

Influence Towards a Sustainable Cashmere Supply Chain: A Case Study of a Medium Sized Luxury Fashion Manufacturer in Scotland

**Brigitta Danka
Anna Grochowska
Kim van Rijt**



Blekinge Institute of Technology
Karlskrona, Sweden
2017

Examiner: Henrik Ny Ph.D.
Supervisor: Professor Karl-Henrik Robèrt
Primary advisor: Cecilia Bratt
Secondary advisor: Alexander Craig

Influence towards a sustainable cashmere supply chain: a case study of a medium sized luxury fashion manufacturer in Scotland

Brigitta Danka, Anna Grochowska, Kim van Rijt

Blekinge Institute of Technology
Karlskrona, Sweden
2017

Thesis submitted for completion of Master of Strategic Leadership towards Sustainability,
Blekinge Institute of Technology, Karlskrona, Sweden.

Abstract: What other means of influence exist in business other than economic? That is the question we set out to answer in regards to the fashion industry and the specific supply chain of cashmere. The cashmere industry has been described as complex, therefore the research has taken a complex adaptive systems approach to investigate how relationships between parts give rise to the collective behaviours of a system and how the system interacts and forms relationships with its environment.

This paper describes a qualitative case study research conducted to identify the potential influence that a small to medium enterprises can have on their supply chain actors to steer them towards sustainability. Looking specifically at the supply chain of one Scottish cashmere manufacturer within the luxury fashion industry we have assessed this company's current reality to the Framework for Strategic Sustainable Development.

This paper aims to present enablers and barriers towards influence, their correlations and complexity when looking at sustainability. In addition it will provide prescriptive thoughts for SMEs to support internal and external transition through sustainable development towards a sustainable cashmere supply chain.

Keywords: influence, textile industry, Sustainable Supply Chain Management (SSCM), cashmere, Framework for Strategic Sustainable Development (FSSD), Small to Medium Enterprise (SME)

Statement of Contribution

With the knowledge gained from the MSLS programme, we approached sustainability challenges in the cashmere industry to combine future environmental wellbeing and business continuity. We are pleased to present a realistic prospect that can incorporate the continuation of profitable activities in business whilst still respecting the surrounding beauty of the world. We hope that this paper will contribute to the positive transformation of fashion businesses in the future and we believe that the people we met on our journey can truly make these changes happen. This paper wouldn't have come together without trust, friendship, commitment, compromises and hard work as foundational building blocks. The writing process as a group project was a challenging experience for three women from different countries, cultures and with different personalities, however the academic result is only a part of beautiful experience we have been through, and unfortunately for the reader, the best part isn't on paper, but in our hearts and memories as precious treasures.

Anna and Bri about Kim:


Soul of our group. Blue-eyed smiling Dutchie with a gorgeous voice. The puff of positive attitude, energy and creativity that brings new and fresh insights not only in our work but also in our lives. The definition of 'thinking outside the box' and an efficient producer of trigger questions. Hard working and scrupulous. Devoted reader of copious academic papers, that she both denounces and respects at once. Open minded and self aware, coffee and salty liquorice lover, that can curse in five languages. Solid rock and voice of reason in emotional storms, supportive and understanding company for hard times. Her day has 48 hours.

Kim and Anna about Bri:

Australian-Italian-Hungarian smiling volcano of energy and emotions. Passionate and devoted, strong willed change maker ready to face the biggest sustainability challenges. Smart analyst with a broad understanding of interconnected issues due to her professional fashion industry background. Ambitious and hard working writer with some awesome editing skills. Excel and results savant. Devil's advocate with great communication skills. Great support for non-native speakers. Great challenge for non-native speakers; that Aussie accent! Joyful globetrotter always ready to explore new lands and build relations with new people. Fashion and hot cross-bun lover.

Bri and Kim about Anna:

Polish Anna. The loveable Pea afloat in a warm and welcoming emotional sea. Wit and humour and endless laughs are never far away when the curly haired bun comes bouncing along. Smiles for miles, this woman has a will of steel and a backbone of titanium, nothing will stop her. Except food, and the need to feed people, and shoes, all the shoes. Realist extraordinaire. Structure queen of the essay. Work horse of the group. Sustainability and fashion lover, always seeking the best answers to the biggest problems. Pointing out that really obvious thing Bri & Kim missed when they got too analytical. The goats, they are no suffering.



Brigitta Danka



Anna Grochowska



Kim van Rijt

Acknowledgements

We would like to thank our primary advisor Cecilia Bratt for her thoughtful guidance, belief in our abilities and caring approach throughout the duration of our thesis process. Her immense knowledge and recommendations on sustainable supply chains helped us gain the insights we needed to write this paper. We are also grateful for our secondary advisor Alexander Craig, who helped steer our overwhelmingly divergent ideas into the streamlined logical thesis you see before you.

We would like to express our most profound gratitude and appreciation to Ian Whiteford, Sustainability and Compliance Manager of Alex Begg. Your organisational support and warp speed replies to our questions were invaluable. Thank you for your inspiring and supportive attitude throughout the process and providing us with the deep understanding of the cashmere sustainability challenges faced by the industry. We were so grateful for the warmth and hospitality offered during our visit to Scotland by Ian and the Alex Begg ‘family’, this trip will always be a fond memory for us.

We feel very fortunate to have met the Alex Begg and Lindéngruppen employees who took the time out of their busy days to participate in our research interviews, without their participation we would have no thesis. A special thanks goes to: Liam Convery, Lorna Dempsey, Margaret Johnson, Jenny Johansson, Ian Laird, Moira Leishman, Brian McDonald, Helen McGill, John Sheridan, Emily White and David Woodhouse. Your contributions have been crucial for us in comprehending the topic of our research. Thank you for your trust and sharing your knowledge and experience and for the warm welcome to Alex Begg, we truly felt like part of the team. Thank you for proving that in business, people are still the greatest value in an organisation.

It must also be highlighted that we would not have reached this level of understanding of the Mongolian social and ecological challenges without the instruction and assistance received from Una Jones, CEO of Sustainable Fibre Alliance.

Additional thanks go to the Alex Begg cashmere supply chain partners that took part in this research and for their experienced insights and contribution to our learning.

We would like to thank our CRAFTY thesis partner team whose level headed German/Dutch approach helped keep us on the straight and narrow when our more emotional tendencies led us astray: Rebecca Stenger, Tom Thomaes, Marius Westphal your attention to detail and logical minds were greatly appreciated in your feedback, if we get lost in the forest again we’ll call you.

Additional thanks to Ad Verbrugge and Brent Pettey for proofreading our thesis and helping give us an additional level of feedback.

Last, but certainly not least, a gigantic thank you to all our family and friends, here in MSLS and all across the globe. You have been a boon of support to each one of us on this journey of personal and academic learnings; words cannot express our gratitude for each and every one of you.

Executive Summary

Introduction

Throughout most of human existence our interaction with the earth and our impact on the biosphere were almost indistinguishable. With the onset of the Industrial Revolution in the 18th century a threshold was met when global society grew in not only population size, but also industrial and technological power (Robèrt et al. 2015). In order to confront such an exponentially challenging problem it has become necessary to acknowledge the complexity of the system this challenge sits within. The ecological and social elements of the Earth system reside in an interconnected network dependent on uncountable and unpredictable interactions between parts (Robèrt et al. 2015). Thus this paper takes a systems thinking perspective on the described interconnected global issues as a foundation to address and solve the systematic sustainability challenge.

In response to this sustainability challenge, people from various sectors are attempting to build a socially and ecologically sustainable society that is able to develop without destroying fundamental life-support systems and creating well-being within ecological limits (Robèrt et al. 2015). Within this understanding organisations are in a unique position due to the globalised nature of business to have significant responsibility and influence on sustainability on a global scale. Businesses may be able to influence, but they also directly and indirectly contribute to sustainability issues when they run on an over-consumption and abnormal understanding of ‘growth’ (Willard 2012).

One industry that operates on a global level is the fashion industry, with a complex network of suppliers and retailers that span the globe and built upon millions of interdependent, cross-continental actors (Encyclopaedia Britannica 2017). According to the Textile Intelligence Report (2008), consumption of textiles per person has risen at a rate almost four times the world population grew between 1950 and 2006. However, among the broad spectrum of fashion brands currently in the marketplace, we can see the emergence of increasing awareness of sustainability within the fashion industry. Today, there are some companies that believe their products and services will improve the quality of life for the employees and customers they serve (Burberry PLC Group 2017, Louis Vuitton 2017, Prada Group 2017). This shift towards sustainability emerged from the luxury sector following a need to guarantee quality. This inadvertently influenced elements of sustainable business practices, such as traceability of their supply chains. One fashion product viewed as a luxury material is cashmere, a fibre that comes from the cashmere goat. However, what was once a market for expensive and highly sought after cashmere products has been flooded with lower quality, low-cost products that are part of the fast-fashion market (Abnett 2015).

Consequently the cashmere industry is facing increasing environmental and social sustainability challenges located primarily in Mongolia and Inner Mongolia (See Appendix A). The removal of governmental limits for goat ownership and the rise of the mass-fashion cashmere market caused the land to be overexploited from goat herding. This process has led to the degradation and irreversible changes of grasslands into desert (Kohler et al. 2005). Observable changes are noticed from temperature fluctuations, water availability (droughts) and extreme winter conditions and animal welfare is under threat (Abnett 2016, Burberry PLC Group 2017). There is lack of traceability in fibre production from a single goat to the global cashmere wholesalers (Whiteford 2017). Consequently, local sustainability issues in the

source regions are difficult to address and solve. We can also observe social dilemmas related to environmental issues: ‘tragedy of the open access’ (Hardin 1968) and ‘prisoner’s dilemma’ (Flood and Dresher 1950, Surhone et al. 2010), where farmers overuse and exploit a common access area (grasslands). Sustaining the tradition of breeding cashmere goats and environmental protection is crucial for the longevity of the industry. The current herding communities face poverty, urbanisation, lack of access to education and displacement (Jones 2016). To conclude, the cashmere supply chains could be considered a complex highly dynamic market with unclear market boundaries, nonlinear and unpredictable directions (Eisenhardt and Martin 2000).

Research can contribute to new sustainability practices in supply chain management for the cashmere industry and the research field of sustainable supply chain management (SSCM) is an increasing academic field (Touboulic and Walker 2016). SSCM sits in the field of corporate social responsibility (CSR). Within current literature we identified some challenges regarding the implementation of SSCM. Towers, Perry and Chen (2013) state that the supply chains of luxury manufacturers have become more complex and global; Bratt (2014, 199) describes that “most SSCM approaches...rarely go beyond first tier and thus without any systems perspective”. Therefore this research takes an interconnected and nested approach to the SSCM field.

This research aims to provide forward-looking prescriptive management support, consequently we have focused our research on the barriers and enablers for an SME to influence its supply chain towards sustainability. Hence, we asked the following research question (RQ):

What enables and what hinders a manufacturing small to medium enterprise (SME) in the cashmere industry to influence their supply chain towards sustainability?

We decided to use two supportive sub-questions. Firstly, to analyse the current reality of an SME in a cashmere supply chain and identify both the SSCM practices they apply and those they do not, and secondly, based on the interviews we conducted, we identified what were seen as enablers and barriers to influence through the following two sub-research questions:

- (1) *What practices in SSCM does the case study SME use today in order to have a sustainable cashmere supply chain?*
- (2) *What enablers and barriers were identified as “influencing factors” towards a sustainable supply chain?*

Research Approach, Setting and Design

The methodological approach chosen for this study is based upon the “interactive” Qualitative Research Design model (Maxwell 2013). This approach frames the components of goals, conceptual framework (CF), research questions, methods and validity as different parts of an interconnected whole which each simultaneously influence the others. Taking a single case study approach, this research studied Alex Begg (AB) as a company based in Ayr, Scotland. The company is an SME manufacturer of woven textiles and currently takes a proactive stance towards sustainability.

The research was designed to occur in four phases, each addressing a specified step towards answering the overarching research question: (1) Exploratory Phase: Determining the Goal and Scope, to understand the larger system the company sits within through an intersystem analysis and then understanding in greater detail the company itself. This phase lead to a

literature study and then was followed by the two main phases of our research. (2) Phase 1: Development of the Conceptual Framework (3) Phase 2: Data Collection and Analysis After which the (4) Concluding Phase interpreted the data collected, which has been presented in a Discussion and Conclusion.

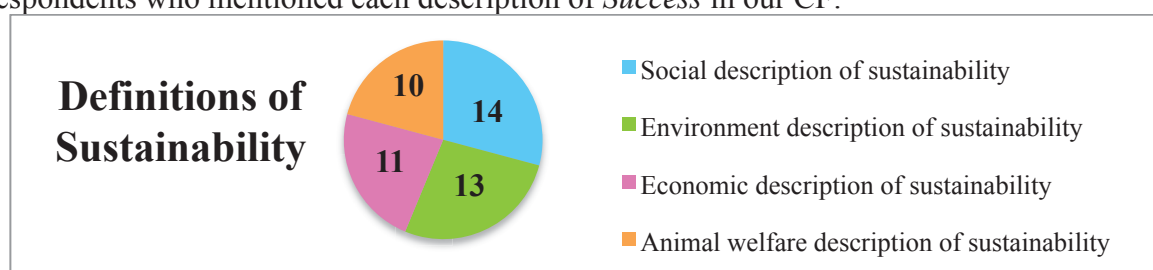
Phase 1: Designing the Conceptual Framework

This phase of the research aimed to find a suitable CF to formulate the interview questions and to structure and analyse the data applicable to our research scenario. After the exploratory interviews a more in depth literature review aided the researchers in developing the CF. To identify sustainability and influence within a supply chain the Framework for Strategic Sustainable Development (FSSD) was used due to its comprehensive nature to understand complex issues, and then built upon to analyse this particular phenomena. The researchers kept the FSSD definition of a nested System. At the Success level the FSSD’s Sustainability Principles were expanded upon to include the Nutag Framework’s (from a cashmere NGO Sustainable Fibre Alliance) definition of animal welfare to the definition of success. The analysis of an SME required more explicit economic definition of sustainability and thus was incorporated to account for business continuity and economic sustainability. The FSSD Strategic Guidelines were deemed appropriate to this research and not expanded beyond backcasting and three Prioritisation Questions. For the Actions level a literature review lead the researchers to using Pagell & Wu’s (2009) list of SSCM practices as a baseline assessment measure of actions. An expanded list of supply chain practices was kept to allow for emergent trends should they arise when coding. Finally, the Tools level used measurements that were already in use such as GRI, ISO (9000, 14001) and supplier audits based on international standards of methodology.

Phase 2: Data Collection and Analysis

Using the CF developed in Phase 1 the researchers then built questions to be used in a semi-structured interview format with the case study company. There were 12 interviews conducted with a cross sectional selection of employees taken of AB spanning facility operations to design to the managing director. Additionally a cashmere supplier to AB, the CSR and Communications manager from AB’s parent company Lindéngruppen, and the CEO of Sustainable Fibre Alliance, an NGO that AB currently cooperate with, were interviewed. Coding and analysing the data was done through double blind coding. The codes were discussed by the researchers and collated in a spreadsheet with all the elements from the CF. A deductive approach of predefined codes set by the literature review was taken. After the internal discussion additional inductive codes were added when a practice seemed not to fit in the preliminary defined organizing framework.

The results of analysing through the CF allowed the researchers to collate a clear gathering of data across a five level framework to understand their complex scenario. At the *Systems level* nine people of fifteen have a nested understanding. The graph below shows the number of respondents who mentioned each description of *Success* in our CF:



Within the *Strategic Guidelines* and the three prioritisation questions asked, ten respondents (67%) identified (1) Return On Investment (ROI); nine respondents (60%) identified (2) Doing the Right Thing; and five people discussed (3) Flexible Platform. At the *Actions level*, using Pagell & Wu's (2009) practices, we identified three additional practices within the greater literature reviewed. The list of all identified practices can be viewed in Appendix F. Below are the top ten practices currently being used by AB:

#	Pagell and Wu subsection for SSCM	Practice
1	Commonalities, Cognitions and Orientations	Touchstone value, that guides businesses
2	Commonalities, Cognitions and Orientations	Proactive stance and organisational commitment
3	Sourcing: SCM	Traceability
4	Reconceptualising the chain	Reconceptualising what the chain does
5	Sourcing: SCM	Collaborate with suppliers
6	Invest in human capital: SCM	Commitment to employees (high quality work)
7	Other practices not bundled	Collaborate with customers
8	Commonalities, Cognitions and Orientations	Fitting sustainability in the business model
9	Sourcing: SCM	Supplier certification / auditing
10	Operations: SCM	Total Quality Management

Finally, at the *Tools level* of analysis eight people (53%) identified supplier certification and auditing as the key tool to measurement to success.

Enablers and Barriers

From our interviews with AB the following list of enablers and barriers to influencing their supply chain towards sustainability was identified. Further elaboration and interpretation can be found in Chapter 4 and 5.

Enablers: collaboration, shared vision, customers demands, trust, ability to convince other actors, being a role model, technological innovation, clear company values.

Barriers: complexity of supply chain, middleman in supply chain, prioritizing 'X' over sustainability, misunderstanding/lack of internal definition of sustainability, perceived quality (100% cashmere), limited economic leverage, consumers unaware of the true cost of cashmere, lack of trying due to lack of belief in possibility, lack of resources, high cost of sustainable production, consumers under valuing clothing, blind trust.

Discussion

To answer the RQ it was deemed important to understand the current reality of AB to be able to offer prescriptive insights about where the leverage points to influence towards sustainability are within their supply chain. Therefore we describe complexity and correlations between identified enablers and barriers to influence. Secondly, we present an overview of the prescriptive thoughts within SSCM for the case study SME that might be assessed for other companies in the future.

The identified enabler and barrier of *Complexity of a supply chain, limited economic leverage, lack of trying due to lack of belief in possibility and lack of skilled human resources* might be approached and solved with *collaboration* across the whole value chain. The barrier *middleman in supply chain* may be overcome by reflective enablers: *trust, ability to convince other actors* to sustainable practices and *technological innovation*. *Shared vision and clear company values* are suggested as positive responses for *misunderstanding/lack of internal definition of sustainability*. *Prioritizing 'X' over sustainability* in internal processes can be hurdled by *clear company values* in decision making process. Necessity of *perceived quality (100% cashmere)* might be overcome by *customers' demands* for the products made of recycled materials produced as a result of *technological innovation and ability to convince other actors* to make a shift towards closed loops solutions. *Being a role model and ability to convince consumers* might resolve a problem of *lack of awareness of the true cost of cashmere*. *High cost of sustainable production* could be addressed by *ability to convince other actors* via efficient communication of the 'real costs' and *customers' demand of sustainability*. As researchers, we identify a challenge in *consumers under valuing clothing*, therefore *ability to convince* them for shift from 'quantity' to 'quality' and mentioned *cooperation* are suggested. Last but not least, we identify *blind trust* that might be overcome by clear internal and external communication.

Then, in order to influence a supply chain one could say that a business must try to apply as many practices that are within their realm of influence. Taking this approach we analysed the 'best practices' in the current reality of the case study that seem most effective in overcoming some of the challenges that face SMEs and identified six prescriptive steps. (1) Top Management Decision; (2) Shared Understanding of Success; (3) Company wide commitment and integration; (4) Collaborative Sourcing: traceability and supply chain mapping; (5) Collaboration throughout the value chain; and (6) Clear Communication of Sustainability.

Conclusion

This paper concludes that it is important to strategically approach this transition by taking the six steps into consideration that have been proposed from this case study. The identified enablers create positive breeding ground for an SME to manage its supply chain and aim towards sustainability with other actors. The barriers that were identified are proposed to be located and overcome strategically. It is suggested to take a close look at both the systems and success level of a company, to constrain it with SP boundaries to ensure a good environment for current and future generations. We suggest to analyse the SSCM literature and choose which actions overcome the barriers identified to allow the company to overcome them. One could take into account to look first within, before moving towards influencing other actors.

Our primary audience for the conclusion are SMEs that have an interest in, or are challenged by influencing their own supply chain to become more sustainable. Striving towards a supply chain and products that provide meaning, a sense of reward and pride, as well as increasing economic welfare for all actors in the supply network is an admirable and highly encouraged goal.

Glossary

Adaptive Capacity: The capacity to change and adjust to the sometimes quickly-changing environment and is the essence of what allows them (socio-ecological systems) to be sustainable over the long run (Robèrt et al. 2015, 109).

Backcasting: A strategic planning method where planners first create a future vision of success, and then ask, “What do we need to do today to reach this vision?”

Biosphere: The biosphere is the global sum of all ecosystems, the place where life exists. It stretches approximately from the top of the lower atmosphere down to the bottom of the lowest layers of soil and ocean sediment where the Earth’s crust begins.

Brand Extension: Brand extension or brand stretching is a marketing strategy in which a firm marketing a product with a well-developed image uses the same brand name in a different product category. The new product is called a spin-off.

Brundtland Report: Report by the World Commission on Environment and Development, which proposes a 'global agenda for change' and specifies how sustainable development can be achieved.

Consumption: “Functional attempts to improve individual and collective well-being by providing the goods and services necessary to meet people’s needs and desires’ is called ‘a consumption’ in conventional economic understanding” (Begg, Fischer and Dornbusch 2003).

Dynamic Capabilities: “The firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments” (Teece, Pisano, and Shuen 1997, 515).

Global Reporting Initiative (GRI) - The GRI Standards represent global best practice for reporting publicly on a range of economic, environmental and social impacts. Sustainability reporting based on the Standards provides information about an organisation’s positive or negative contributions to sustainable development.

Manufacturer: Manufacturing is the value added production of merchandise for use or sale using labour and machines, tools, chemical and biological processing, or formulation.

