences and in a way controls all aspects of the supply chain, as well as is in charge of which pollution prevention practices are implemented. Reconfiguration was purposefully separated from the other components of the Nine-R framework, as it focuses on the social component of the supply chain. Both stakeholders and supply chain members provide guidance and feedback to the owner-manager, which, depending on their own personal values, are incorporated into the supply chain.

7.8 Further Investigations

The fashion industry is one of the only industries that is still truly competitive (Easey 2009; Europa 2013) with micro-organisations playing a key role in the overall economy (Ward and Rhodes 2014). The fashion industry is described as one of the most polluting industries (Egan 2011; BSR 2012), which also has seen the emergence of government initiatives supporting the implementation of sustainable practices. This chapter has highlighted that within this research there is a strong link between the owner-manager, stakeholders, and supply chain members. The owner-manager incorporates the latter two into the decision-making process through a bottom-up approach. Whilst this aspect contributes to the literature in that it indicates how important the social component is within SSCM, further research could look at this relationship in more detail, and thus, investigate if the various members are equally involved, or if they are only incorporated at certain stages in the supply chain. Moreover, future research could investigate whether the move to a more sustainable supply chain also increases the development of knowledge networks, in terms of closer collaborations with other stakeholders. Furthermore, within this specific context, this research suggests that in micro-companies the Seven-R framework could be modified and amended to combining 'recycling' and 'reusing', and 'restyle' and 'rewear'

within one component. Furthermore, as highlighted two further components are added: 'reclaim' which links to the sourcing of materials, as well as actively encouraging people to bring the brand's unwanted garments back to the organisation and 'reconfiguration', which puts further emphasis on the social component of SSCM.

7.9 Conclusion

This chapter has highlighted that changes in the fashion industry are emerging: governmental initiatives and introducing ethical practices are part of the new landscape. This emphasises the importance of further investigating issues surrounding SSCM. This research has contributed to existing literature by investigating various understudied fields: micro-organisations, the creative and cultural industries, and SSCM. This chapter has reviewed the Seven-R framework to establish challenges in SSCM. Focusing on four case studies in the UK context provided a further insight to an under researched field. As suggested, further research should be conducted to investigate the relationship between the social component of SSCM and the individual stages in the supply chain process.

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