Obsolescence (product): Obsolescence is the state of being, which occurs when an object, service, or practice is no longer wanted even though it may still be in good working order.

Organisations: “is any group of people that have a shared purpose, such as businesses, national and provincial governments, local municipalities and non-governmental organisations” (Robèrt et al. 2015, 15)

Researchers: The authors of this paper: Brigitta Danka, Anna Grochowska, and Kim van Rijt.

Retail: Retail involves the process of selling consumer goods or services to customers through multiple channels of distribution to earn a profit.

Return On Investment (ROI): Political, social, cultural and financial returns to support resources, momentum and/or support for an organisation.

SEDEX: a not-for-profit organisation that works with businesses to help them manage the ethical and responsible practices of their global supply chains. SEDEX focuses on four main areas – labour standards, health and safety, environment and business integrity.

Supplier: the actor that makes products available for use; provide.

Supply chain: A supply chain is a system of organisations, people, activities, information, and resources involved in moving a product or service from supplier to customer.

Sustainability Principles: A set of principle that describe the necessary conditions that must not be violated in order for sustainability to be achieved.

Sustainability Principle 1 - Mining: That nature is not subject to systematically increasing concentrations of substances extracted from the Earth crust

Sustainability Principle 2 - Chemicals: That nature is not subject to systematically increasing concentrations of substances produced by society

Sustainability Principle 3 - Degradation: That nature is not subject to systematically increasing degradation by physical means

Sustainability Principle 4 - Health: That people are not exposed to social conditions that systematically undermine their possibilities to avoid injury and illness; physically, mentally or emotionally;

Sustainability Principle 5 - Influence: That people are not systematically hindered from participating in shaping the social systems they are part of;

Sustainability Principle 6 - Competence: That people are not systematically hindered from learning and developing competence individually and together;

Sustainability Principle 7 - Impartiality: That people are not systematically exposed to partial treatment;

Sustainability Principle 8 - Meaning Making: That people are not systematically hindered from creating individual meaning and co-creating common meaning.

Systems Thinking: The organized study of systems, their feedbacks, and their behaviour as a whole. Systems thinking is the process of understanding how those things which may be regarded as systems influence one another within a complete entity, or larger system.

The Natural Step: Founded in Sweden in 1989 as non-profit organisation by scientist Karl Henrik Robèrt, The Natural Step aims to accelerate the transition to a sustainable society. Today, The Natural Step has offices in 11 countries and numerous associates and ambassadors around the world.

Tier: Tier One suppliers provide components, Tier Two suppliers provide their goods and services (outputs) to Tier One suppliers, not directly to the OEM, and Tier Three outputs are directed to Tier Two supplier.

Triple Bottom Line: Sustainable development involves the simultaneous pursuit of economic prosperity, environmental quality, and social equity. Companies aiming for sustainability need to perform not against a single, financial bottom line but against the triple bottom line (Elkington 1999).

Value chain: A value chain is a set of activities that a firm operating in a specific industry performs in order to deliver a valuable product or service for the market.

Wholesale: the sale of goods or merchandise to retailers.

List of Abbreviations

AB	Alex Begg
BTH	Blekinge Institute of Technology
CF	Conceptual Framework
CSR	Corporate Social Responsibility
ESP	Ecological Sustainability Principle
FSSD	Framework for Strategic Sustainable Development
GRI	Global Reporting Initiative
LG	Lindénggruppen
MSLs	Masters in Strategic Leadership towards Sustainability
NGO	Non Government Organisation
ROI	Return On Investment
RQ	Research Question
SFA	Sustainable Fibre Alliance
SME	Small to Medium Enterprise
SP	Sustainability Principle
SRQ	Sub Research Question
SSCM	Sustainable Supply Chain Management
SSD	Strategic Sustainable Development
SSP	Social Sustainability Principle
TNS	The Natural Step

Table of Contents

Statement of Contribution	ii
Acknowledgements	iii
Executive Summary	iv
Introduction	iv
Research Approach, Setting and Design	v
Phase 1: Designing the Conceptual Framework	vi
Phase 2: Data Collection and Analysis	vi
Discussion	vii
Conclusion	viii
Glossary	ix
List of Abbreviations	xii
List of Figures and Tables	xv
1 Introduction	1
1.1 The Sustainability Challenge and Sustainable Development	1
1.2 The Global Fashion Industry	3
1.3 The Luxury Fashion Sector	4
1.4 The Cashmere Industry	5
1.5 Sustainability in the Cashmere Industry: Violations and Challenges	6
1.6 Sustainable Supply Chain Management	7
1.7 Research Questions	9
2 Research Approach, Setting and Design	11
2.1 Research Approach	11
2.2 Introduction of the Case Study SME: Alex Begg	12
2.3 Research Design	13
2.4 Limitations	15
3 Phase 1: How to analyse the case study company?	16
3.1 Methods: Designing the Conceptual Framework	16
3.1.1 Data Collection: Exploratory Interviews and Literature Review	16
3.2 Results: Finding the Right Framework	17
3.2.1 Designing the Conceptual Framework	17
3.2.2 Systems Level	18
3.2.3 Success Level	20
3.2.4 Strategic Guidelines Level	21
3.2.5 Actions Level	22
3.2.6 Tools Level	24
4 Phase 2: Interviews, observations and outcomes	25
4.1 Methods: Data Collection and Analysis	25
4.1.1 Data Collection: Setup	25
4.1.2 Data Collection: Interviews	25
4.1.3 Sample of Interviewees	26
4.1.4 Data Collection: Document analysis	27
4.1.5 Data Verification: Observation	27
4.1.6 Data Analysis: Coding, Analysing and Interpreting	27
4.2 Results: The Conceptual Framework in Use	28

4.2.1	Analysing Results Using the Conceptual Framework.....	28
4.2.2	Practices not being utilized	35
4.2.3	Enablers and barriers to influence.....	35
5	Discussion	37
5.1	Enablers and Barriers	37
5.2	Prescriptive thoughts based on best practices within SSCM	41
5.3	Validity and Credibility of this Research.....	49
5.4	Potential Future Research	49
6	Conclusion	51
	References.....	52
	Appendices	62
	Appendix A - Map of China and Inner Mongolia (Wu and Xu 2016)	62
	Appendix B - Literature Review list of SSCM elements	63
	Appendix C - Interview questions and format.....	68
	Appendix D - Coding Structures	71
	Appendix E - Enablers and Barriers.....	76
	Appendix F - List of Practices found in Results.....	79

List of Figures and Tables

Figures

Figure 1.1 The Funnel Paradigm.....	2
Figure 2.1 Five-year Turnover for Alex Begg.....	12
Figure 2.2 Maxwell’s Interactive Model of Research Design.....	13
Figure 3.1 Five Level Framework for Planning in Complex Systems.....	18
Figure 3.2 Nested Ecologically Dominant Logic.....	19
Figure 4.1 Definitions of Sustainability by Respondents.....	29
Figure 4.2 Understanding of Social Sustainability Principles by Respondents.....	29
Figure 4.3 Understanding of Ecological Sustainability Principles by Respondents...30	
Figure 4.4 Alex Begg Values.....	31
Figure 5.1 Prescriptive Steps Towards SSCM.....	42
Figure 5.2 An Organisation's Vision.....	44
Figure A.1 Map of Inner Mongolia and Mongolia.....	55

Tables

Table 2.1 Common Pragmatic Qualitative Data Collection Methods.....	11
Table 2.2 The Iterative Process of the Research Design and Process.....	14
Table 2.3 Overview of Methods Used.....	15
Table 3.1 Framework Result: Systems Level.....	20
Table 3.2 SFA Nutag Framework.....	21
Table 3.3 Framework Result: Success Level.....	21
Table 3.4 Framework Result: Strategic Guidelines Level.....	22
Table 3.5 Framework Result: Action Level.....	22
Table 3.6 Framework Result: Tools Level.....	24
Table 4.1 Interviewees by Job Title.....	26
Table 4.2 Top Ten Practices Used by Alex Begg.....	32
Table 4.3 Identified Barriers.....	35
Table 4.4 Identified Enablers.....	36
Table B.1 Literature review list of SSCM elements.....	56
Table D.1 Codes for Conceptual Framework.....	64
Table E.1 Barriers to Influence Codes.....	69
Table E.2 Enablers to Influence Codes.....	70
Table F.1 List of Practices and Results.....	72

1 Introduction

1.1 The Sustainability Challenge and Sustainable Development

A systems thinking perspective defines the Earth as a complex system; a set of interconnected parts dependent on uncountable and unpredictable interactions between those parts. Earth as a system is closed to matter and open to energy from the Sun and divided to open subsystems: the biosphere with flora and fauna and the lithosphere with Earth's crust and upper mantle. Open subsystems exchange matter and energy and interact with each other in complex ways to create the overall system's behaviour. Society is an open subsystem within the biosphere.

Both interact in complex ways forming a combined socio-ecological system (Cook 2004). For most of global society's existence, its impact and exploitation of the biosphere were nearly indistinguishable. Nevertheless, a threshold came with the Industrial Revolution in the 18th century when society grew in not only population size, but also industrial and technological power. Consequently, human beings experienced fast transformation on a large scale. Numerous improvements in medicine and new technologically advanced goods increased the standard of living and made overall life for the individual more comfortable. At the same time, society has had a greater and more significant impact on the biosphere than it realised, with the Industrial Revolution starting an unsustainable course that cannot be continued indefinitely. In consequence, two thirds of the ecosystem services that global society depends on are currently being degraded irreversibly or used in ways that cannot be sustained (Worldwatch Institute 2006).

The flows of matter and energy that society uses to sustain its course of existence comes to rival or in some cases surpass natural flows. As a response, scientists Karl-Henrik Robèrt and Göran Broman identified four fundamental ways in which human interventions are disrupting the described system and hindering human ability from sustaining a safe and comfortable vision of existence in the future (Robèrt et al. 2015). Firstly, extraction of raw materials and burning fossil fuels causes accumulation of gases in the atmosphere. That process leads to climate change and rise of global temperature with various unpredictable weather phenomenon's ("National Climate Assessment" 2017). Secondly, according to the same report, global society produces and uses synthetic chemicals rarely tested for their effects that pollute the whole biosphere including people's health and wellbeing as a component. Thirdly, global society is degrading the earth by physical means, losing productive surfaces on earth by deforestation; urbanization and agriculture, taking marine biological resources and ecosystems, and expanding landfill sites. This is the constant process of systematically destroying nature's capacity to replenish its natural capital. Lastly, the social perspective, and fourth driver, is the pursuit of unconstrained economic growth. Additionally, global society suffers from extreme social inequality between rich and poor, diseases, lack of access to education, discrimination, malnutrition, human rights abuses and many more (Robèrt et al. 2015).

The systematic sustainability challenge takes the described complex and interconnected global issues as a foundation to address and solve. In response, people from numerous sectors aim to build a socially and ecologically sustainable society that is able to develop without destroying fundamental life supporting systems and creating well being within ecological limits (Robèrt et al. 2015). The United Nations' Brundtland Commission defined the goal of

sustainable development as that where ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (United Nations 1987).

In spite of the importance of the sustainability challenge and increasing acceptance and understanding by global society over the years, there are still visible obstacles to overcome. The nature of complex social structures makes them difficult to change, there are large economic and social investments in following unsustainable paths and changes are urgent in a time perspective (Robèrt et al. 2015).

One-way to approach the sustainability challenges faced here is the Funnel Paradigm (Robèrt 2000). From this perspective, current problems are caused by systematic errors in social design connected in complex ways, constantly depleting social and ecological resources on which civilization depends. The funnel’s closing walls symbolizes the systematically declining capacity of the socio-ecological system to sustain. The goal of this approach is to open the ‘wall’ and keep the ability of living in prosperity without environmental and social damage. The envisioned solution is seen as restoration on a global scale by rectifying past degradation and pollution to increase biosphere resilience and durability of the social system.

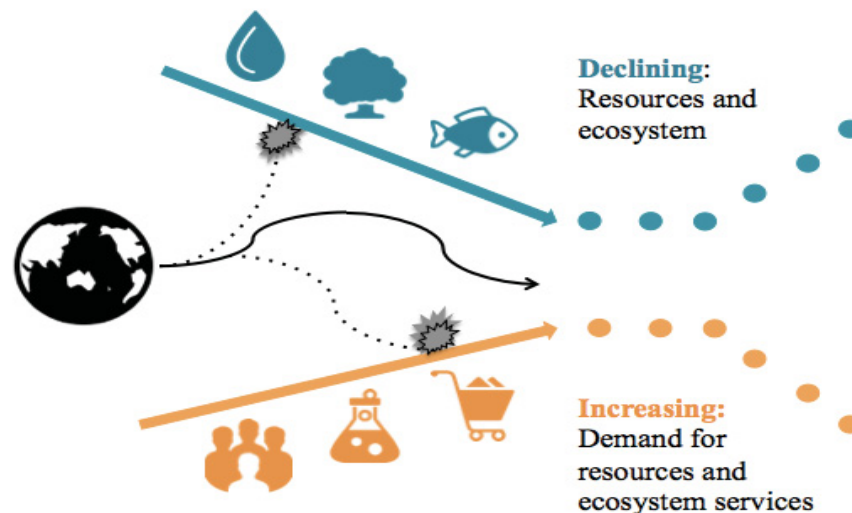


Figure 1.1 The Funnel Paradigm

The Funnel Paradigm considers organisations as entities able to make decisions that will steer global society in the right direction. It is in the best interest of all organisations to sustain a capacity of a socio-ecological system and be able to continue any activity in efficient, profitable means. In the presented worldview a sustainable shift is unavoidable due to logically conducted results of human activity. Thus, it is further responsible for the organisation to avoid emerging symptoms of ‘hitting the funnel wall’ such as: increasing costs of resources, waste management, taxes and insurance, rigorous legislation, loss of reputation, loss of capital due to non-strategic planning, loss of market share to sustainability driven actors in the field and defeat to anticipate future demands on more sustainable market. Symptoms will affect different types of organisations in different times and ways (Robèrt et al. 2015).

In this perspective, business organisations have significant influence on sustainability on a global scale. Today's 'Take-Make-Waste Business Model' encourages business actors to take a practice of unabashed exploitation of natural resources for financial profits, contributing to degradation of nature and heading to an ecological tipping point beyond which the earth won't be able to recover itself. In this model, business contributes directly and indirectly to social sustainability issues and runs on an over consumption and abnormal understanding of 'growth' (Willard 2012). As a systematic part of the problem rather than the solution, business organisations will consequently suffer economic and social consequences, such as elimination from the market due to the symptoms described by Robèrt et al. (2015). Citing Bob Willard, appointed as an inaugural member of the Sustainability Hall of Fame by the International Society of Sustainability Professionals:

“Saving the world and making a profit is not an either/or proposition. It's a both/and proposition. Good environmental and social programs make good business sense. Benefits from more aggressive and creative attention to environmental and social projects create a win/win/win approach for the corporation, society and the planet” (Willard 2012).

The flow of the Introduction section is itself an intersystem analysis of the case study company. From an organisation's position, taking a global perspective and the sustainability challenge through to the fashion industry, luxury fashion and cashmere supply chain to the individual actor. This thesis describes research focused on indicators that enable and hinder a small-medium manufacturing company to/from influencing its supply chain towards sustainability in the cashmere industry.

1.2 The Global Fashion Industry

The fashion industry is an extremely profitable global enterprise devoted to the business of making and selling clothes. As a product of the modern age, the fashion industry rapidly began to grow after the industrial revolution due to the emergence of new technologies, the rise of global capitalism, the development of the factory and production line system and the growing trend of retail department stores. Garments went from bespoke creation to being increasingly mass produced in standard sizes and sold at fixed prices (Encyclopaedia Britannica 2017). The fashion industry is complex, built on millions of interdependent and cross-continental actors, and structured on four major levels: (1) Raw materials production: fibres and textiles, leather and fur; (2) Fashion goods production made by designers; (3) Manufacturers, contractors, retail sales from retailers to individual customers, and; (4) Various forms of advertising and promotion. Each sector is dedicated to the goal of satisfying consumer demand for apparel under conditions that enable business actors in the industry to make a profit (Encyclopaedia Britannica 2017).

The Textile Intelligence Report (2008) identifies that consumption of textiles per person has increased at a rate almost four times the rate the world population grew between 1950 and 2006. Consumption is the root cause of growth, since companies grow with increasing demand on their products (Berkshire Encyclopaedia of Sustainability 2010). According to this source, consumers are relatively unaware of the impact that the manufacture of textiles has on the biosphere and themselves as a part of this system. Western consumers continue on a consumptive course, choosing quantity before quality, making contributions to falling prices and low levels of recycling practices.

According to the Berkshire Encyclopaedia of Sustainability (2010), textile and apparel supply chains affect the biosphere at all stages, from fibre production to disposal of textile waste. Expansion in production and consumption causes the growth of our ecological footprint: depletion of plentiful lands, pollution, fossil fuels and raw materials overuse and climate change as a result of greenhouse gas accumulation in the atmosphere (Berkshire Encyclopaedia of Sustainability 2010). Social issues as working conditions, health, livelihoods, and exploitation have become alarming challenges for the industry, especially in various parts of Asia (Fashion Revolution 2017). As stated by Willard (2012), the current global growth oriented business model is understood as progress and financial profit is taken as an imperative. In the book 'Managing without Growth', Peter Victor (2006) states that rich countries should turn away from economic growth as a primary goal and instead create goals that lead to global well being. That statement is based on several assertions: economic growth worldwide is unrealistic due to the biosphere's natural limitations and has not brought full employment, eliminated poverty or reduced environmental global damage. Rising incomes increase happiness and prosperity, only up to a certain level, that has long been exceeded in wealthy countries (Willard 2012).

Among the broad spectrum of brands currently in the marketplace, we can observe the emergence of increasing sustainability focus and awareness among the fashion industry that is in line with Victor's (2006) statements. Today, there are some companies that believe their products and services will improve the quality of life for the employees, customers and communities they serve (Burberry PLC Group 2017, Louis Vuitton 2017, Prada Group 2017). These companies openly and publically take responsibility for environmental and social consequences of their actions. The next paragraph will introduce the core characteristics of luxury fashion as a part of the global fashion industry and an arena for building sustainable apparel created in a responsible way.

1.3 The Luxury Fashion Sector

The global luxury fashion sector accounted for more than US\$ 252 billion annually in 2011 (The Economist 2011) and has seen steady growth over the past 13 years. It is commonly perceived as one of the most appealing and profitable industries in the world (Luxury Goods Worldwide Market Study 2016). Additionally, to its economic value, luxury fashion brands create the highest quality fashion products for the market. As leaders in the fashion world, they drive multiple mass-fashion imitator categories (Mosca and Gallo 2016).

The luxury fashion sector is a fascinating part of the fashion industry; luxury fashion brands create not only apparel but also influence personal image and individual life style. In line with psychological theories that connect our purchase choices and personal identity, clothes play a vital, symbolic role in our life (Berkshire Encyclopaedia of Sustainability 2010). The Encyclopaedia states that through a psychological lense, consumption decisions are a form of 'social conversation' expressing our identity, social status, financial position, culture and worldview. According to anthropologist Grant David McCracken (1990), luxury objects are material representations of our expectations for the future, of the status to which we aspire, of the comforts that we deserve and rewards we hope to gain.

Characteristics and indicators, which make fashion brands luxurious, were the subject of a master thesis, in the Masters in Fashion Management program at The Swedish School of

Textiles (Nassel and Person 2011). Luxury brands communicate their identity and image in a distinct, consistent way and the name of the brand triggers a desire among people. Social responsibility and quality focus is a part of the risk management strategy for many companies that want to retain their exclusive audience. According to the same authors, high sustainability standards are often achieved by compliance to high level production and quality standards, and CSR compliance (e.g. ISO 9000, 14001, SEDEX). In-house production of luxury products requires well made and traceable quality standards. An intrinsic part of the luxury fashion industry is the elevated retail prices, as in most cases products are unique and made in limited quantities.

Kate Abnett (2015) states that due to the expected quality the production process is more expensive than usual production techniques and requires more financial investment because of its in-house location. The quality of long lasting and sustainable fibres is mentioned as one of the conditions to maintain a brand's status as 'luxury'. For decades, cotton, silk, leather and cashmere have embodied the definition of quality and excellence. The first three can be produced in modified farming systems (Abnett 2015). Cashmere production however, relies on a natural, and somewhat vulnerable environment. The highest quality cashmere is born in the most vulnerable of these environments and its unique character and standards of traditional production processes add to the scarceness of this raw material (Whiteford 2017, What is Cashmere 2017). Currently, there are dynamic changes and casualization of the cashmere industry underway (Abnett 2015).

1.4 The Cashmere Industry

Worth billions of dollars, the cashmere woven and knitwear market is outgrowing the luxury apparel market. Over the last couple of years, the 'democratisation' of the fashion industry has caught up with cashmere. Once an expensive and highly sought after product, there are now affordable, low quality, everyday cashmere products, that are part of the mass fast-fashion market (Abnett 2015)

Cashmere wool is a precious fibre obtained from the undercoat of cashmere goats, selected breeds of the species *Capra hircus* (What is Cashmere 2016). Garments made from cashmere provide good insulation, approximately three times that of sheep's wool, and are softer than regular wool (Bureau of Trade 2012). Knitted or woven cashmere fibres make long lasting garments which retain their form for decades, even to be passed on to the next generation.

The cashmere goats produce a double fleece that consists of a high quality, soft undercoat or under down of hair mingled with a straighter and coarser outer coating called 'guard hair'. For the fine undercoat to be extracted and processed further, after shearing the fibres go through a mechanical de-hairing process that separates the coarse hairs from the fine hair. After de-hairing, the resulting fibre is ready to be dyed and converted into textile yarn, fabrics and garments. The quality of cashmere is measured in microns starting from 14, the lower, the better. (Mongolian Wool and Cashmere Association 2017). Every year, the quality of available cashmere fibre is decreasing due to its direct correlation to increasing temperatures (Burberry PLC Group 2017). The best fibre is found as an undercoat on those goats living in freezing and harsh environmental conditions. The quality of the cashmere is directly dependent on those harsh weather conditions that the animals live in. The key to success is finding the balance between animal welfare and winter herding characterised with severe and unpredictable weather occurrences. Luxury brands are extremely selective in their sourcing,

centring on Mongolia and Inner Mongolia (an autonomous region within China that borders Mongolia) seen in Appendix A, and use only the finer, longer and whiter fibres (Whiteford 2017). However, most of the global cashmere output comes from China, where The Nature Conservancy estimates there are over 100 million goats (Abnett 2015). Fibre is also produced in Iran, Afghanistan, New Zealand and Australia. More than 6,000 tons of ‘pure cashmere’ (resulting from removing animal grease, dirt and coarse hairs from the fleece) is made every year with the majority of fibres coming from China (including Inner Mongolia) and Mongolia, followed by other countries.

1.5 Sustainability in the Cashmere Industry: Violations and Challenges.

Mongolia and Inner Mongolia are the regions known for producing the highest-grade cashmere in the world. These regions are known for the fields and pastures for the grazing cashmere goats and they are currently facing several environmental challenges that are obstacles to further development (Whiteford 2017, Jones 2017).

The overexploitation of the land from goat herding leads to degradation of the grasslands and changes it into desert (Kohler et al. 2005). In contrary to other grazing animals, which eat only the tops of the grass and plants, the cashmere goat eats the whole plant, including the roots (Whiteford 2017). This process is irreversible, the grass cannot regenerate and thus a desert permanently forms once the grasslands are depleted (Kohler et al. 2005). The number of goats significantly increased after the removal of governmental limits and additionally with the opening up of the mass-fashion cashmere market (from 23 million in 1993 to 44 million in 2009, Abnett 2015). Consequently, goats with lower quality hairs caused the overall supply of the higher quality cashmere fibres to decrease. To make up for the lost revenue, herders breed bigger herds and bigger goats, setting off another unsustainable cycle.

Some of the observable changes are noticed from temperature fluctuations, water availability (droughts) and extreme winter conditions (Mongolian ‘dzud’ a severe winter storm with temperatures to -50C). Due to these weather and climate changes (Burberry PLC Group 2017), millions of goats perish each year on the grasslands (Abnett 2015); consequently animal welfare is under threat. There is almost no traceability in fibre production from a single goat to the global cashmere wholesalers (Whiteford 2017, Jones 2017). Consequently, local sustainability issues in the source regions are difficult to address, let alone manage for fashion manufacturers and retailers.

Moving from environmental to social challenges, there are certain sociological phenomena that symptomatically influence nomadic communities and their environment (Östrom 1990). Closed unsustainable circles are illustrated in the ‘prisoner’s dilemma’ (Flood and Dresher 1950, Surhone et al. 2010) and ‘tragedy of the commons’, originally coined from the article written by Garrett Hardin (1968). Tragedy of the commons is often cited in connection with sustainable development and shared, unregulated access to resources. In this research, we will look at the cashmere farmers and their access to shared grasslands for grazing their herds. The tragedy of the commons is “an economic theory of a situation within a shared resource system, where individual users are acting independently, according to their own self-interest and behave contrary to the common good of all users by depleting or spoiling the resource through their collective action” (Stua 2017). Over time, the term ‘tragedy of the commons’

has evolved into the ‘open access problem’. The ‘Prisoner's dilemma’ describes why two individuals might not cooperate, even if it appears that it is in their best interests. Two will have no opportunity to reward or punish their partner other than the consequences they get, and that their decision will not affect their reputation in the future. Due to the outcome when betraying a partner offers a greater reward than cooperating, all rational self-interested individuals would betray the other (Östrom 1990). These theories claim that most individuals will maximize their short-term material benefits instead of cooperating to gain collective benefits. The individuals that are in the situation believe themselves to be stuck in a static situation, unable to “change the rules affecting their situation” (Östrom 1990).

Sustaining the tradition of breeding cashmere goats and spreading the knowledge among younger generations is crucial for the longevity of the industry. Due to urbanisation, technological development, financial profits and desire for increased living standards, many of the youth chose to migrate to urban, industrial areas. The current herding communities face poverty, lack of access to education and displacement (Jones 2016). A non-profit international organisation that addresses sustainability challenges in the cashmere industry is the Sustainable Fibre Alliance (SFA). SFA “promotes global sustainability standards for cashmere and works to restore grasslands and to transform the complex supply chain of cashmere, from herders to retailers” (Jones 2016). The SFA - Sustainable Cashmere Standard is based on six pillars: grassland stewardship, animal welfare, material processing standards, traceability, economic and livelihood resilience. The Non Government Organisation (NGO) organises direct cooperation and training with herders and is also addressing social issues for the herders.

After identifying violations and challenges that influence the cashmere industry it could thus, be considered a complex highly dynamic market characterised by unclear market boundaries, variability, nonlinear and unpredictable directions that are also not clearly discernible (Eisenhardt and Martin 2000). As a result, new sustainability practices need to be investigated for the cashmere industry to continue. Luxury businesses in the cashmere sector have started to put their focus on strategic sustainable development and innovation (Burberry PLC Group 2017, Louis Vuitton 2017, Johnston's of Elgin 2017). Therefore, it is imperative to identify supply chain weaknesses and engage other actors in a way that allows all participants to have financial profits in this sector, now and in the future (Whiteford 2017). Nomadic communities should be able to live in prosperity, having the next generations' benefits of breeding cashmere goats and continuing the traditions of producing this fibre sustainably. Suppliers, manufacturers and retailers should have the ability to continue their profitable activity, which gives employment to millions of people around the world from the cashmere sector and other, cooperating sectors.

1.6 Sustainable Supply Chain Management

The UN Global Compact (2013) discusses how to address sustainability along complex supply chains and describes the issue as a challenging problem for businesses. The UN Global Compact Report (2013) states that businesses face several challenges moving towards sustainability “since suppliers are viewed as roadblocks for increased performance”, through issues such as sustainability not being a priority, suppliers having a lack of capacity, lacking knowledge, supplier data not being available, no clear link to business value and a lack of financial resources. In an attempt to resolve some of these issues the research area of sustainable supply chain management (SSCM) has increased as an academic field (Touboulic and Walker 2016). While there is no agreement on how SSCM should be defined, an often-

cited definition is provided by Seuring and Müller (2008, 1700), SSCM is “the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e. economic, environmental and social, into account which are derived from customer and stakeholder requirements”. Pagell and Shevchenko, define SSCM as “the designing, organizing, coordinating, and controlling of SCs to become truly sustainable with the minimum expectation of a truly sustainable SC being to maintain economic viability, while doing no harm to social or environmental systems” (2014, 45). Referring to fundamental aspects of most sustainable development and corporate sustainability definitions, Beske-Janssen, Johnson and Schaltegger (2015) determines to consider at least the following areas and topics: (1) Content social, ecological and economic perspectives; (2) Linkages: the links between these perspectives; (3) Time: future orientation, and; (4) Stakeholders: participation.

SSCM sits in the field of corporate social responsibility (CSR), understood as a “continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large” (World Business Council for Sustainable Development, 2017). In the fashion industry, this definition is enlarged with environmental issues of pollution and depletion of natural resources, and social responsibility which is more pertinent to the garment manufacturing function and covers issues of wages, working hours and working conditions (Towers, Perry and Chen 2013). There is a need to understand how CSR is managed within the cashmere sector, given its unique features of vertical integration and incisive control of the supply network when compared to the mid-market garment sector. Narrow structure is needed in order for luxury brands to retain control over the highly specialised artisan skills necessary for manufacturing goods (Djelic and Ainamo 1999).

The challenging reality of the cashmere industry described in the previous sections and the need of businesses to focus on sustainability steered us in our literature review towards a deeper analysis of SSCM. A number of literature reviews have been published in recent years, offering analysis of the state of research in SSCM and showing that the field is gaining maturity (Touboulic and Walker 2016). Ashby, Leat and Hudson-smith (2012) support this by stating, “SSCM and the integration of sustainability into supply chains is a significant but evolving field”. He continues to describe that the environmental dimension is significantly better represented in the literature he has reviewed. Beske-Janssen, Johnson and Schaltegger (2015) and Ashby, Leat and Hudson-Smith (2012) conclude that social performance measures have also entered the SSCM discussion, albeit later than the environmental. Beske-Janssen, Johnson and Schaltegger (2015) again concludes that these two dimensions are treated separately in the literature with limited insight on how to integrate them and that there is less emphasis on the social dimension than expected, given SCM’s focus on interaction, relationships and communication. Towers, Perry and Chen (2013) state that the supply chains of luxury manufacturers have become more complex and global; therefore, a more interconnected and nested approach might be relevant to the SSCM field.

Hines (2005) speaks of several descriptions of the term ‘supply chain’ and mentions Christopher (1992) suggesting the chain is perhaps better described as a network, since at each link in the chain there may be a number of different organisations involved. Hines (2005, 522) also proposes the term by Harland (1996) that “in the final use of the term the emphasis is in the management of a network of interconnected businesses involved in the ultimate provision of products and services required by the end customer”. One can identify the three dimensions: (1) cooperation, (2) material, capital and information flow and (3) stakeholder

requirements from Seuring and Müller (2008) in a ‘network’ concept. Since ‘network’ implies, more than chain, that elements are interconnected. That being said, most research still refers to Supply Network Management as Supply Chain Management, as will this paper. Including the element of future generations from the earlier described Brundtland definition of sustainability. Combining both perspectives reflects the idea that the integration of sustainability in SCs is a journey (Mohrman and Worley 2010), which relies on the relations between organisations and people.

In the literature we could identify some challenges regarding the implementation of SSCM. Bratt (2014, 199) describes that “most SSCM approaches are reactive and based on single environmental or social sustainability issues, rarely going beyond first tier and thus without any systems perspective”. Furthermore, a list of some barriers to decisive corporate actions towards sustainability were described by Bratt based upon an extensive literature study: (1) lack of a common definition and shared understanding of sustainability on a overall company level, as well as on the procurement and the SSCM operation level, and; (2) a lack of ability to clarify the business case for sustainability strategies.

Seuring and Müller (2008) created a framework for SSCM, which included an internal perspective of ‘supplier management for risks and performance’ and the ‘supply chain management for sustainable products’ with the aim to satisfy customers and gain a competitive advantage in the market. They emphasise that these two strategies are not mutually exclusive. Goal relations they identified were ‘win-win-situations’ and ‘trade offs’ between the environmental, social and economic dimensions. The barriers that are mentioned in the paper of Seuring and Müller (2008) were higher costs, the coordination of complexity and insufficient/missing communication in the supply chain. Bratt concludes by stating, “the research field points to a lack of prescriptive practical support for how to implement and operationalise a SSCM” (2014, 199). Pagell and Shevchenko (2014) point out that previous research has primarily focused on exploring the theory of SSCM practice rather than ways of implementation, and remains primarily backward-looking, favouring snapshots of organisational best practice. With this paper we have taken these leading researchers into account and took a sustainable supply chain management approach that could provide prescriptive management support, looking at an SME within a complex system: the cashmere fashion industry.

1.7 Research Questions

This research aims to complement the academic research literature by providing forward-looking prescriptive management support, in addition to the SSCM field that describes best practices. Therefore we have focused our research on the barriers and enablers for an SME to influence its supply chain towards sustainability. Hence, we asked the following research question (RQ):

What enables and what hinders a manufacturing SME in the cashmere industry to influence their supply chain towards sustainability?

We decided to use two supportive sub-questions. Based upon information gained from exploratory interviews, a literature study and document analysis we decided to first analyse the current reality of an SME in a cashmere supply chain and identify both the SSCM practices they apply and those they do not:

Sub-Research Question 1 (SRQ1): What practices in SSCM does the case study SME use today in order to have a sustainable cashmere supply chain?

Based on the interviews we conducted, we identified what were seen as enablers and barriers by top and middle management of the SME as well as a supplier, retailer, collaborative NGO and Sustainability and Communications Manager of their parent company.

Sub-Research Question 2 (SRQ2): What enablers and barriers were identified as “influencing factors” towards a sustainable supply chain?

In the Discussion we will analyse our findings and provide prescriptive suggestions for SSCM and how to influence other actors in the chain.

A practical and real life context is advisable if one is to provide useful prescriptive management support. Thus, to determine the goal and scope, a case study research approach was chosen, which will be elaborated on in the Research Design and Approach. Research collaboration with the company, Alex Begg (AB), from the cashmere industry, was established and exploratory interviews were conducted to ascertain the purpose of our research and the elements most relevant in the context of our topic.

From these exploratory interviews and the documents provided, two crucial success criteria for AB could be identified. Firstly, AB has its own trepidations about the future access to high quality cashmere sources based on current environmental and social issues in key cashmere agricultural areas. Secondly, complying to the growing pressure and demand from luxury brands as their customers, and individuals as direct customers, to conduct responsible purchases, buying transparently and sustainably made products. Whilst their wool and angora supply chains currently comply with this demand, the guarantee of sustainable cashmere is still a challenge. We could conclude that our RQ and its scope of what hinders and what enables sustainability were sufficient to understand the elements of our topic.

2 Research Approach, Setting and Design

2.1 Research Approach

This research took a systems perspective approach by researching the elements involved in the interconnectedness across the fashion and textiles industries and through focusing on the possible practices an SME might use to influence their supply chain spanning from other SMEs to large organisations and NGOs. The RQ and presented challenge apply to the partner organisation dealing with the current practical reality. Hence this research paradigm is that of pragmatism, where reality exists for individuals, but knowledge is contextually contingent. Using this perspective knowledge may be uncovered by investigating the usefulness of theory in practice (Savin-Baden and Howell Major 2013). The suggested data collection methods (Table 2.1) belonging to this research approach have been applied (Savin-Baden and Howell Major 2013).

Table 2.1 Common Pragmatic Qualitative Data Collection Methods

Approach	Common Data Collection Methods
Pragmatic qualitative research	Interviews Documents Observation

For this pragmatic reason, but also due to practical constraints such as the time span of the research (4 months) attention was focused on individual experiences as the most effective way to answer the RQ.

Taking a single exploratory case study approach, this research sought to provide the basis for a theoretical explanation of a general phenomenon (Towers, Perry, and Chen 2013). The purpose of this case study was explanatory, as the RQ required explaining particular issues and identifying the cause - and - effect relationships between particular stakeholders and actions in the cashmere supply chain. Eisenhardt (1989, 534) describes the exploratory case study as “a research strategy, which focuses on understanding the dynamics present within single settings”.

Characteristic features of the case study are:

- Holistic: investigating the whole case as well as interactions of its parts, by using the FSSD and taking a systems perspective.
- Particularistic, focused on concrete rather than general, through focussing on applying a general SSCM framework (Pagell and Wu 2009) on this specific case study.
- Contextual, the core concept is embedded in general context, by taking an intersystems approach and looking at the different systems the case study is nested in. Our closed global world, the luxury fashion sector and the interconnected cashmere sector.
- Concrete, by concluding with overview of all the practices that are done, that could be done, by listing the enablers and barriers to influence and based on that come with concrete prescriptive thoughts for this particular case.

2.2 Introduction of the Case Study SME: Alex Begg

Upon deciding on taking a case study approach the research collaboration with a Scottish cashmere manufacturer was established and within this chapter further details about this company will be described. According to European Union Commission (Eur-LEX 2003), “the category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million”.

As our case study company fits the definition of an SME it is important to gain an understanding of what constitutes one. Some of the characteristics of successful small and medium-sized manufacturing enterprises were listed on the grounds of observations and interviews conducted by National Research Council at United Kingdom National Academy of Sciences. The evaluations of customers assessed to supply chain integration and diversified base of loyal, trusting customers reduces business risk and is crucial. Successful SMEs create, implement, and maintain strategic plans, which include partnerships and strategic alliances that enable them to meet customer needs. SMEs should identify aspects of their business that should be measured, determine meaningful metrics for measuring progress, and use the information to improve performance. SMEs should develop the capability to provide accurate, robust data to supply chain partners (National Research Council, 2000).

Our case study company, Alex Begg (AB) employs around 170 people and is a Scottish manufacturing SME located in Ayr, with a turnover of millions of pounds that has had year on year growth the past 5 years (shown in Figure 2.1 below, numbers cannot be stated due to confidentiality). The company has been producing luxury cashmere, wool and angora textiles since 1866, they manufacture for their own Begg & Co brand as well as for some of the world’s most prestigious fashion houses (Alex Begg 2017). According to AB’s website, “Combining time-honoured traditional weaving and finishing methods, while embracing innovation with cutting-edge production techniques.” When it comes to selecting materials, AB uses the highest quality raw fibres available and carries out regular tests to ensure the purity of the yarn. Once spun into yarn, the fibres are then woven, washed, brushed, hand-cut and finished, before being given a final inch-by-inch inspection (Alex Begg 2017). Wool and angora supply chains, due to material characteristics, supplier selection and production processes are transparent, traceable and sustainable (Whiteford 2017).

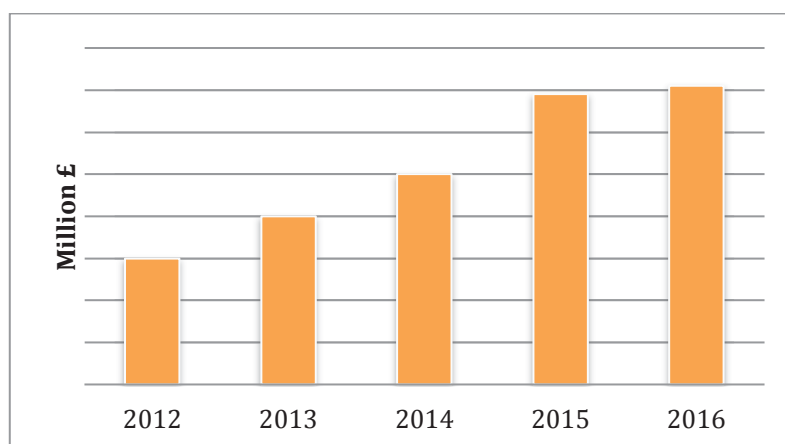


Figure 2.1 Five-year turnover for Alex Begg

Currently, AB has six main cashmere suppliers. Based on exploratory interviews this number is considered relatively high due to the specific requirements of the quality of cashmere that originates from Mongolia and Inner Mongolia. Nonetheless, as a business directly dependent on the highest quality cashmere, AB takes a proactive stance and addresses those challenges to make its supply chain sustainable (Whiteford 2017). Animal welfare, reducing chemical use and focus on people are fundamental values (Alex Begg 2017). The company is a member of SEDEX and SFA.

Since 2002, AB is owned and strongly influenced by the Swedish company Lindéngruppen (LG), a family business guided by “values: trust, integrity, responsibility, entrepreneurial spirit and a long-term view” (Lindéngruppen 2017). LG invests in sustainable growth, innovation and customer focus, and also cooperates with sustainability NGO The Natural Step (TNS) and FSSD pioneers. Sustainable development in AB is a top-down initiative driven by LG owners and strongly supported by AB top management and employees.

2.3 Research Design

In order to answer the RQ, and the compounding sub questions, the research was designed to comprise several phases. This was based upon Maxwell’s interactive model of research design. “In qualitative research, any component of the design may need to be reconsidered or modified during the study in response to new developments or due to changes in some other components” (Maxwell 2013, 2). His iterative and flexible view on research matched that of the researchers and the context of qualitative research. In Figure 2.2 one can see the visual representation of this interactive model, which consists of five components: goals, conceptual framework (CF), research question (RQ), methods and validity. Maxwell’s model does not start with the RQ, instead the question sits in the middle, and all the components inform each other allowing adjustments throughout the research process.

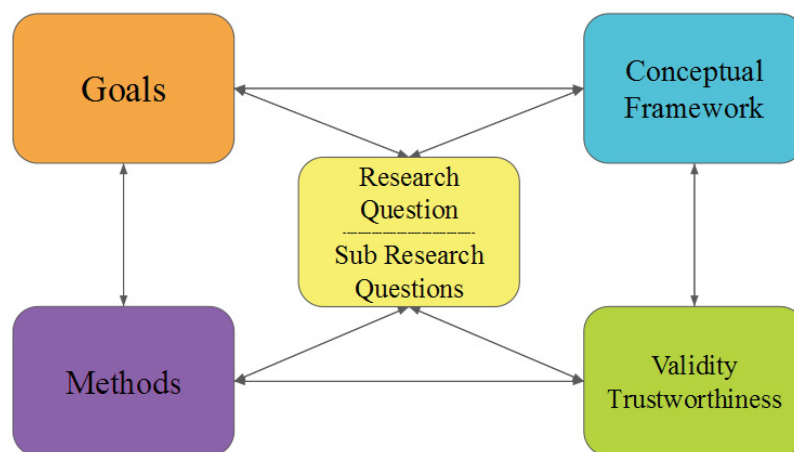


Figure 2.2 Maxwell’s Interactive Model of Research Design (Maxwell 2013)

The goals, described previously, should “illustrate why this study is worth conducting”. The RQ, described in the above paragraph is formulated to “specify precisely what the subject of the study is”. The CF answers the questions: “What theories, beliefs and prior research findings will guide or inform your research?” In the method component one looks at “what

should be done in order to conduct this study and what techniques will be used to collect and analyse the data?” The validity component evaluates at the question “how might your results and conclusions be wrong?”

The table below shows the iterative process of the research design and process.

Table 2.2 The iterative process of the research design and process

<p>Exploratory Phase: Determining the Goal and Scope As described in the Introduction</p>
<p>Research Phase 1: Development of the Conceptual Framework The CF was made to the particular context described in the introduction and had the aim to find a suitable conceptual sustainability framework to</p> <ul style="list-style-type: none"> • Inform our data collection in Phase 2 and the interview questions; • Analyse the data that derived from Phase 2.
<ol style="list-style-type: none"> 1. An in depth description of the FSSD and its applicability was described. 2. Based upon the previous exploratory phase and through document and literature analysis additional elements to the FSSD Framework were provided 3. A validity check was done; ‘Will this framework help to answer our main RQ?’
<p>Research Phase 2: Data Collection and Analysis To collect the needed data to answer the research question we made use of triangulation through qualitative data sets, consisting of semi-structured, in depth interviews, document analysis and observation at a cashmere manufacturing company in Scotland and its supply chain actors.</p>
<ol style="list-style-type: none"> 1. Interview questions were formulated. 2. The researchers travelled to the case study company to conduct semi-structured interviews and observe the headquarters of the manufacturing SME in Scotland. 3. The interviews were recorded and, back in Sweden, were transcribed verbatim, after which were sent back to the respondents for correction. 4. The data from step 11 was analysed using the CF that derived from Phase X. The interviews were double blind coded, after which the codes were discussed by the researches and collated in an excel sheet. 5. A validity check was done; Is there anything missing, do we see any gaps? 6. Additional codes were added to the framework. 7. Another round of double blind coding and discussion occurred.
<p>Concluding Phase The results were collated and discussed. A conclusion was drawn and prescriptive thoughts were formulated.</p>

Below in Table 2.3 the methods that were used to answer the sub research questions are shown.

Table 2.3 Overview of methods used

		Exploratory interviews	Semi-structured interviews	Observation	Literature analysis	Document analysis
RQ	Phase 1	x			x	x
	Phase 2		x	x	x	x
	SRQ 1	x	x	x	x	x
	SRQ 2		x	x	x	

2.4 Limitations

This chapter is written to answer the validity question by Maxwell (2013): how might the results and conclusions be wrong?

- The codes used for building the ‘actions level’ CF, were build on a literature study of the SSCM field. However, the researchers make no claims that all practices presented in the SSCM literature have been identified since no systematic review could be made in the timeframe.
- There was a limited number of people to interview, of which the lower management and the floor employees, the farmers, the end consumers and the Tier 2 suppliers were not a part. This might entail that the data presented in this paper missed the key insights needed to show the full depth and complexity of the case study.
- Specific interview questions and how they were asked highly influenced the results. It is unknown how these results would have been different if certain questions were asked, not asked or asked in different way.
- A limited number of documents could be used in research, none of the researchers speak Mongolian or Chinese, so reading any documents from that point of view were not included.
- Limited observations could be made during the process, and observations are always biased by the lens of the beholder. Therefore, the observations have only been used to verify the information that we collected from the interviews and documents.
- There was a level of confidentiality, the underlying question was: how much can be written or said without breaching commercial or personal confidentiality. For this reason in our results we could not use exact financial figures or supply chain maps of the case study company or attribute any direct quotes to people or job titles. As such this means we were not able find specific links in job roles, departments or managerial levels within the company.

3 Phase 1: How to analyse the case study company?

The first phase of this research had the aim of finding a suitable conceptual sustainability framework to formulate the interview questions and to structure and analyse the data applicable to our research scenario. A known challenge in qualitative research is to manage the tendency to overload the interviews by trying to gather large amounts of data and then being left with excessive data to analyse and interpret in our limited time frame (Shahedul Quader, Kamal, and Hassan 2016). Therefore, we investigated the most appropriate features to have in our CF, which, in turn, was used in Phase Two of our research as a data collection and data analysis tool.

3.1 Methods: Designing the Conceptual Framework

3.1.1 Data Collection: Exploratory Interviews and Literature Review

Through exploratory interviews (Whiteford 2017, Jones 2017) and as has been described in the Introduction, it became apparent that the cashmere supply chain can be viewed as a complex system. The context of pragmatic research in a complex system, and understanding the sustainability challenge, required taking a systems perspective on the interconnected elements involved across the fashion and textiles cashmere sector of our specific partner. The researchers conducted a literature review asking themselves the question:

Which framework could take a systems perspective, viewing the contributions to unsustainability as a function of systematic increases and structural obstacles that result from the imperfect design of the overarching system?

The exploratory interviews provided the researchers with a list of keywords and search terms that were taken into account in the research to create the framework. These keywords were: sustainability, Sustainable Supply Chain Management (SSCM), SME, Scotland, UK, SFA, animal welfare, supply chain mapping, fashion industry, cashmere, influence, management, luxury, interconnectedness, responsibilities, decision making, barriers, enablers, power.

A literature study was conducted using the above key words and found through the BTH Summon porthole and also other academic database sources, we looked for peer reviewed articles within the last ten years and then built on this by also looking at luxury fashion brands and other fashion sustainability websites and their approach to CSR and supply chain mapping and responsibilities for worker rights and animal welfare. Some of the peer reviewed articles around traditional Supply Chain Management (Gunasekaran, Patel and McGaughey 2004), Sustainable Supply Management (Pagell and Wu 2009, Seuring and Müller 2008a), Dynamic Capabilities and Sustainability (Beske 2012), Triple Bottom Line (Elkington 1999), FSSD (Broman and Robèrt 2015) and finally managing the Commons in an equitable and sustainable way (Östrom 1990) were used in order to build our CF. Afterward this literature review, we were able to discuss these topics in the exploratory interviews. The RQs were reviewed and we checked what information should be covered by applying the FSSD and what explicit, more detailed info, was needed on each level for the specialty of the case system, as will be shown in the next chapter 'Results Phase 1'.

3.2 Results: Finding the Right Framework

3.2.1 Designing the Conceptual Framework

As described earlier, the first phase was to find a framework that could take a strategic systems perspective, which would view the contributions to unsustainability as a function of dependents. Looking for this framework we took into account Lozano (2008) describing several perspectives that represent sustainability: (1) The conventional economists' perspective; (2) The non-environmental degradation perspective; (3) The intergenerational perspective; (4) The inter-generational perspective, i.e. the time dimension; and (5) The holistic perspective. Murray Gell-Mann (1993, 8) describes this fifth systems perspective eloquently with the following statement:

“One of the most important characteristics of complex nonlinear systems is that they cannot be successfully analysed by determining in advance a set of properties or aspects that are studied separately and then combining those partial approaches in an attempt to form a picture of the whole. Instead, it is necessary to look at the whole system, even if that means taking a crude look, and then allow possible simplifications to emerge from the work.”

Staying within the planetary boundaries of the Earth's system to prevent human activities in affecting environmental condition can be seen as vital, since these boundaries serve as control elements to secure the safety society and protect the environment from shifting to dangerous degradation (Rockström 2009). The strategies, which can contribute to sustainability, can be characterized by identifying 'what' can contribute, with some critical few indicators that link value production to planetary limits and to poverty (Isaksson, Garvare and Johnson 2015).

The case study company informed us (Whiteford 2017) that they took a Triple Bottom Line approach to sustainability and did yearly reporting based upon the GRI. The GRI standards can serve as clear indicators on what to measure, however a company is meant to choose whether or not specific indicators are relevant to their context. This can become problematic for taking a strategic approach when 'what to focus on' might be unclear to the decision makers. While the Brundtland definition (United Nations 1987), see chapter 1.1, is an often referred to definition of sustainable development, it has been found not to provide specific guidance on how or what to do in order “to aim at development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Broman 2017). In itself the Brundtland definition is a well-established definition of sustainability, however it can be challenging to operationalize, since it does not provide clear indicators. The United Nations Economic Commission for Europe (UNECE 2017) describes the skeptical debate about the concept and located that a challenging characteristic of the term "sustainable development" is that “it can mean all things to all people.” Furthermore the commission pointed out that the concept was both broad and vague and that its content could be given different interpretations. Therefore, in the business context of this study, looking for a more detailed and precise framework seemed appropriate.

In this particular case study yearly, GRI-based, reporting was combined with a Triple Bottom Line approach, which advises for “the simultaneous pursuit of economic prosperity, environmental quality and social equity. And for companies that aim for sustainability the

need to perform not against a single financial bottom line but against the triple bottom line” (Elkington 1999). The Triple Bottom Line also clearly takes a complexity approach as “...environmental issues cannot be considered in isolation from an increasingly interconnected, competitive and fast moving global economy” (Elkington 1999, 267). Additionally, Elkington (1999) refers to the need to have integrated frameworks for action, which are sufficiently flexible and resilient to manage, let alone succeed, in an unexpected and increasingly complex world. Though we can see the Triple Bottom Line covering the first four perspectives presented by Lozano (2008), a limitation of the Triple Bottom Line approach is its separated partial representation through a Venn-Diagram that could create a trend of trade-offs between economy and the environment (Seuring and Müller 2008a; Pagell and Wu 2009, Lozano 2008) and lead to a ‘path of doing less harm’ instead of ‘no harm’. Furthermore it does not clearly identify a ‘future oriented approach’ since it does not explicitly address the inter-generational time perspective, which has been identified as significant. (Waite 2013, Lozano 2008)

The FSSD, with its principled definition of success and strategic approach, seemed most suited to integrate as it is described as helpful to address complex systemic challenges (Broman and Robèrt 2017) and thus integrates the fifth perspective of Lozano (2008). The FSSD has a broad long term perspective, rather than looking at the immediacy of problem solving in the ‘now’, and can therefore be described as strategic instead of tactical (Broman and Robèrt 2017). In addition to the Triple Bottom Line framework, the FSSD offers a clear bounded definition of sustainability, and an ecologically dominant nested approach (Broman and Robèrt 2017). The FSSD investigates how relationships between parts give rise to the collective behaviours of a system and how the system interacts and forms relationships with its environment. It builds on a Five Level Framework for planning in complex systems. These five levels are Systems, Success, Strategic Guidelines, Actions and Tools (Broman and Robèrt 2017). As shown in Figure 3.1:

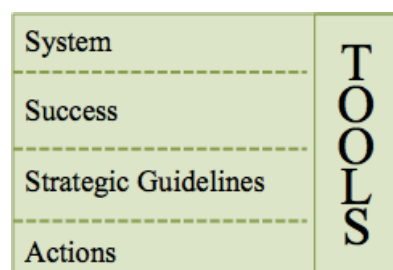


Figure 3.1. Five Level Framework for Planning in Complex Systems

Having embraced the FSSD as a solid starting point to build the CF all five levels were described and analysed. This was done by asking level specific questions, following these general questions: *What in the FSSD was relevant in the context of this case study situated in the cashmere luxury industry, and why. What from the previous literature review could complement the FSSD?* Each level was summarized by providing a table with a ‘Framework Result’. The five results combined provide the overall CF, which was used to create the interview questions and the coding in the next phase.

3.2.2 Systems Level

- Is the nested complex adaptive system approach as defined in the FSSD applicable to this research

context?

- What additional components could support a comprehensive systems analysis?

On the systems level, the FSSD takes the earth as a closed complex adaptive system as essential. The earth being the overall system, containing several nested subsystems, such as the human society. Our civilisation is highly connected to our biosphere and the resources that the earth provides. An understanding of the complexity of the supply chain can be viewed in the introduction of this paper, which acts as an intersystem analysis that outlines the nested systems and subsystems that the supply chain of our case study company falls within. As mentioned earlier Towers, Perry and Chen (2013) describes the supply chains of luxury manufacturers to have become more complex and global, notwithstanding the cashmere industry also follows this description and is comprised of a complex global network of multiple overlapping supply chains.

The current view of the case study organisation on sustainable supply chains is that of the Triple Bottom line (Elkington 1999). Which is often portrayed as a ‘three legged stool’ supported by People, Planet and Profit. Though Montabon, Pagell and Wu (2016) make a case for an Ecologically Dominant logic (Figure 3.2), where environment and social interests supersede economic interests, they are considered as nested systems. Pagell and Wu (2009) state that the sustainable supply chain research field has focussed on “does it pay to be green and sustainable”. And they believe this question has become irrelevant since “it is increasingly clear that organisations will need to deal with environmental and social issues” (Pagell & Wu 2009, 1). This correlates with the Ecologically Dominant logic, since it shows that the economy “does it pay” is nested within the social field, which in its turn is nested within the ecological field. One could claim that taking care of that which enables and supports our activities and to sustain the enablers will lead to success and is in the benefits of all actors involved. This view has been adopted in this research.

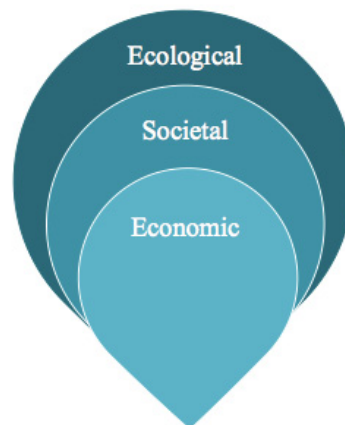


Figure 3.2 Nested Ecologically Dominant logic

As described in the Introduction, Beske-Janssen, Johnson and Schaltegger (2015), concludes that the social and environmental dimensions are treated separately in the literature with limited insight on how to integrate them and that there is less emphasis on the social dimension than expected, a more interconnected and nested approach to be relevant to the SSCM field. Therefore, we will include an understanding of a nested system approach in our CF.

The systems level is required to describe information that is relevant to the success level (Broman 2017). According to the same author, when looking at the overall RQ, the additional components that could support a comprehensive systems analysis would be to analyse the existing barriers and enablers as “influencing factors” towards a sustainable supply chain, since these are closely related to the mapping of the internal situation and information flows and mapping of the supply chain (Broman 2017). The above discussion has been summarised in the table below:

Table 3.1 Framework Result: Systems Level

Framework Result: Systems Level		
Nested Systems Approach	Enablers to influence	Barriers to influence

3.2.3 Success Level

<ul style="list-style-type: none"> • Are the SPs as defined in the FSSD applicable in the case study context? • What additional sustainability indicators could support decision making?
--

The success level within the FSSD takes a principle-based definition of sustainability, which establishes the necessary conditions for ecological and social systems to not be systematically degraded. They comprise the boundary conditions within which society, in the long term, can continue to function and evolve (Broman and Robèrt 2015). These non-overlapping sustainability principles (SPs) have the aim to aid decision-making and are listed below.

For a sustainable society nature is not subject to systematically increasing:

1. ... concentrations of substances extracted from the Earth crust (SP1)
2. ... concentrations of substances produced by society (SP2)
3. ... degradation by physical means (SP3)

In a sustainable society people not subject to structural obstacles to:

4. ... health (SP4)
5. ... influence (SP5)
6. ... competence (SP6)
7. ... impartiality (SP7)
8. ... meaning-making (SP8)

From an exploratory interview (Whiteford 2017) it became apparent that the case company used the Triple Bottom Line (Elkington 1999) approach to sustainability: Social, Economic and Environmental. These three elements could furthermore be identified in the leading SSCM research (Seuring and Müller 2008a, Beske 2012, Pagell and Wu 2009). Upham (2000) suggests including explicit economic measures. We recognised that the need for an economic indicator within the success level is a key component of business success and is a consistent driver of profit based measures for companies. An economic element to the definition of success was thus added to our CF as ‘Business continuity for all supply chain actors’.

Finally, as the cashmere fibre comes from the cashmere goat, a more specific measure of animal welfare was deemed necessary to add to the eight SPs to the measure of success. The cashmere specific NGO SFA (Jones 2016) clearly outlines a more explicit measurement of sustainable animal welfare in the Nutag Framework as shown in Table 3.4. Nevertheless, we could not find this component to be explicitly captured within the principled definition of sustainability of the FSSD and therefore found relevant to add. Thus, this element was a final addition to our CF under the Success level.

Table 3.2 SFA Nutag Framework

Economic pillar:	A stable cashmere market for buyers/retailers with much improved eco-credentials to fulfil a company's social responsibility. Also improve the long-term productivity of herding families through better herding practices leading to higher profitability and sustainability.
Ecological pillar:	Sustainable Grassland Stewardship and Remediation programme, to reverse the desertification of the grassland.
Socio-cultural pillar:	Creation and collaboration with herder cooperatives to help preserve nomadic culture and a traditional way of life in rural Mongolia.
Animal welfare pillar:	The SFA will ensure that participating cooperatives follow the approved animal health, welfare and environmental standards. The wellbeing of animals - the quality of fibre - is intrinsically linked to feed, nutrition, suitable access to pasture and freedom to behave naturally. The SFA also supports monitored breeding Research and Development to optimise the genetic gain of cashmere goat.

Table 3.3 Framework Result: Success Level

Framework Result: Success Level			
Environmental	Social	Economic	Animal Welfare
SP 1,2,3 On local and global level	SP 4,5,6,7,8 For all supply chain actors	Business continuity for all supply chain actors	Wellbeing of animals in their natural habitat.

3.2.4 Strategic Guidelines Level

Are the guidelines the FSSD regarding the decision making of the case company sufficient?

The Strategic Guidelines of our framework looked at practices that could assist in reaching those goals as outlined in the Success level. The FSSD uses strategic elements of backcasting, prioritisation, flexibility and adaptability to the fast changing scenarios in our complex world (Broman and Robèrt 2015). Unlike the Triple Bottom Line approach the FSSD takes into account a time dimension with its three prioritization questions. Lozano (2008) states the importance of taking an inter-generational perspective; the time dimension focuses on preserving current value in all three other dimensions for later. This means assessment of short term, longer term and long-term consequences of any action. As such the FSSD strategic guidelines seemed sufficient to assess our data in our CF. Seen below in Table 3.6.

The level of strategic guidelines, describes the guidelines that are used to prioritise which actions will move towards the previously described success level. The FSSD provides three prioritisation questions: (1) Is there a sufficient ROI? (2) Does it provide a flexible platform? (3) Is it in the right direction with respect to the success level? The SP's providing an opportunity to being idealistic in our goals in the future, and the three questions to being pragmatic in the steps we take to get there. This can also be described as backcasting, building upon the idea that novel goals are required in complex systems when the dominating trends in this system are themselves part of the problem.

Table 3.4 Framework Result: Strategic Guidelines Level

Framework Result: Strategic Guideline Level			
What guides the decision-making?	Return On Investment	Flexible Platform	Right Direction

3.2.5 Actions Level

What actions can be identified in the SSCM literature which help move towards the overall success level?
--

The concrete actions at this level describe which actions help move towards the overall success goal. For this CF, we looked at best practices within the SSCM and found a comprehensive study conducted by Pagell and Wu (2009). This study looked at ten case study companies across multiple industries and levels of manufacturing, retail and service industries to assess best practices in SSCM. It is a heavily cited article and clearly outlines assessable practices to measure against. Allowing for emergent codes to be present in the interviews that could not be coded under Pagell and Wu (2009), we used an 'Additional Practice Codes' and allowed emergent sub codes to arise that linked to other research practices that were collated from our literature review and can be found in Appendix B (Seuring and Müller 2008a; Östrom 1990; Beske-Janssen, Johnson and Schaltegger 2015).

Table 3.5 Framework Result: Action Level

Framework Result: Action Level Pagell and Wu (2009) SSCM Practices	
Overarching Topics	Specific Criteria
Commonalities, cognitions and orientations	Fitting sustainability in the business model
	Proactive stance and organisational commitment
	Internal supply chain integration
	Daily conversation about sustainability issues and almost always part of the decision making

	Touchstone value, internal tenets that guides businesses
	Integrate environmental efforts into the entire organisation
	Supplier development, to improve other chains
	Decommoditise inputs, buying commodities on something besides price and by extension treating commodity suppliers as if they are strategic, also linked to continuity
	Reducing supplier risk
Ensuring supplier continuity	Transparency, how got paid what
	Supplier development
	Continuity of suppliers (transparency plays a role here)
Reconceptualise the chain	Reconceptualising what the chain does
	Reconceptualising who is in the chain (ecocentric perspective)
	Supplier selection
	Closed loops/ reverse logistics
Supply Chain Management: sourcing	Traceability
	Buy not total cost not price
	Collaborate with suppliers
Supply Chain Management: operations	TQM
	Lean/ Just In Time (JIT)
Supply Chain Management: invest in human capital	Commitment to employees (high quality work)
	Maintain and / or build culture formally
Measurement	Lifecycle thinking/ analysis
	Measurement and reward systems linked to sustainability
Other measures not bundled	Collaborate with customers
	Sustainability helps in recruiting and motivating employees
	Adding new suppliers to spur change and innovation
	Developed own certification

	Supplier, supplier interaction, suppliers working with each other to improve the overall chain
	Local chain, source from closest sources

3.2.6 Tools Level

Which tools can be identified upfront that are used by the partner company that support planning and implementation to reach the overall goal?

The tools level lists those instruments that support planning and implementation to reach the overall goal. They can be to assess, measure, build capacity, map and plan and could be used on all previous levels mentioned above.

Through our exploratory interviews (Whiteford 2017) and document collection it was identified that a tool to measure success was annual sustainability reporting and mapping. Yearly reporting allows for trend analysis and therefore a relevant tool for companies to use in assessing their sustainability success.

According to Broman and Robèrt (2015) and Broman (2017) it is not advised to uncritically use a predefined set of indicators to measure sustainability successes, that are not derived from the specific context and plans of the organisation(s). Indicators should be chosen consciously, through a process that involve relevant actors, and should be based on the usefulness of various indicators for supporting the upcoming work. However, this does not exclude utility in existing sets of indicators. Seeing them as examples of possibly useful indicators, actors can choose from them and do not need to invent all indicators from scratch each time and also reduce the risk of missing indicators that are likely useful and important (Broman 2017).

The achievement of ISO 14001 certification was added as an additional tool in this CF as it is an industry standard for company compliance and global sustainability standards. Through exploratory interviews it was discovered that AB is currently working towards achieving the ISO 14001 certification with audits scheduled for later this year (Whiteford 2017). Continued and ongoing supplier auditing is an industry standard that has been acknowledged as an effective assessment tool and therefore was used both at the Actions level and Tools level to our CF (Pagell and Wu 2009). Within Pagell and Wu's (2009) case study findings, they called out auditing and licensing as practices, however we believe these two practices are measurable and give indicators of achieving the success level, therefore we have added them to the Tools Level of our CF.

Table 3.6 Framework Result: Tools Level

Framework Result: Tools Level		
Which (additional) tools are mentioned that support moving towards the overall success level?	Supplier certification / auditing	Licensing

4 Phase 2: Interviews, observations and outcomes

4.1 Methods: Data Collection and Analysis

To collect the needed data to answer the RQ we have made use of qualitative data sets, consisting of semi-structured, in depth interviews, document analysis and observation at a cashmere manufacturing company in Scotland and its supply chain actors. Below the reasoning behind these data gathering choices will be described.

4.1.1 Data Collection: Setup

As described in the Chapter 2, a pragmatic qualitative case study approach has been taken in this study, providing descriptive information that can inform professional practices. This approach is traditionally conducted by the research methods of interviews, observation and document analysis. Which then lends itself for triangulation: combining the information collected through multiple data sourcing methods. A networked approach, as taken in this research, across the supply chain and stakeholders towards sustainability, links to Lang et al.'s (2012) work on Transdisciplinary Research in Sustainability Science. Being able to use this transdisciplinary approach we used our literature to further expand on how this will take place.

4.1.2 Data Collection: Interviews

From the techniques described above, the interviews were the primary data source in this research. Savin-Baden and Howell Major (2013) suggest that interviews are the most common qualitative data collection method and they are integral approaches in most qualitative research traditions. Interviews allow the researcher an opportunity to establish trust and understanding with the interviewee and to investigate into a participant's experiences. They allow for exploration of understanding, opinion, memory of events, attitude and emotion (Savin-Baden and Howell Major 2013). In this research two types of interviews can be distinguished: (1) Exploratory, and; (2) In-depth semi-structured. The first has been used to understand the context, to formulate the RQ and to create the CF. The in depth semi-structured approach has been used to answer the questions formulated to answer the RQ.

Exploratory interviews

The exploratory interviews were conducted with the Sustainability Manager of AB, and the founder of the Sustainable Fibre Alliance. They happened over Skype video chats and included email correspondence to clarify company statistics and background history specific to the cashmere manufacturing industry and send documents that were needed for the document analysis.

In depth semi-structured interviews

Savin-Baden and Howell Major (2013) state that semi-structured interviews are a good approach to use if the researcher only has one opportunity to interview, which was the case for this research. Semi-structured questions do not necessarily follow the same order in each interview. The questions were modified in order to help create a more natural 'conversation style' atmosphere for the participants (Savin-Baden and Howell Major 2013). The general aim was to encourage the respondents to speak honestly and openly about the issues they

encounter when it comes to influencing their supply chain and/or moving towards sustainability, thus awareness of mood, tone, body language and eye contact was considered. With the existing background experience of the researchers, e.g. coaching, social work, Neuro Linguistic Programming and sustainable fashion industry, we felt comfortable and secure enough to take this approach.

The interview questions were created to be relevant and in-depth enough to adequately gather data that could build on the concepts discussed in the introduction regarding sustainability, influence in supply chains, SCM, SSCM, sustainability success and the fashion industry in general with a specific understanding of the cashmere industry. All face-to-face interviews were recorded and notes were taken to document further observations from interviewees. Each of the five level headings below have examples of questions used to gather data in these areas, with the full list of interview questions to be found in Appendix C.

The interviews took place at the AB head office and manufacturing facility in Ayr, Scotland, with three interviewers per interviewee. The interviews took the following format:

1. Introduce interviewer,
2. Ask for permission to record,
3. Sign of consent form,
4. Explain purpose of the study,
5. Start asking interview questions,
6. Make notes upfront (date/time, setting, respondents correct name, email address to send the transcript for correction and agreement)
7. Make notes during interview (observations, key words, new questions that arise).

4.1.3 Sample of Interviewees

Gathering data from various actors is key for diverse knowledge and a sufficient representation as a small sample intended to present the whole. The majority of respondents were from within the company (12 people), but include other actors from their value/supply chain (3 people). The interviews varied in time from 40 to 90 minutes. In discussion with our company contact we advised that we would like to interview a sample from across the business ranging from different departments and management levels with the aim of gaining a greater understanding of where certain knowledge of ideas were held within the business. A list was suggested and our feedback was to request a fashion designer also be included as we felt this area was important inline with sustainable design processes. Within the company, interviews were conducted, spanning operations, sales, design, production and CSR. Within their direct value chain we interviewed, via Skype, one of AB’s cashmere suppliers, the Sustainability Manager of the parent company LG and the founder of SFA. Below is a list of all interviewees by job title:

Table 4.1 Interviewees by job title

Alex Begg	Production Manager - Back
Alex Begg	Production Manager - Front
Alex Begg	Sales Office Manager
Alex Begg	Sales and Design Director

Alex Begg	Sales Director
Alex Begg	Head Designer
Alex Begg	Yarn Controller
Alex Begg	Planning Manager
Alex Begg	Production Director
Alex Begg	Technical Director
Alex Begg	Sustainability and Compliance Manager
Alex Begg	Managing Director
Supplier	CEO
Lindéngruppen	Chief Communication and Sustainability Officer
Sustainable Fibre Alliance	CEO

4.1.4 Data Collection: Document analysis

A document analysis was conducted to build a stronger grounding and understanding of concepts in the research. It was conducted on the value chain actors, such as websites of suppliers and customers and the info pack from the partnering NGO. The in-house documents consisted of supply chain maps, latest fibre price documents, sustainability reporting tool from the parent company and websites of both AB and the parent company.

4.1.5 Data Verification: Observation

Observation during a facility tour and the interviews provided insights into the company culture. It aided in increasing the variety of the data collected and to support or negate the perceptions derived from the interviews. This helped us to understand and verify the company culture that so many respondents spoke about.

4.1.6 Data Analysis: Coding, Analysing and Interpreting

The choice to use interviews requires the researchers to develop categories and make comparisons and contrasts (Shahedul Quader, Kamal, and Hassan 2016). Therefore, the data that comes from Phase 2 is analysed using the CF that was developed in Phase 1. The interviews were double blind coded and the codes were discussed by the researches and collated in a spreadsheet with all the elements from the CF. For the coding an integrated approach was taken, which uses the deductive approach of predefined codes set by the literature review. After which additional inductive codes were added when a practice seemed not to fit in the preliminary defined organizing framework. The full extent of the codes can be seen in Appendix D and E.

4.2 Results: The Conceptual Framework in Use

4.2.1 Analysing Results Using the Conceptual Framework

System Level

Based on the results from the semi-structured interviews conducted, nine (60%) of fifteen people gave definitions of sustainability that aligned with the FSSD ‘nested’ understanding. These results came from the question below:

- *In your perception, what is sustainability to you in general?*

This question allowed the respondent to be open and varied in their responses, and due to the semi-structured nature of the interviews, during this question the respondents were directed towards also describing their overall view on sustainability and the world. This enabled us to ascertain results that incorporated whether the interviewee had a nested systems level understanding of sustainability and also linked to the success level as an opening question. An example can be seen in the following quote, “It’s how your place of work is helping the world to grow...and how are you seen to be making an impact in the world. Community and environment.” Another example of the nested systems understanding that incorporates the economic element into a definition of sustainability is, “If we collectively depleted grasslands in Mongolia...our business wouldn’t continue and it has a global context, it’s not only local. It all comes back to sustainability.” However, six people (40%) did not describe the system as nested, we can see a difference in shared understandings and definitions within the employees and external supply chain stakeholders.

Two respondents clearly described a nested system in their understanding of sustainability. “In terms of environment, community, you...need to be certain that your own operation is something that you constantly improve” “Animal welfare, health, this is also a path in our work...it is a systems level kind of impact”.

When looking at the system conditions, one must also look at the enablers and barriers for influence within this system. Throughout our interviews, a key element that we coded against was influence and how AB could influence their supply chain towards sustainability. There were some key findings around these enablers and barriers to influencing the system, however we have decided for clarity in understanding, to compose those results below and answer them as a component of SRQ2 at the end of the five level analysis.

Success Level

In our CF we used the FSSD definition of sustainability using the 8 Sustainability Principles and added both economic elements from the triple bottom line measurements used in Dynamic Capabilities literature of supply chains and also an animal welfare definition as derived from the Nutag Framework used by the SFA. Some of the questions developed to gain an understanding of the success level definitions of sustainability were:

- *In your perception, what is sustainability to you in general?*
- *What, if any, general awareness about sustainability is present in the company?*
- *What is a sustainable supply chain to you?*

When split into the four pillars of environmental, social, economic and animal welfare, respectively the findings were consistent in respondents’ understandings. Fourteen people (93%) mentioned a social understanding of sustainability, with the terms “worker’s rights”, “herder’s rights”, “the voice of employees”, “succession planning” and a “better life” being

examples that capture the scope of social sustainability mentioned. Breaking this down further we then coded to the five social Sustainability Principles (SP) to discover if there were some areas that were comprehensively understood in the definition of sustainability than others, these numbers are listed as follows, all taken from a total of fifteen respondents: Meaning making: 13 (87%), Health: 11 (73%), Influence: 9 (60%), Competence: 7 (47%), Impartiality: 6 (40%).

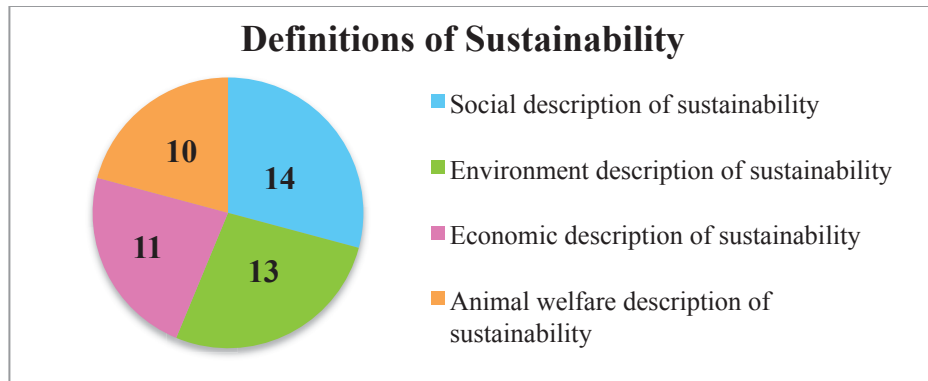


Figure 4.1 Definitions of sustainability by respondents

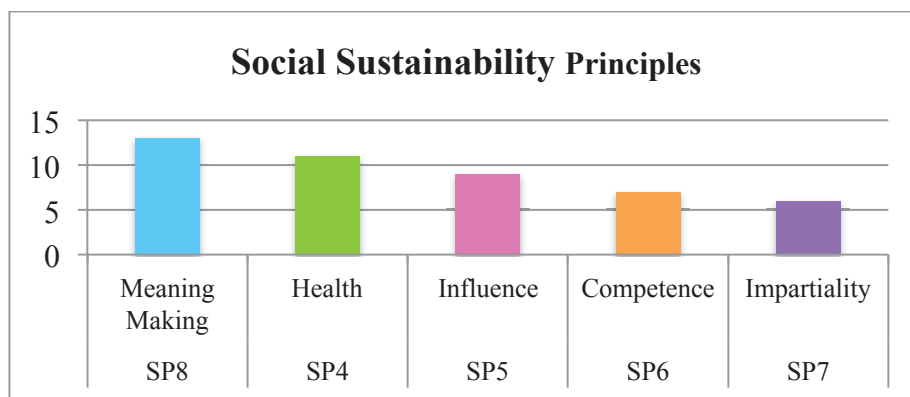


Figure 4.2 Understanding of social sustainability principles by respondents

The second of the four pillars was environment, which was analysed using the three environmental sustainability principles. As an overall area environmental sustainability was mentioned by thirteen (87%) of the fifteen people interviewed. This shows a comprehensive understanding of the environmental importance in sustainability and can be reflected by such comments as, “desertification, overgrazing, which may change farmlands”, “disposal, recycling and landfill”, “resources [are important], that we do not deplete anything” and “climate change”. Breaking the results into the three environmental SPs it was clear that AB’s understanding of environmental sustainability has leanings toward SP3, that in a sustainable society, nature is not subject to systematically increasing degradation by physical means, of which thirteen people (87%) mentioned elements of landfill, waste accumulation and desertification as issues. A sizeable difference between SP3 and the remaining environmental SPs was noticed with only seven respondents (47%) mentioning the chemical contribution to unsustainability with two people (13%) discussing SP1, that in a sustainable society, nature is not subject to systematically increasing concentrations of substances extracted from the Earth's crust (Broman and Robèrt 2015).

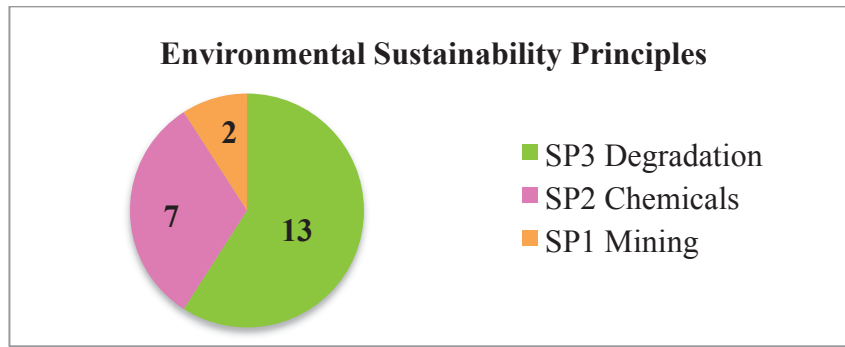


Figure 4.3 Understanding of ecological sustainability principles by respondents

An economic definition of sustainability was also mentioned consistently, with eleven people (73%) making mention of issues pertaining to business continuity, “how to keep the business resilient”, “sustainable manufacture of product”, “without cashmere we don’t have a business”, “sustainability issues around our work [skilled workers]” are some examples. Although economic sustainability was mentioned eleven times, it was most often incorporated into a nested definition (mentioned by nine respondents (60%)) as the specific mention of triple bottom line, where economic, social and environmental issues are measured separately was only recorded twice (13%).

Lastly, a total of ten people (67%) defined animal welfare as a component of sustainability. Animal welfare refers in most cases to the goats and the conditions with which they are bred, reared and cared for in China and Mongolia. However, as angora and lambs wool are also products supplied, some definitions relating to animal welfare used examples from those different supply chains. We have recorded them here, as we believe that animal welfare should take a holistic approach in definition and not be solely limited to cashmere goats when the company uses raw materials from other animals. Some examples of this come from the following statements: “our commitment to using non-mulesed sheep yarn”, “the animals are properly looked after” and “the treatment of the goats and the angora rabbits, or mulesed animals...it’s important to know how they’ve been treated.”

Strategic Guidelines Level

Within our CF, the FSSDs three prioritization questions were used as the basis to code strategic guidelines in the interviews. These guidelines were: Return On Investment (ROI), Right Direction and Flexible Platform. Examples of the questions used to understand ‘what guides AB’s decision making process?’ were:

- *In your position, how do you perceive your responsibility for sustainability?*
- *What is the responsibility of AB in making the cashmere supply chain more sustainable?*
- *How are decisions being made regarding sustainability measures?*

The results showed that ten people mentioned the importance of ROI, it must be clarified however, that in the FSSD, ROI relates to more than just economic returns (Broman and Robert 2015). Of the fifteen interviews, ten respondents (67%) mentioned ROI, but mostly in the sense of being related to profits from the availability and access to cashmere, and economic ROIs as key drivers and decision-making guidelines for the business. In the results, the definition of ROI for Alex Begg is given a financial measurement, compared to the broader FSSD definition. “Run a good business, that behaves as best it can and gives people products they love.” and finally “Without cashmere we don’t have a business.”

The second question asked refers to moving the company in the Right Direction by ‘doing the right thing’. Nine people (60%) spoke of doing the right thing in their interviews, with the specific phrase itself used multiple times by multiple respondents. “We...look at ‘what do we think is right?’ instead of ‘what does the customer want us to do?’” “Doing the right thing in terms of people, planet, product.” “We might come upon a time where everyone starts caring about [it] sustainability, then at least we are doing the right thing.” The idea of ‘doing the right thing’ is also linked to a core value for the company of ‘integrity’ and can be seen below in Figure 4.4 which was observed on message boards across the office and manufacturing facility.



Figure 4.4 Alex Begg Values

The final question used in coding for the strategic guidelines, a Flexible Platform, was only mentioned by five people (33%). This response rate is lower than the other two prioritisation questions and highlights an area for further discussion. Of the people who mentioned a flexible platform an example is:

“We replaced our boiler...we checked biomass boilers: it's entirely more environmentally friendly - finally we didn't choose that because the nature of a biomass boiler is that it should work 24/7. We switch our machines off as we don't need them running 24/7 so it's better to use gas, it is more affordable and uses less energy. It's a good example of the considerations made.”

Another example of finding a flexible platform and taking a ‘stepping stone’ approach to strategic planning is, “We can choose how much water, and which electricity to use. And we can make choices to leave the lights on; we could reduce some of that. And it would save money.”

Actions Level

Our coding was based on the SSCM practices from Pagell and Wu (2009), we coded to find the current practices being used and also to ascertain those that are not being practiced within the case study company. As mentioned in Phase 1 of our results we added “Additional Practice Codes” to add emergent and recurring themes in the data collection and coding process. These emergent codes were practices used in other models of SSCM (Seuring and Müller 2008a; Beske-Janssen, Johnson and Schaltegger 2015), traditional supply chain literature (Gunasekaran, Patel and McGaughey 2004) and further reading from the Commons principles (Östrom 1990). The complete table of practices and the results used as an analysis list can be found as Appendix F. The top ten practices by the number of people who mentioned each are listed in Table 4.2 below.

Table 4.2 Top ten practices used by Alex Begg

#	Pagell and Wu subsection for SSCM	Description of practices	# Respondents
1	Commonalities, Cognitions and Orientations	Touchstone value, that guides businesses	13
2	Commonalities, Cognitions and Orientations	Proactive stance and organisational commitment	12
3	Sourcing: SCM	Traceability	11
4	Reconceptualising the chain	Reconceptualising what the chain does	10
5	Sourcing: SCM	Collaborate with suppliers	10
6	Invest in human capital: SCM	Commitment to employees (high quality work)	9
7	Other practices not bundled	Collaborate with customers	9
8	Commonalities, Cognitions and Orientations	Fitting sustainability in the business model	8
9	Sourcing: SCM	Supplier certification / auditing	8
10	Operations: SCM	Total Quality Management	7

The following question helped us to gain a greater insight into what practices are being used by AB for sustainability. Although not specific to AB, the second questions below, helped to elicit comments around practices from other actors, which also brought about responses to those AB were involved in:

- *What specific sustainability actions are taken today by AB?*
- *What actions are taken by other actors for a sustainable supply chain?*

Out of a total of 36 practices, which combine Pagell and Wu’s SSCM practices (2009) and the additional three added to our CF as actions, only nine practices are mentioned by eight or more people (50% or more). This leaves a large number of the practices as being either unknown, not readily thought of in SSCM for AB or were not mentioned in interviews due to a flaw in our questions and/or interview techniques.

Of the top ten practices found in AB, “Commonalities, Cognitions and Orientations” as a subheading came up three times by respondents. Of these three they were: touchstone value, that guides business: 13 (87%), proactive stance and organisational commitment: 12 (80%) and fitting sustainability into the business model: 8 (53%). The category of Commonalities, Cognitions and Orientations is described by Pagell and Wu (2009), as being about shared ideas, company culture, identifiers that bring people together with SSCM and their company; equally discussing economic and non-economic elements of sustainability, that sustainability is not an occasional topic, and incorporating a key guardrail of the company identity. In our results the terms “pride” and “proud” were mentioned numerous times and identified as one of AB’s core touchstone values, that are linked to their company values, outlined in Figure 4.4 above.

Some examples, that were found in our interviews which we attributed to these practices were: “...personally I am proud of working for a company that cares about sustainability”, “we want to be seen as a proactive supplier”, “we thought it would be valuable to look at a supply chain [cashmere] that is less easy to influence”, and “we have to report...sustainability reporting and transparency are one of they keys [to success]”.

The other practice subheading which also arose three times in the top ten is, “Sourcing: Supply Chain Management”, this bundle of practices is about linking traditional supply chain management practices to sustainability, i.e. having profit as the main driver still. However, linking this to sustainability goals within the company brought about information sharing and traceability efforts with suppliers (Pagell and Wu 2009). This can clearly be seen in our findings above where eleven people (73%) mentioned the practice of traceability currently taking place within the company and its supply chain, ten people (67%) spoke of supplier collaboration and eight people (53%) of supplier certification and auditing. “Some people [from AB] go over to Mongolia and check the goats, the herds first hand”, “we have been to see some of the farms”, and “traceability is important” are some of the examples from the interviews that speak to the importance of traceability within the supply chain. Collaborating with suppliers is viewed as important, “because it creates good, long relationships.” “We are close to our suppliers and we know them well enough and we know they are doing things correctly. It’s about involvement down the line and being active.” This knowledge and certainty is aided in the form of verification and certification standards, “We really try to look at good standards and what are external views on good standards. So we went to DEFRA, which is a UK organisation for the Development of Food and Rural Affairs”, “For non-mulesed they have to show a certificate”, “The certification of the sourcing of the raw materials is vital to sustainability”. A practice that was observed whilst at the facility was one of a close supplier relationship for the use of teasels¹ needed in the production process, this close relationship allows for traceability and guarantee of quality required.

The final four practices that were mentioned in the top ten practices all came from different sub headings. They are mentioned here with the respective number of respondents per practice: Reconceptualising what the chain does: 10 (67%); Commitment to employees (high quality work): 9 (60%); Collaborate with customers: 9 (60%); and finally, Operations: TQM:

¹ A teasel is a plant of the family Dipsacaceae. Its flower head, once dried, can be used as a natural comb for cleaning and raising the nap on fabrics (Merriam-Webster 2003).

7 (47%). The TQM practice was observed via the improvement board that was viewed during the factory tour and was a place that employees could add suggestions for quality, efficiency, and sustainability improvements. Apart from Reconceptualising what the chain does, the other practices could quite easily fall into traditional supply chain practices (Pagell and Wu 2009). Some statements that aligned with the concept of reconceptualising the supply chain were, “one thing we do is to go into department stores and train the staff, telling them all about the details of good quality products for life, so that they to express that story to the customer”, “We had a sustainability day with the senior team and spoke about...what more could we do. Maybe it’s in the farming. ...Perhaps we could give back to the farmer or plant some trees. I don’t think just visiting suppliers or farms is enough”.

As was mentioned previously, out of a total of 39 practices that we have deemed key actions to success in SSCM, only 10 of these were mentioned by more than eight (50%) of the respondents. AB, therefore has the potential to add further actions, that we believe would aid in its pursuit of SSCM. We will look further into the practices not currently being used and possible enablers and barriers to these in the following section answering SRQ2.

Tools Level

In the Action Level, supplier certification was a practice; gaining these certifications is a necessary tool for measurement in our framework. The number of respondents who mentioned certification/auditing under actions was eight people (53%). In answering the following questions we aimed to find some of the tools used by AB in achieving a sustainable supply chain:

- *What is the responsibility of AB in making the cashmere supply chain more sustainable?*
- *How is this achieved today?*

Through the interviews and then through further exploratory interviews it was discovered that AB use guidelines from DEFRA as a tool to measure animal welfare in their supply chain. “[DEFRA] is an internationally recognised standard...it’s about us taking good practices and deciding to audit something that is of a good standard”. This quote points out the importance of not just auditing, but ensuring the audit methodology is also of a recognised standard. The use of external audits of Tier 1 suppliers through organisations such as SEDEX and also internal audit methodologies were used as a tool to measure the standards of the suppliers used by AB. “We have looked at these suppliers and sustainability is part of the audit, how they treat employees, what they do with waste, chemicals, certifications and such.” “AB’s customers also make ethical audits looking at sustainability [in our operations], looking at what we are doing with respect to standards, etc.” These two statements show that both AB is using audits as a measure for its supplier and that as an organisation; its own operations and facilities are also audited.

Sustainability reporting is yet another tool used to measure AB’s realisations in sustainability, reporting to their parent company LG, through the interviews the use of the GRI as a measurement was discovered, “We have to report to LG, sustainability and transparency are [one of the] keys.” This reporting is a requirement of AB’s parent company, the Lindéngruppen. LG set sustainability targets that adhere to the Global Reporting Indicators (GRIs), and they also require supply chain mapping for their companies. “At the moment we express that the companies should lead the transition towards a sustainable world, in their own way, that fits the company.” This was new information regarding a measurement tool for

sustainability and as such was then added at the Tools Level to the coding structure as an emergent code.

4.2.2 Practices not being utilized

As was shown in the above results section under Actions, there are a large number of Pagell and Wu’s (2009) practices which are not being currently practiced across the internal and external supply chain based on the number of respondents per action. In answering which practices are currently being used, the question then, and ‘what practices aren’t they doing?’ arose. We were able to give a clear list of 29 practices that had less than a 50% response rate (7 people or less) from the fifteen interviewed. These practices can be identified in the full list of practices coded against in Appendix F.

The use of measurements in analysing sustainability goals are an example of a practice that only five respondents (33%) mentioned, however there were specific comments made about the need for measurements in AB. “Is there a goal? Apart from just wanting to do better...how do we measure that? What is the goal we are trying to achieve?” And also, “How do you actually measure it? What are we actually trying to achieve? What are we trying to do better? What do we want to get out of sustainability?” Employees of AB are asking for measurements for sustainability, this is one example of how knowing a certain practice is not currently being utilized can be of benefit to a company to act upon, in the Discussion section of this paper we aim to focus on some more of these practices and the link to then influencing AB’s supply chain.

4.2.3 Enablers and barriers to influence

As mentioned in section 3.2.2, in the systems level, to attempt to answer our RQ around influence, we looked at the enablers and barriers that became apparent throughout the interviews. These were common trends that came up around AB’s perceived ability to influence their supply chain and also on an individual level how each person perceived their influence within AB. Questions such as:

- *Which actor has the most power and/or influence to address the aforementioned sustainability challenges in the supply chain?*
- *What do you think could play a role in overcoming influential barriers?*
- *What is your personal level of influence regarding sustainability initiatives within AB?*

Below is a list of 12 barriers identified mentioned from highest to lowest:

Table 4.3 Identified barriers

Barriers to Influence	Example/Description	# Respondents
Prioritizing ‘X’ over sustainability	The trade off in choice of urgency, quality, price, or customer above sustainability goals	7
Complexity of supply chain	Geographic difference, language, many small or isolated raw material suppliers	6
Misunderstanding/Lack of internal definition of sustainability	Having a (shared) vision of success that includes sustainability	5

Middleman in supply chain	Not being able to buy direct from suppliers or wholesalers due to quantity of orders, using a mid tier supplier to purchase from	4
Perceived quality (100% cashmere)	That all products must be of the highest virgin material quality	4
Limited economic leverage	As an SME there is not enough buying power in the marketplace to achieve their sustainability goals	3
Consumers unaware of the true cost of cashmere	Unaware of the true cost of production and/or unwilling to pay the true price	3
Lack of trying due to lack of belief in possibility.	A self-defeatist attitude. The problem is too big, too complex, too hard to make a difference.	3
Lack of resources	Lack of skilled employees	3
High cost of sustainable production	To create fully sustainable products is a more expensive endeavour than non sustainable products	2
Consumers under valuing clothing	The consumerist behaviour of customers and their over consumption of fashion with no closed loops	2
Blind Trust	Believing without questioning, believing that the company is sustainable without asking how?	2

Below is a list of 8 enablers to influencing the supply chain identified at AB:

Table 4.4 Identified enablers

Enablers to Influence	Example/Description	# Respondents
Collaboration	Cross disciplinary collaboration (internal and external), including academia, NGOs, other suppliers/retailers	11
Shared vision	Having a shared history within the company and a shared future for everyone	10
Customers demands	When customers demand sustainability and traceability	6
Trust	An ability to trust those in positions of power and with the knowledge and assurance of ethical business decisions being made	6
Ability to convince other actors	Enthusiasm and passion for sustainability and achieving goals is infectious to other actors	5
Being a role model	Within the company and also with other actors, being recognised for being sustainable and being a trailblazer	4
Technological Innovation	Looking into new innovation capabilities and possibilities for production in the industry	3
Clear company values	Having clearly identified company values to all employees and partners/businesses	2

5 Discussion

For this research we have interviewed fifteen people from an SME in a cashmere supply chain. From these interviews we identified applied and missing SSCM practices and the enablers and barriers for influencing a supply chain towards sustainability. This discussion chapter presents our analysis of the results and review of SSCM literature by first describing the enablers and barriers to influence, after which an overview of the ‘best practices’ in the current reality of the case study are listed that seem most effective in overcoming some of the challenges that face SMEs.

5.1 Enablers and Barriers

When asked about AB’s ability and role in influencing the cashmere supply chain, employees listed explicitly or described the phenomena of issues (Chapter 4.2).

Barrier: complexity of a supply chain

Reflective enabler: collaboration

Some of the challenges identified in this research for a retail manufacturer to manage are geographic differences, language barriers, and small or isolated raw material suppliers. It can moreover be difficult for a company to create a clear strategy for influence, whilst the group of actors in its supply chain is unclear. A possible method to overcome this could be further in-depth analysis: measuring and mapping of the supply chain structure. AB has already paid particular attention to stages of production and sourcing that go beyond their Tier 2 suppliers as this leaves open the issue of a lack of transparency (Whiteford 2017). The angora and wool supply chains of AB shows that full traceability is possible. In achieving this level of traceability the number of suppliers used was reduced and, in cooperation with long term supplier relations, built a sense of security and trust in the quality of the product. Although having great diversity of suppliers brings flexibility, it is more challenging to manage for sustainability (Forum for The Future 2007).

An enabler identified during the interviews was cross-disciplinary collaboration through the value chain, which included partnering with academia, NGOs and other suppliers and retailers. The current AB practices such as, “reconceptualizing what the chain does” and “who is in the chain” (Pagell and Wu 2009) are based on such collaboration with competitors and NGOs in addressing the current complexity challenge in the cashmere supply chain. An emergent barrier that became apparent (adding to the complexity) is the barrier ‘middleman in the supply chain’, described in the next paragraph.

Barrier: middleman in supply chain

Reflective enabler: trust, ability to convince other actors, technological innovation

What is challenging from the cashmere garment producers perspective is traceability at the beginning of the supply chain with its numerous middlemen on the way to wholesale suppliers. This can be illustrated with a quote from one of the respondents “(...) now, with our cashmere supply, we can go to the farms and check farms, but they can’t connect what we are getting to a particular farm”. As such, luxury brands struggle with the guarantee of complete

sustainability of cashmere (Burberry PLC Group 2017). Due to the small economic leverage, AB is forced to purchase the fibre from wholesale supplier with all middlemen on the way. Enablers that can be identified to overcome this issue come from the angora and wool supply chains observed current success. First, trust those in positions of power that have a proven knowledge and a track record of making ethical business decisions. Choosing suppliers that can trace their sources could be the key practice here as it was mentioned by eleven (73%) respondents. Second is an ability to convince other actors (middlemen in this case) via direct communication to act sustainably, making cashmere supply chain challenges a priority in their own performance. The third enabler for influence is being open to technological innovations in the industry such as closed loops production from recycled fibres (Elkington 1999). Innovations might overcome issues with transparency and traceability of cashmere and influence not only the supply chain but also the fashion industry in general towards sustainability (Wilson 2015).

Barrier: misunderstanding/lack of internal definition of sustainability

Reflective enabler: shared vision, clear company values.

When there is lack of internal definition or general understanding of sustainability within a company, it can be problematic to implement and expect success in such practices as “internal supply chain integration”, “integrating environmental efforts into an entire organisation” or “leading daily conversations about sustainability issues and make it part of the decision making process” (Pagell and Wu 2009). A difficulty arises when trying to move towards a destination that cannot be clearly defined. Lack of internal definition can be an obstacle to achieve a company’s sustainability goals. It is important to be a credible role model in order to have impact on other actors in the network. Thus, the importance of having a shared understanding is key in being able to ‘practice what you preach’ when looking to influence the supply chain. According to Collins and Porras (1994), the keystone visible among the world’s leading companies is employees having a shared understanding of the core purpose and the core values of the company. Thus, we argue that AB’s current values (Quality, Integrity, Craftsmanship, Passion and Working Together) (Figure 4.4) can be a foundation for building their future vision. A participatory process could engage the entire team by integrating the different levels of employees, even more than is currently taking place. Individual contribution is an important element to having shared ownership of the collectively created outcome and solidifies employees’ identity with the company.

Barrier: Prioritizing ‘X’ over sustainability. Enabler: Clear company values.

The trade-offs in regular supply chain management practices such as the priority of cost, urgency, quality, price or customer requirements (Gunasekaran, Patel and McGaughey 2004) above sustainability goals are characteristic of many business organisations (Seuring and Müller 2008a). Having a shared understanding of sustainability and a vision as described above, AB employees could be able to make more conscious decisions taking long-term perspectives into consideration. Being a profitable and successful company is a way to influence actors not only in their own supply chain but also in the wider cashmere and luxury fashion industry, by illustrating that sustainable business practices are not risks, but instead future opportunities (Willard 2012).

Barrier: Perceived quality (100% cashmere)

Reflective enabler: customers’ demands, technological innovation, and ability to convince other actors

Luxury retailers in the case study company supply chain require that all products must be of the highest virgin quality materials. Consequently, the company is incentivised by customer demand to produce pure cashmere products even though it can produce products made of recycled materials.

Recycled cashmere cannot be guaranteed 100% pure due to inadequate sorting and production processes. Used clothes are gathered; tags and other materials are cut away. Material is cut into small pieces, combed into fibre once more and spun again (Millefili 2015). There can be no guarantee that all labels will be removed and excluded in the re-combing process, thus a 100% pure cashmere guarantee cannot be ensured. From the interview data we learned that due to a common consumer perception that ‘recycled’ products are seen as having a lower quality than virgin materials, this is an obstacle that luxury fashion faces in moving towards a sustainable supply chain. The second challenge is the process of gathering used clothes from consumers. If the company is a large retailer, it can organise collection, sorting and storage. For example H&M have had 39,000 tons of garments collected in their shops since 2013 when they launched closed loop programs (H&M Sustainability Highlights 2016).

It is commonly discussed that taking a sustainability perspective into consideration, circular economy and recycling is desirable for the future of the textile industry (Wilson 2015). More aware consumers who want to make responsible choices in the purchasing habits also expect this. There is a global tendency now to ask companies how their clothes are made. An example of this can be found at the Fashion Revolution, a non-profit organisation that connects fashion customers in 90 countries and promotes the equal importance of people, environment, creativity and profit (Fashion Revolution 2017).

AB might look at the technological innovations in yarn production for a future perspective. Having its own brand enables AB to experiment and analyse market responses. It is an opportunity to be prepared for an industry, like many others, where change is on the horizon and to have alternative and diverse product ranges. We can assume that it is a matter of top decision making, as a business cannot move towards sustainability if the management rejects sustainable solutions for the future.

If the above described solutions work, AB can be a role model and potentially influence their and other supply chains in the industry by convincing other actors that a sustainable and innovative course is worth taking.

Barrier: limited economic leverage

Reflective enablers: collaboration

Our study shows that due to the economic scale of the business, AB does not have enough buying power in the marketplace to achieve their sustainability goals. The size and quantity of yarn ordered is not big enough to use economic leverage on mass wholesale suppliers. Consequently (referring to Pagell and Wu (2009) SSCM practices) when there is a lack of internal supply chain integration, the supplier’s risk is increased due to lack of sourcing control and supplier development becomes a challenge.

Collaboration across the value chain (with a focus on retailers and competitors) was indicated as an enabler influencing the upstream supply chain by joining forces and increasing economic power and leverage. This can be supported by Seuring and Müller’s description (2008) of “win-win relation” which aids to SSCM strategies.

Barrier: consumers unaware of the true cost of cashmere

Reflective enabler: ability to convince other actors, being a role model

Due to casualisation of cashmere in fashion, final customers are unaware of the true cost of production and/or unwilling to pay the true cost of the highest quality cashmere garments (Abnett 2015). According to Harris, Roby and Dibb (2016), unsustainable consumer choices have their background in limited knowledge, limited ability of alternative products and role of fashion, societal norms and status connected with personal visibility, appearance and style.

The interviews in the case study company showed that there is a lack of understanding of different levels of quality of cashmere among individual customers. Spreading the knowledge, enthusiasm and passion for sustainable cashmere creates a friendly environment for changing consumer approaches and behaviours. The ability to convince other actors and being a role model have been identified as enablers in influencing supply chains towards sustainability. One way this could be achieved is by implementing positive storytelling in marketing strategies, social media promotion, cooperation with fashion bloggers and influencers. Making products of recycled cashmere and delivering an alternative cheaper and sustainable product might be successful as well.

Barrier: Lack of trying due to lack of belief in possibility

Reflective enabler: collaboration

AN SMEs size and economic leverage compared to mass fashion producers and manufactures can cause a company to have a somewhat self-defeating attitude. Influencing other actors in the supply chain can seem too big, too complex, and too hard to make any real difference. Having measurements and reward systems linked to sustainability is one of the missed practices found by Pagell and Wu (2009), and could increase the in-house awareness and proof that sustainable solutions and influence are possible. What can also be suggested in this case is to strengthen the internal belief that change always starts with small steps, and that AB can built its strength through value chain collaborations.

Barrier: lack of skilled human resources

Reflecting enabler: collaboration

Lack of employees with traditional, craftsmanship skills, resources and support functions was mentioned several times as one of the biggest challenges for AB to maintain production continuity. It is worth analysing and identifying the key skills necessary to sustain the business at the level of quality desired and ensuring training programs both internally and externally to also support this desired outcome. Cooperation with academia and local councils, for example, to create work and training initiatives could be a suggestion to overcome this challenge.

Barrier: high cost of sustainable production

Reflecting enabler: ability to convince other actors, customers' demand of sustainability

The "high costs" involved to create fully sustainable products has been cited as a main barrier to SSCM by Seuring and Müller (2008) and could also be found in the results of this research. In this case study, having long-standing clients that understand and also desire responsibly made products, as the 'true cost' is the core goal. Again, this can be achieved by spreading awareness among buyers, giving them a sense of the different levels of cashmere quality.

According to interviews conducted with employees, the company is not afraid of the low quality cashmere expansion into mass fashion. Nevertheless it would be strategic to gain more aware and long-term clients to sustain the level of quality to help enable their high cost of production. The ability to convince using storytelling marketing as well as scientific sustainability facts can be supportive. Taking SSCM practices (Pagell and Wu 2009) into consideration, developing certification as a guarantee of quality and sustainable production might support such marketing actions.

Barrier: consumers under valuing clothing

Reflective enablers: ability to convince other actors, cooperation

Over the research we identified internal beliefs that consumers undervalue their clothing. It seems that consumer global buying tendencies are in favour of high quality production. Numerous sources report incremental shift in buying preferences from quantity to quality as an emerging trend (WWD 2012, Lutz 2017). What SMEs can do in this case is continue spreading awareness about responsible purchases among clients and customers. Trans-disciplinary and cross industry cooperation with similar companies (including cooperation with competitors) can bring significant profits for the industry as a result. It can be profitable in the future for SMEs to identify benefits from closed loops and implement technological innovations for itself to be strategically prepared for upcoming trends in the fashion industry (Wilson 2015).

Barrier: blind trust

Reflective enabler: trust

In a few interviews it was identified that a deep belief in top management making fully sustainable decisions in all AB supply chains is present. By contrast, top management admits that despite a strong commitment and actions already being made, AB meets significant traceability challenges in the upstream cashmere supply chain. This blind trust influenced employees' individual perception of individual responsibility for sustainability while making professional decisions. The employees trust that other actors in their supply chain or in the industry (value chain), which have similar, sustainable goals.

5.2 Prescriptive thoughts based on best practices within SSCM

There is a parable that tells a tale of a Rabbi who sets out to change the world:

When I was a young man, I wanted to change the world. But I found it was difficult to change the world, so I tried to change my country. When I found I couldn't change my country, I began to focus on my town. However, I discovered that I couldn't change the town, and so as I grew older, I tried to change my family.

Now, as an old man, I realize the only thing I can change is myself, but I've come to recognize that if long ago I had started with myself, then I could have made an impact on my family. And, my family and I could have made an impact on our town. And that, in turn, could have changed the country and we could all indeed have changed the world.

The source of this parable is inconsequential, however it is the moral of the story that is important. This parable is trying to elucidate that change from within is the key to influencing the greater world around you. In this paper we have looked at how an SME can influence its supply chain. However, we wanted to understand the concept of influence to know what to look for, so we took the approach below.

When looking at having ‘power’ to ‘influence’ a supply chain, the definitions of each word are key in aiding further understanding. Power stems from the Latin word *potere/potis*, which means "specific ability or capacity" and is defined in the dictionary as the “ability to act” (Merriam-Webster 2003). It is specified as “strength, vigour in battle; efficacy; control, dominion”. In the Dutch language though, two words for power are distinguished. *Kracht en Macht*. The first ‘*kracht*’ has the meaning of ‘strength’, being physically powerful or having a strong personality. The word ‘*macht*’ has the more forceful ‘battle’ connotation of dominion, having the power to tell someone what they should do, having coercive undertones. As both words translate to ‘power’ in English, it reiterates the complexity and challenge to understand the concept of power, with a broader term ‘power’ as in Dutch, when using the word in relation to supply networks. In this research we have chosen to imply the ‘*kracht*’ meaning of power, where it points to having a strength and ability to act towards that which makes the network sustain itself. Thus, having a greater understanding of influence, we asked the same question to our case study company that the Rabbi asked himself, ‘if AB wants to influence their supply chain toward sustainability, should they first look within?’

Taking this approach to our RQ it was necessary to understand the current reality of AB to be able to offer insights about where the leverage points to influence towards sustainability are within their supply chain. In order to influence a supply chain one could say that a business must try to apply as many practices that are within their realm of influence. Based on the parable, perhaps influencing ‘in house’ would be the most effective place to start when wanting to influence the outer world. Taking this approach we summarized the ‘best practices’ in the current reality of the case study that seem most effective in overcoming some of the challenges that face SMEs. The overview of these steps can be seen in Figure 5.1

1. Top Management Decision
2. Shared Understanding of Success
3. Company wide commitment and integration
4. Collaborative Sourcing: traceability and supply chain mapping
5. Collaboration throughout the value chain
6. Clear Communication of Sustainability

Figure 5.1 Prescriptive steps towards SSCM

1. Top Management Decision

The first step in overcoming some of the challenges that face SMEs is to have top management’s decision to move towards sustainability. From the results we can see that the company has made decisions regarding ‘being proactive’ and ‘fitting sustainability in the business model’. These factors have also been identified by Beske and Seuring (2014, 325) when summarizing how to successfully implement SSCM they state a “necessity for top management support”. One might say that in order to sustain cashmere supply chains, engagement and investments are required with various large-scale social and financial actors.

Business urgency can be identified looking at the future pressure and scarcity in the cashmere sector as presented through the ‘funnel metaphor’ (u 2000). We can additionally refer to a personal interview with Göran Broman (2017): The funnel metaphor is intended to facilitate a more profound understanding of the dynamics of the sustainability challenge and the self-benefit of a proactive stance. The understanding of the self-benefit, i.e. the ‘business-case of sustainability’, helps answer the question: ‘What’s in it for us?’ and ‘How can we work strategically with sustainability?’ Many organisations have a profit-orientated approach in a competitive market. If science could show how to improve business in a way that leads to a sustainable future, it could support proactive businesses to serve as a role model for other businesses and even governments.

Having this proactive stance may even contribute to overcome the dynamics of ‘the Prisoners Dilemma’. Often a company does not know what other actors will do, and we know that, through this theory, people are prone to choose for self-benefits. However, if both actors do so, both lose more in the end. By having a top management decision and commitment perhaps this trap could be overcome, since the company does not wait for other actors to move ahead first. This might even be linked to Broman and Robert (2017) who state, “The greater number of business leaders of this competent, proactive kind, the easier it will be for proactive politicians to design policies based on the same understanding, thus producing a positive spiral.”

2. *Shared Understanding of Success*

Secondly, we can see the benefits of a buy-in to sustainability from top management assists in creating a clear, *shared* understanding of success across the company. With this buy-in it could also encourage and enable bottom up initiatives with employees knowing they have support from above. From the results we can see AB has a clear understanding of social sustainability, as fourteen people (93%) mention this definition, of which meaning making and health were the most important. Thirteen people (87%) showed an understanding of the environmental success level in sustainability, with SP3 being the most understood area of the environmental SPs. Finally, a total of ten people (67%) defined animal welfare as a component of sustainability. It is also important to note that not all respondents mentioned the chemical contribution to the environment, even though it is clearly identified as a current sustainability goal on their website (Alex Begg 2017). Using the example of the purchase of non-mulesed sheep, and respondents clear understanding this then gives a clear direction for their procurement strategies. Having an explicit understanding of sustainability successes may lead to faster and more consistent and efficient decision-making.

Beske-Janssen, Johnson and Schaltegger (2015) asserts the trend in supply chain management and SSCM is still inclined to separate the social and environmental, yet there is a salient need to integrate these into a nested approach. Based on this consideration, we believe a shared understanding of the system in which this organisation sits is equally important in the understanding of a shared vision.

According to the results presented from the interviews there was a varied understanding of sustainability within AB, ranging from the broader nested system understanding of an ecologically dominant view to the more narrowed understanding that defines and differentiates between environmental, social and economic responsibilities. There was a 60% (nine people) understanding of the nested system, however 40% (six people) is a substantial amount to have a different understanding of the system one sits within. As outlined in the

Introduction all elements in the system are interconnected when having an ecologically dominant viewpoint. Therefore having a sustainable business and sustainable supply chain will help in achieving the definition of success as outlined in the results; even if the drivers are risk mitigation and business continuity for the organisation. As Towers, Chen and Perry (2013) state, luxury supply chains are becoming more global and more complex. If only half of your organisation understand this complexity, there is the potential for misunderstandings about how business is conducted in these supply chains.

We can find the importance of this conformity in Willard (2012) who states that it is vitally important to create a core vision when an organisation or business is undertaking the move towards sustainability. During the analysis of the Strategic Guidelines level we could see that having a clear, shared direction and understanding will make ground for backcasting and hence gives way for strategic planning. A process of building a shared understanding can be combined with creating a company's new vision (Robèrt et al. 2015) that prioritises sustainability. Taking an Strategic Sustainable Development (SSD) approach, a vision should have three main elements: (1) The SPs as boundaries; (2) Core ideology composed of core purpose and core values, and; (3) envisioned future consisting of stretch goals (Figure 5.2). The SPs and the core ideology should embody a timeless identity of the organisation. Within a company, the core purpose embodies the organisation's reason for being and what it provides to society. Core values describe how the organisation represents itself now and in the future; it is the personality of the company. Stretch goals should be created in order to provide forward movement, to highly motivate employees and be a driver for creative tension (Robèrt et al. 2015).

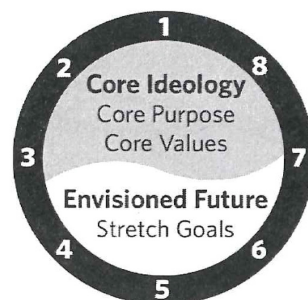


Figure 5.2 An Organisation's Vision (Robèrt et al. 2015, 141)

Adding to this we can see five respondents (33%) mentioning the importance of measurements. Three people (20%), unprompted, specifically highlighted the need for measurements to know whether or not they were heading in the right direction as a barrier in reaching sustainability goals at AB.

It was revealed through our research that AB has clear, annual sustainability reporting based upon GRI measures, which helps guide their sustainability decision making. The company sets the guidelines in deciding which GRI standards to use and therefore which direction to go, however we might conclude that as not everyone has as clear an understanding throughout the whole company. Deciding these guidelines could be problematic depending on who makes the decision on them. Janssen, Kfoury and Verkouw's (2012, 64) paper on 'Strategically Driving GRI Reporting Towards Sustainability', "noticed a strong interrelationship between sustainability context, sustainability strategy and sustainability reporting." After which the

authors conclude that in order to be strategic, an organisation should have a vision of where it wants to go, and assess where it is today, so as to take the right initiatives towards its vision (Janssen, Kfoury and Verkouw 2012). They continue to state that the GRI Reporting Framework can be used to communicate meaningful information on which key stakeholders can base decisions. Therefore, we may conclude that prioritization is necessary and is about finding a balance in being proactive and but not overextending in new untested methods or innovations. Though “being too proactive implies risks of not getting sufficiently high or timely returns on investment. On the other hand, simply reacting to changes in legislation, and changes of taxation also imply great economic risks, linked to falling behind competitors.” (Broman 2017)

3. Company wide commitment and integration

Thirdly, from the results we detected the importance of company wide commitment and integration. From the results we saw that thirteen people (87%) mentioned the ‘touchstone value, that guides business’, and could hence be marked as a significant finding. Taking a closer look at what falls under touchstone values (Figure 4.4) from AB we might state that their values are shared, and that it indeed guides their business decision-making. The coded ‘pride’, which falls under AB’s ‘Passion’ value, was mentioned thirteen times (87%) and also mentioned numerous times by many respondents in their interviews. The same went for the ‘Quality’ value at AB, which can be related back to the ‘Total Quality Management’ (TQM), described by seven people (47%), where the organisation invests in a climate in which the company continuously improves its ability to deliver high quality products. Within this TQM culture, combined with a shared commitment to sustainability, the environmentally and economically sound practices of reducing, reusing and reinventing might get an increased importance, when it is integrated throughout the supply chain. The other values of Integrity, (which came up in the interviews as ‘doing the right thing’ in the Strategic Guideline), Craftsmanship (time awareness for the company and investing in employees) and Working Together (building relationships for mutual long-term benefit with customers, colleagues, suppliers, community and environment) all aid in creating a culture that supports the success level of sustainability mentioned earlier. One might say that if these theoretical concepts are practiced, and also showing commitment to employees, and high quality work, it might lead to an increasingly sustainable supply chain when ‘lived in real life in a company’. It would show that once employees really commit and identify with the company values, they are integrated throughout the company through the decisions and actions of its employees. Including values specifically focused on sustainability is a prescriptive thought that arises from this conclusion. Though how a company can best identify and/or create its core values lies in the field of organisational development and will not be elaborated on in much detail. We suggest further research on this particular topic if required. We would like to make a suggestion to take the work of J. Porritt into account as it promotes “a form of sustainable development underpinned by the core values of “interdependence, empathy, equity, personal responsibility and intergenerational justice” (Porritt 2007, 324).

Thus far in our discussion there have been three basic in-house prescriptive thoughts identified: a Top Management Decision, Shared Understanding of Success, and Company Wide Commitment and Integration. From these findings we would advise an actor that wants to move to a more sustainable supply chain, to focus on practices that relate to collaboration with close actors in the supply chain. Those actors whose individual ‘power’ is strong enough, or collaboratively combined they are strong enough to make a change. This then leads to the fourth prescriptive thought, collaborative sourcing: traceability and supply chain mapping.

4. Collaborative Sourcing: traceability and supply chain mapping

Looking at the results, the importance of traceability cannot be neglected. Supplier mapping, which has full visibility of the supply chain, can show where certain leverage points and bottlenecks are situated. The practice subheading which arose three times in the top ten is, “Supply Chain Management: Sourcing”. This bundle of practices is about linking traditional supply chain management practices to sustainability. Eleven people (73%) mentioned the practice of traceability currently taking place within the company and its supply chain, ten people (67%) spoke of supplier collaboration and eight people (53%) of supplier certification and auditing. Cox (2004, 347) describes that “while buyers might have a range of sourcing choices, they cannot make their decisions in isolation...because they are involved in a complex and only partially visible game with suppliers who have their own goals and motives.” Seuring and Müller (2008b) describe that a collaborative stance through strengthened communication and the pursuit of win-win circumstances for all partners involved might aid the pursuit, and propose this is done by choosing an appropriate supplier, that can provide relevant information. Though this would need further research as it is only linking the supply chain literature and the results from one single case study, and this does not give much ground to make any bold, generative claims.

From the data we can see that ‘collaborating with suppliers’ is viewed as important, as the respondents said: “[...] because it creates good, long relationships” and “we are close to our suppliers and we know them well enough and we know they are doing things correctly. It’s about involvement down the line and being active.” This knowledge and certainty is aided in the form of verification and certification standards, “we really try to look at good standards and what are external views on good standards. So we went to DEFRA, which is a UK organisation for the Development of Food and Rural Affairs”, “for non-mulesed they have to show a certificate”, “the certification of the sourcing of the raw materials is vital to sustainability”. Cox says in reference to this topic: “Sourcing competence must rest on buyers understanding not only what is “ideal” but also what is possible given the circumstances they are in” (2004, 346). A practice that came up in the top ten practices that could aid is traceability is: ‘supplier certification/audit’. We can see that by having clear ‘ideal’ standards AB sees how supplier certification and auditing is important. We could make one link here to Östrom’s (1990) fifth principle to overcome the Commons Tragedy: “develop a system, carried out by community members, for monitoring members’ behaviour”. By having auditing and certification further along the tiers of suppliers to trace and map the supply chain, this could serve as a way to monitor the ‘behaviour’ and add to a more shared sustainable goal. Though we can see that in some sectors, such as the cashmere sector, traceability and auditing is challenging due to the circumstances such as little economic power, complexity of the supply chain and middlemen, as described in the previous barriers and enablers section. This is a hurdle that might be most difficult to overcome, which stresses the importance to having collaboration throughout the whole value chain.

5. Collaboration throughout the whole value chain

Looking at the results from the top ten practices that arose from the data we see that collaboration, with both suppliers and customers was important. After reviewing the literature we can see that this assertion can be supported. Seuring and Müller (2008b) mention the importance the pursuit of win-win situations for all partners involved, Beske (2012) summarizes the factors to successfully implement a SSCM and mentions “long-term relationships, cooperation along the supply chain” and “supplier development and

stakeholder involvement“. How the collaboration relates to power has been described by Hines (2005, 534) in his paper about power in the UK supply chain field: “retailers appear to be focused upon the short-term (intake margin, replenishment and control)”. Hines (2005) suggests that long-term relationships with suppliers are difficult to sustain and develop and that without a strategic approach it is challenging to achieve agility. He states that collaboration remains the province of prescriptive literature rather than a reality of practice in the fashion sector. We may conclude that a strategic approach is important when it comes to moving towards a sustainable supply chain. Looking at our case study company, which has consistently increased sales over the last 5 years, we might say that the integration of supplier and customer collaboration has paid off, even though direct cause and effect might not be possible to identify explicitly. It may never be possible to directly show what the ROI is for investing in a relationship, even if a relationship should be measured in monetary terms. This question will not be answered here and is suggested for further research.

Looking at collaboration, two practices that stood out were ‘reconceptualizing what the chain does’ and ‘reconceptualizing who is in the chain’. Some statements that aligned with the concept of reconceptualizing the supply chain were “one thing we do is to go into department stores and train the staff, telling them all about the details of good quality products for life, so that they express that story to the customer”, and “we had a sustainability day with the senior team and spoke about what more could we do. Maybe it’s in the farming, perhaps we could give back to the farmer or plant some trees”.

The collaboration with the NGO, SFA shows how AB is reconceptualizing across the chain, and provides the opportunity to link with customers, suppliers, farmers and even politicians. The focal company, by reconceptualizing what the chain does, speaks to some of the principles suggested by Östrom (1990, 90) to overcome the Problem of the Open Access. (1) Clearly defined boundaries; (2) Congruence between appropriation and provision rules and local conditions; (3) Collective-choice arrangements; (4) Monitoring; and (5) Nested Enterprises. It might even aid in partnering with different stakeholders in the supply chain to overcome the earlier mentioned barrier of ‘little economic leverage’.

The ‘social dilemma’ theory describes that few of the individuals would cooperate to gain collective benefits, which would lead to suboptimal outcomes due to no cooperation. Also, the individuals that are in the situation are believed to be trapped in that static situation, unable to change the rules affecting their situation (Östrom 1990). Östrom describes, furthermore, that a conventional solution is to have external authorities design and impose optimal rules when dealing with these social dilemmas, the most often proposed rules being privatisations or governmental regulations. Looking at the case study company, with the goal of making a change, and its cashmere sector challenges we can indeed see, that the overgrazing and hence desertification started happening after the removal of the political cap of 70 number of goats per farmer/property (A Cashmere Story 2012). That being said, the raw material supplier is a tier level far down the line from our case study manufacturer in Scotland, which is the focus for this research. At present, it is not in their power or influence to create political restrictions or to privatise the land. Hence, we have not elaborated on these external solutions, but instead have focussed on matters within the influence sphere, such as collaboration with NGOs, which subsequently touches upon governmental institutions and farmer initiatives.

6. Clear Communication of Sustainability

Looking at what influences the manufacturing and sales of a focal company, customer demand could be seen as a vitally important factor. One way to detect emerging demands are looking at trends amongst brand communication. Lundblad and Davies (2015) found a large rise in the use of terms such as ‘eco-fashion’ or ‘fair trade fashion’ and suggests that the core consumer market wants both, not either or. This trend can be supported by Willard (2012) who conducted year's worth of business case studies on sustainable business practices. He concludes that companies can improve their performance and support society and environment in unison, giving examples of proven results from diverse industries and companies like IBM, Patagonia and The Body Shop.

Lundblad and Davies (2015) looked at the values and motivations behind sustainable fashion consumption and when it comes to attracting new customers, the key selling features identified were: timeless cuts, unique cuts, durability, natural materials and perceived health benefits. Depending on the products and the context this might not be a possibility for all companies, though in this particular case study we could see that all features apply to the product line of AB, and can thus serve as key ingredients for their marketing.

Spreading knowledge about actions required to achieve the high quality are recommended to increase the awareness. Informed customers can make more conscious purchases and therefore chose sustainable and responsibly made products, thereby financially supporting sustainable actors across whole supply chain. Lundblad and Davies (2015, 162) advise to “reduce the consumers need to source information or become educated about fashion through carefully selected public relations and marketing campaigns.” Which could be detected in the case study partner in the practices of ‘reconceptualizing what the chain does’ and ‘who is in the chain’ including taking a proactive stance, e.g. the company educates staff in retail stores about sustainable cashmere. Lundblad and Davies (2015) continue to suggest that sustainable fashion brands could focus on beneficial role that self-esteem, self-accomplishment and self-expression play in sustainable fashion consumption.

Storytelling through marketing could successfully influence the audience. AB has an innovative and proactive approach through cooperating with academia and educational institutions to spread the awareness. This seems to overcome the barrier of ‘perceived quality’, since the perception might change when the real cashmere story is known and the consumers have an increased awareness of the true costs of a natural fibre. What this subsequently does is provide the possibility to be a role model and pioneer in the field of sustainability in a company's specific fashion sector. A story that might be told is based upon Mikkonen, Vicdan and Markkula (2013) distinguish between ‘style’ and ‘fashion’, suggesting fashion is externally dictated and short-lived, whereas style is internally dictated and timeless. Luxury fashion with its timeless and unique cuts, durability, natural materials and price, matches a ‘sustainable style’. It is up to a company to find the right marketing channels, through blogs, social media, NGO collaborations and daring product development, which in itself is nothing new in the field of business entrepreneurship. What is novel is taking a leading role into a new sustainable luxury fashion brand, staying within the ecological boundaries, having complete transparency and traceability, with the aim of doing no harm, neither ecologically as socially, whilst still striving to be a profitable and proud company.

5.3 Validity and Credibility of this Research

As mentioned in Chapter 2: Research Approach, Setting and Design, measures have been taken to ensure the highest possible quality of the conducted and presented research. Due to 'qualitative' nature of the research, the knowledge, experience, and mindset of the researchers had a strong impact on the results.

Below we have listed the main assumptions and biases that occurred in the research process. They have informed our writing and are not claimed as absolute objective truths:

1. The earth is complex and encompasses nested and interdependent systems. We see the world from an Ecologically Dominant logic (Montabon, Pagell and Wu 2016).
2. Businesses are an important force in driving sustainability (Broman 2017, Robèrt et al. 2015, Willard 2012)
3. Sustainability is best defined through a principled definition.
4. Business continuity is part of sustainability.
5. Sustainable products are preferable over unsustainable products, even though not everyone might be able to afford those products.
6. It's the responsibility of the current generation to initiate the global movement towards sustainability and to ensure that future generations have the same opportunities and resources as we do.

Broad literature reviews spanning across traditional supply chain management and sustainable supply chain management were conducted to gain comprehensive understandings of the topic and avoid biases. Sections of the academic papers were not used in the original coding but remained to guide the thinking and analysis of the researchers. The analysis and discussion of the data was mainly conducted using Pagell and Wu's (2009) SSCM practices as the foremost codes. We are aware that not including additional practices might have lead to an incomplete code overview. However, due to time constraints we have not been able to match the enablers and barriers against these SSCM practices to see in which ways they overlapped. Some might overlap, but we have chosen to keep them apart, and to identify the enablers and barriers as different codes while analysing the data.

We cannot claim that the data retrieved through the in-depth interviews gives a complete overview. This is due to the limited number of fifteen people as respondents, the ability to ask RQs and how the questions were asked, taking language and personal dynamics dimension into account. The confidentiality may have influenced how certain results have been presented. We aimed to not show any direct linkages between respondents and the quotes used. It is unknown how the results would have differed had the circumstances been different, if certain patterns would be identifiable based on management level or job description. However, we have aimed to provide the necessary key insights to show the depth and complexity of the case study.

5.4 Potential Future Research

The scope and findings of conducted research lead us to identify potential areas for further research in the presented field.

This paper has focussed on practices leading to SSCM and enablers and barriers that an SME faces in influencing its cashmere supply chain towards sustainability. It has provided some prescriptive thoughts on how to potentially overcome these barriers and enablers. The implementation of our thoughts were not analysed in this paper and can be a future stance for research. We emphasize the need for testing models and suggestions ‘in real life’, i.e. the need for going beyond being prescriptive in written text to bring it into reality. We suggest widening the scope of research to include other parts of the value chain into future action research with an emphasis on suppliers, retailers and customers. A starting point might be an Action Design Research on implementing the ABCD process (Robèrt 2015) taking an SSD perspective. If this is accomplished on a larger scale, potentially generic claims can be made, providing guidance for other SMEs.

Furthermore, future research could focus on the link between overcoming the barriers and the SSCM practices that were not fully implemented by AB in this case study. Are the identified barriers there because the practices were not clearly represented in the management strategy, or are the barriers preventing the company to implement the SSCM practices? For example, is the barrier “misunderstanding/lack of internal definition of sustainability” a reason for the apparent lack of the “internal supply chain integration” practice or vice versa?

We propose a more in-depth analysis of the interlinkages between the identified barriers and SSCM practices to be performed. Additionally, the similar correlation between enablers and implemented practices might be analysed. Is the identified enabler “clear company values” the reason for having a well implemented “top management proactive stance” practice or vice versa.

For the case study company we would suggest to track the management practices towards traceability regarding sustainability. If complete traceability will be achieved in the future, the research that could follow is to study which practices, suggested in this paper, eventually lead to this transition and if these practices could be applicable for other SMEs.

Since consumer demand and sales guide the production of goods, future research might analyse which marketing strategies lead to more conscious and responsible purchase choices. The main driver for a shift in the perception of sustainable cashmere quality, e.g. recycled cashmere production instead of “virgin” fibre, might be identified. Additionally, it can be supportive for the manufacturing companies to investigate the possibilities of leading the customer demand, instead of the customer demand leading the manufacturer.

6 Conclusion

This study presented a medium sized manufacturer/retailer in its larger supply chain network and analysed the phenomenon of influence towards a sustainable supply chain, contextualized in the cashmere industry. The cashmere industry has been described as complex, therefore the research has taken a complex adaptive systems approach, to investigate how relationships between parts give rise to the collective behaviours of a system and how the system interacts and forms relationships with its environment.

Our primary audience for this conclusion are SMEs that have an interest in, or are challenged by influencing their own supply chain to become more sustainable. This paper claims that it is important to strategically approach this transition by taking the six steps into consideration that have been proposed from this case study:

1. Top Management Decision
2. Shared Understanding of Success
3. Company wide commitment and integration
4. Collaborative Sourcing: traceability and supply chain mapping
5. Collaboration throughout the value chain
6. Clear Communication of Sustainability

By outlining these steps we hope to aid the generic applicability of this research for other SMEs in a similar position. We have seen that SMEs can be overshadowed by larger companies due to economic leverage in regards their level of influence. However, if we are to consider the significant number of SMEs in existence and their total interactions with consumers, the overall combination of these factors could potentially have far reaching effects and help to increase leverage points to influence towards sustainability. Affecting both the upstream impact in the supply chain, such as the raw material suppliers and the downstream impact to consumer awareness and buying decisions.

There are numerous enablers (Chapter 4.2.3) that have been identified from the systems perspective that create a positive environment for an SME to manage its supply chain and aim towards sustainability with other actors. The barriers that were identified (Chapter 4.2.3) are proposed to be located and overcome strategically in this Discussion. Not all barriers might be applicable to an SME, but it is suggested to take a close look at both the systems level of the company, time and place. To look at the sector one is situated in, and how these sectors and systems are nested within and rely upon each other. The question needs to be asked: which resources and what kind of services does an SME provide to society? To then be able to move on and identify what their definition of success is and constrain it with SP boundaries to ensure a good environment for current and future generations. Once these two 'levels' have been identified, we suggest to analyse the SSCM literature such as the practices mentioned by Pagell and Wu (2009) named in Appendix F and choose which actions overcome the barriers identified to allow the company to overcome the listed barriers.

It is a challenging path towards sustainable business, due to the systems that companies and society are built and rely upon. Striving towards a supply chain and products that provide meaning, a sense of reward and pride, as well as increasing economic welfare for all actors in the supply network is an admirable and highly encouraged goal.

References

- Abnett, Kate. 2015. "Solving the Cashmere Crisis." *The Business of Fashion*. Last modified November 26. Accessed February 3, 2017.
<https://www.businessoffashion.com/articles/intelligence/solving-the-cashmere-crisis>.
- Ainamo, Antti, and Marie-Laure Djelic. 2017. "Djelic and Ainamo 1999, Coevolution of New Organizational Forms in the Fashion Industry: A Historical and Comparative Study of France, Italy, and the United States, *Organization Science*, 10 (5)." Accessed January 24, 2017.
http://www.academia.edu/176815/Djelic_and_Ainamo_1999_Coevolution_of_New_Organizational_Forms_in_the_Fashion_Industry_A_Historical_and_Comparative_Study_of_France_Italy_and_the_United_States_Organization_Science_10_5.
- Alex Begg. 2017. "Alex Begg | Weavers of Luxury Accessories since 1866." Accessed January 24, 2017. <http://www.alex-begg.co.uk/>.
- Ashby, Alison, MikeLeat, and Melanie Hudson-Smith,. 2012. Making Connections: A Review of Supply Chain Management and Sustainability Literature. *Supply Chain Management: An International Journal* 17: 497–516.
- Begg, David K.H., Stanley Fischer, and Rudiger Dornbusch. 2002. *Economics*. 7th Ed. Paperback.
- Beske, Philip. 2012. Dynamic Capabilities and Sustainable Supply Chain Management. *International Journal of Physical Distribution & Logistics Management* 42: 372–87.
- Beske, Philip and Stefan Seuring. 2014. Putting Sustainability into Supply Chain Management. *Supply Chain Management: An International Journal* 19: 322–31.
- Beske-Janssen,Philip, Phillip Johnson, Matthew, and Stefan Schaltegger. 2015. 20 Years of Performance Measurement in Sustainable Supply Chain Management – What Has Been Achieved? *Supply Chain Management: An International Journal* 20: 664–80.
- Boström, Magnus, and Micheletti, Michele. 2016. Introducing the Sustainability Challenge of Textiles and Clothing. *Journal of Consumer Policy* 39: 367–75.

- Bratt, Cecilia. 2014. *Integrating a Strategic Sustainability Perspective into Eco-Labeling, Procurement and Supply Chain Management [Elektronisk Resurs]*. Karlskrona: Department of Strategic Sustainable Development , Blekinge Institute of Technology.
- Broman, Göran. 2017. Personal communication. Interview by authors. Blekinge Institute of Technology, Karlskrona, Sweden. 2017-04-28
- Burberry Group PLC 2017. “Burberry Announced as Industry Leader for Sustainability in the Dow Jones Sustainability World Index - Burberry Group Plc.”. Accessed April 24, 2017. http://www.burberryplc.com/media_centre/press_releases/2016/burberry_announced_as_industry_leader_for_sustainability_in_the_dow_jones_sustainability_world_index?WT.a_c=Burberry+announced+as+industry+leader+for+sustainability+in+the+Dow+Jones+Sustainability+World+Index.
- Christopher, Martin. 1992. *Logistics and Supply Chain Management: Strategies for Reducing Costs and Improving Service*. 1st Edition edition. London: Financial Times Prentice Hall.
- CNN. 2017. “High Cost of Cashmere on Mongolia Plains - CNN.com.” Accessed May 10 2017. <http://www.cnn.com/2010/WORLD/asiapcf/09/12/mongolia.cashmere.herders/index.html>.
- Collins, James C. and Jerry I. Porras 1994. Built to Last: Successful Habits of Visionary Companies. *Competitive Intelligence Review* 6: 84–84.
- Cook, David. 2004. *The Natural Step. Towards a Sustainable Society*. Green Books.
- Cox, Andrew. 2004. The Art of the Possible: Relationship Management in Power Regimes and Supply Chains. *Supply Chain Management: An International Journal* 9: 346–56.
- Domingues, Maria Leonor, Vasco Reis, and Rosário Macário. 2015. “A Comprehensive Framework for Measuring Performance in a Third-Party Logistics Provider.” *Transportation Research Procedia*, 18th Euro Working Group on Transportation, EWGT 2015, 14-16 July 2015, Delft, The Netherlands, 10 (January): 662–72. doi:10.1016/j.trpro.2015.09.020.

- Eisenhardt, Kathleen M. 1989. Building Theories from Case Study Research. *The Academy of Management Review* 14, 4 (Oct): 532-550
- Eisenhardt, Kathleen M., and Jeffrey A. Martin. 2000. Dynamic Capabilities: What Are They? *Strategic Management Journal* 21: 1105–21.
- Elkington, John. 1999. *Cannibals with Forks. Triple Bottom Line of 21st Century Business*. United Kingdom: Capstone Publishing Limited.
- EUR-Lex. EU law and publications. 32003H0361 - EN - EUR-Lex.2017. Accessed May 3 2017. <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32003H0361>.
- Encyclopaedia Britannica. 2017. “Fashion Industry.” *Encyclopedia Britannica*. Accessed April 30 2017. <https://global.britannica.com/topic/fashion-industry>.
- Fashion Revolution. 2017. “Why Do We Need a Fashion Revolution? : Fashion Revolution.” 2017. Accessed March 18 2017. <http://fashionrevolution.org/about/why-do-we-need-a-fashion-revolution/>.
- Forum for the Future. 2007. “Retail Futures. Scenarios for the Future of UK Retail and Sustainable Development.” England.
- GQ. 2012. “Before You Get Wool Rich, Get Wool Smart: A Guide to Wool in All Its Forms.” *GQ*. Accessed December 18 2016. <http://www.gq.com/story/before-you-get-wool-rich-get-wool-smart-a-guide-to-wool-in-all-its-forms>.
- Gunasekaran, A, C Patel, and Ronald E McGaughey. 2004. “A Framework for Supply Chain Performance Measurement.” *International Journal of Production Economics* 87 (3): 333–47. doi:10.1016/j.ijpe.2003.08.003.
- Hardin, Garrett. 1968. The Tragedy of the Commons. *Science* 162: 1243–48.
- Harland, C. M. 1996. Supply Chain Management: Relationships, Chains and Networks. *British Journal of Management* 7 (December): 63–80.

Harris, Fiona, Helen Roby, and Sally Dibb. 2016. Sustainable Clothing: Challenges, Barriers and Interventions for Encouraging More Sustainable Consumer Behaviour: Sustainable Clothing. *International Journal of Consumer Studies* 40: 309–18.

Hennes & Mauritz. 2016. “Sustainability Highlights 2016.” Accessed February 20 2017. <http://about.hm.com/en/sustainability/sustainability-highlights-2016-en.html>.

Hines, Tony, and Pauric McGowan. 2005. Supply Chain Strategies in the UK Fashion Industry—The Rhetoric of Partnership and Realities of Power. *The International Entrepreneurship and Management Journal* : 519–37.

Isaksson, Raine Birger, Rickard Garvare, and Mikael Johnson. 2015. The Crippled Bottom Line – Measuring and Managing Sustainability. *International Journal of Productivity and Performance Management* 64: 334–55.

Janssen, Edwin, Selene Kfoury, and Rutger Verkouw. 2012. *Mind the Gap! Strategically Driving GRI Reporting Towards Sustainability*. <http://bth.diva-portal.org/smash/record.jsf?pid=diva2:829715>.

Johnstons Cashmere 2017. “Our Philosophy - Fine Cashmere Clothing, Accessories and Knitwear.” 2017. Accessed March 20, 2017. <http://www.johnstonscashmere.com/international/about-johnstons-of-elgin/our-philosophy/>.

Jones, Una. 2017. Personal communication with SFA Director. Interviewed by authors. Karlskrona, Sweden. 2017-02-14.

Jones, Una. 2016. *Sustainable Fibre Alliance Creating cashmere sustainable supply chain worldwide*. Flintshire, United Kingdom. (accessed 12 January 2016)

Kohler, F., J. Hamelin, F. Gillet, J.-M. Gobat, and A. Buttler. 2005. Soil Microbial Community Changes in Wooded Mountain Pastures due to Simulated Effects of Cattle Grazing. *Plant and Soil* 278: 327–40.

Lang, Daniel J., Arnim Wiek, Matthias Bergmann, Michael Stauffacher, Pim Martens, Peter Moll, Mark Swilling, and Christopher J. Thomas. 2012. Transdisciplinary Research in Sustainability Science: Practice, Principles, and Challenges. *Sustainability Science* 7: 25–43.

- Laszlo, Chris, Karen Christensen, Daniel Fogel, Gernot Wagner, and Peter Whitehouse. 2010. *Berkshire Encyclopedia of Sustainability. The Business of Sustainability*. Berkshire: Publishing Group LLC.
- Lindéngruppen. 2017. “Lindéngruppen”. Accessed May 1 2017. <http://lindengruppen.se.test.levonline.com/>.
- Louis Vuitton. 2017. “Environment | LOUIS VUITTON ®.” Accessed May 7 2017. <http://us.louisvuitton.com/eng-us/la-maison/environment>.
- Lozano, Rodrigo. 2008. Envisioning Sustainability Three-Dimensionally. *Journal of Cleaner Production* 16: 1838–46.
- Lundblad, Louise, and Iain A. Davies. 2016. The Values and Motivations behind Sustainable Fashion Consumption: Motivations behind Sustainable Fashion Consumption. *Journal of Consumer Behaviour* 15: 149–62.
- Lutz, Ashley. 2017. “This Consumer Trend Could Be Terrible For Fast Fashion Brands.” Business Insider. Accessed May 2 2017. <http://www.businessinsider.com/consumers-prefer-quality-over-quantity-2014-9>.
- Luxury Goods Worldwide Market Study, Fall-Winter. 2016. 2017. Accessed April 30 2017. <http://www.bain.com/publications/articles/luxury-goods-worldwide-market-study-fall-winter-2016.aspx>.
- Maxwell, Joseph. 2013. *Qualitative Research Design: An Interactive Approach*. Los Angeles: George Mason University.
- McCracken, Grant David. 1990. *Culture and Consumption: New Approaches to the Symbolic Character of Consumer Goods and Activities*. Bloomington. Indiana University Press.
- Merriam-Webster. 2003. *Merriam-Webster’s Collegiate Dictionary*. 11th edition. Springfield: Merriam Webster.

- Mikkonen, Ilona, Handan Vicdan, and Annu Markkula. 2014. What Not to Wear? Oppositional Ideology, Fashion, and Governmentality in Wardrobe Self-Help. *Consumption Markets & Culture* 17: 254–73.
- Millefilii Italy. 2017. Millefilii Recycled Cashmere. Accessed March 12 2017. <https://www.youtube.com/watch?v=IYV69Bipu6Y>.
- Mongol Textile. 2017. “Goat Cashmere | Mongolian Wool & Cashmere Association.” Accessed May 1 2017. <http://english.mongoltextile.mn/nav/76>.
- Montabon, Frank, Mark Pagell, and Zhaohui Wu. 2016. Making Sustainability Sustainable. *Journal of Supply Chain Management* 52: 11–27.
- Mosca, Fabrizio, and Rosalia Gallo. 2016. The Relationship between Fast Fashion and Luxury Brands: An Explanatory Study in the UK Market. *Global Marketing Strategies for the Promotion of Luxury Goods*, 224–65.
- Murray Gell-Man. 1991. Talk given for Sante Fe institute. January 9. Sante Fe. New Mexico.
- Nässel, Malin, and Linnéa Persson. 2011. “Characteristics of and How to Maintain a Luxury Brand.”. Thesis. University of Borås/Swedish School of Textiles.
- National Climate Assessment 2014. “National Climate Assessment.”. Accessed April 24 2017. <http://nca2014.globalchange.gov/node/5616>.
- National Research Council. 2000. “Surviving Supply Chain Integration: Strategies for Small Manufacturers”. Accessed March 20, 2017. <https://www.nap.edu/catalog/6369/surviving-supply-chain-integration-strategies-for-small-manufacturers>.
- Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. 1st edition. Cambridge ; New York: Cambridge University Press.
- Pagell, Mark, and Anton Shevchenko. 2014. Why Research in Sustainable Supply Chain Management Should Have No Future. *Journal of Supply Chain Management* 50: 44–55.

- Pagell, Mark, and Zhaohui Wu. 2009. Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars. *Journal of Supply Chain Management* 45: 37–56.
- Porritt, Jonathon. 2007. *Capitalism as If the World Matters*. Revised edition. London: Sterling.
- Prada Group. 2017. “Social responsibility”. Accessed May 1 2017. <http://www.pradagroup.com/en/group/social-responsibility>.
- Robèrt, Karl-Henrik. 2000. Tools and Concepts for Sustainable Development, How Do They Relate to a General Framework for Sustainable Development, and to Each Other? *Journal of Cleaner Production* 8: 243–54.
- Robèrt, Karl-Henrik, and Broman, Göran. 2017. Prisoners’ Dilemma Misleads Business and Policy Making. *Journal of Cleaner Production* Part 1: 10–16.
- Robèrt, Karl-Henrik, Broman Göran Ingvar, David Waldron, Henrik Ny, Sopia Byggeth, David Cook, Lena Johansson. 2015. *Strategic Leadership towards Sustainability*. Karlskrona. Blekinge Institute of Technology.
- Rockström, Johan, Will Steffen, Kevin Noone, Åsa Persson, F. Stuart Chapin, Eric F. Lambin, Timothy M. Lenton. 2009. A Safe Operating Space for Humanity. *Nature* 461: 472–75.
- Savin-Baden, Maggi, and Claire Howell Major. 2013. *Qualitative Research, The Essential Guide to Theory and Practice*. New York: Routledge.
- Seuring, Stefan, and Martin Müller. 2008a. From a Literature Review to a Conceptual Framework for Sustainable Supply Chain Management. *Journal of Cleaner Production, Sustainability and Supply Chain Management*, 16: 1699–1710.
- Seuring, Stefan, and Martin Müller. 2008b. Core Issues in Sustainable Supply Chain Management - a Delphi Study. *Business Strategy and the Environment* 17: 455–66.
- Shahedul Quader, Mohammed, Md. Mostafa Kamal, and A.B.M. Enamol Hassan. 2016. Sustainability of Positive Relationship between Environmental Performance and

- Profitability of SMEs: A Case Study in the UK. *Journal of Enterprising Communities: People and Places in the Global Economy* 10: 138–63.
- Stua, Michele. 2017. *From the Paris Agreement to a Low-Carbon Bretton Woods: Rationale for the Establishment of a Mitigation Alliance*. Springer.
- Surhone, Lambert M., Miriam T. Timplendon, and Susan F. Marseken. 2010. *Prisoner's Dilemma: Game Theory, Merrill M. Flood, Melvin Dresher, Albert W. Tucker, Framing Device, Experimental Economics*. Betascript Publishing.
- Teece, David J. Gary Pisano, Amy Shuen. Dynamic Capabilities and Strategic Management. *Strategic Management Journal* 18. (Aug): 509-533.
- Textiles Intelligence. 2017. "Textiles Intelligence || Global Apparel Markets." Accessed April 24 2017.
<https://www.textilesintelligence.com/tisgam/index.cfm?pageid=3&repid=TISGAM&issueid=2&artid=1407>.
- The Economist. 2011. "The Glossy Posse," Accessed March 18 2017.
<http://www.economist.com/node/21530989>.
- Tsan-Ming Jason Choi. 2014. "Fashion Branding and Consumer Behaviors". Accessed April 30 2017. <http://www.springer.com/la/book/9781493902767>.
- Touboulic, Anne, and Walker, Helen. 2015. Theories in Sustainable Supply Chain Management: A Structured Literature Review. *International Journal of Physical Distribution & Logistics Management* 45): 16–42.
- Touboulic, Anne, and Helen Walker. 2016. A Relational, Transformative and Engaged Approach to Sustainable Supply Chain Management: The Potential of Action Research. *Human Relations* 69 : 301–43.
- Towers, Neil, Patsy Perry, and Rong Chen. 2013. Corporate Social Responsibility in Luxury Manufacturer Supply Chains: An Exploratory Investigation of a Scottish Cashmere Garment Manufacturer. *International Journal of Retail & Distribution Management* 41: 961–72.

- UN Global Compact. 2013. "Global Corporate Sustainability Report 2013 | UN Global Compact." Accessed April 21 2017. <https://www.unglobalcompact.org/library/371>.
- United Nations Economic Commission for Europe. 2017. "Sustainable Development - Concept and Action." Accessed February 21 2017. http://www.unece.org/oes/nutshell/2004-2005/focus_sustainable_development.html.
- UN WCED. 2017. "UN WCED 1987 Brundtland Report.pdf." Accessed January 15 2017. http://www.sswm.info/sites/default/files/reference_attachments/UN%20WCED%201987%20Brundtland%20Report.pdf.
- Upham, Paul. 2000. Scientific Consensus on Sustainability: The Case of The Natural Step. *Sustainable Development* 8: 180–90.
- Victor, A. Peter. 2006. *Managing Without Growth*. Canada.
- Waite, Marilyn. 2013. SURF Framework for a Sustainable Economy. *Journal of Management and Sustainability* 3: 25.
- WBCSD. 2017. "WBCSD - World Business Council for Sustainable Development." Accessed April 19 2017. <http://old.wbcd.org/work-program/business-role/previous-work/corporate-social-responsibility.aspx>.
- What Is Cashmere. 2017. "What Is Cashmere? | Everything You Need To Know About Cashmere." Accessed Feb 7 2017. <http://whatiscashmere.com/>.
- Whiteford, Ian. 2017. Personal communication with AB Sustainability Manager. Interview by authors on Skype. Blekinge Institute of Technology, Karlskrona, Sweden. 2017-01-12.
- Willard, Bob. 2012. *The New Sustainability Advantage. Seven Business Case Benefits of a Triple Bottom Line*. 10th ed. Canada: New Society Publishers.
- Wilson, Lynn. 2015. "The Sustainable Future of the Scottish Textiles Sector: Challenges and Opportunities of Introducing a Circular Economy Model." *Textiles and Clothing Sustainability* 1 (1): 5. doi:10.1186/s40689-015-0005-y.

Women's Wear Daily 2012. "Quality Over Quantity: Consumers Weigh Well-Made Apparel Vs. Fast Fashion." Accessed February 20 2017. <http://wwd.com/fashion-news/textiles/quality-over-quantity-consumers-weigh-well-made-apparel-vs-fast-fashion-6549343/>.

Worldwatch Institute. 2006. *State of the World 2006: A Worldwatch Institute Report on Progress Toward a Sustainable Society*. Worldwatch Institute.

Xu, GuangHua, and JianGuo Wu. 2016. Social-Ecological Transformations of Inner Mongolia: A Sustainability Perspective. *Ecological Processes* 5: 23.

Appendices

Appendix A - Map of China and Inner Mongolia (Wu and Xu 2016)

The map below outlines the main production areas of cashmere in the world. These areas are known for producing the world's higher grade fibres and are the regions from which Alex Begg source their cashmere.



Figure A.1 Map of Inner Mongolia and Mongolia

Appendix B - Literature Review list of SSCM elements

List of Sustainable Supply Chain Management (SSCM) elements collated through our literature review.

Table B.1 Literature review list of SSCM elements

Gunasekaran, Patel and McGaughey 2004	
Supply Chain Management	Indicator for SCM: quality
	Indicator for SCM: speed
	Indicator for SCM: dependability
	Indicator for SCM: flexibility
	Indicator for SCM: cost
Elkington 1999	
Triple Bottom Line	Social
	Economic
	Environmental
Pagell and Wu (2009), SSCM	
Commonalities, cognitions and orientations	Fitting sustainability in the business model
	Proactive stance and organizational commitment
	Internal supply chain integration
	Daily conversation about sustainability issues and almost always part of the decision making
	Touchstone value, that guides businesses
	Integrate environmental efforts into the entire organization
	Supplier development, to improve other chains
	Decommoditize inputs, buying commodities on something besides price and by extension treating commodity suppliers as if they are strategic, also linked to continuity
	Reducing supplier risk

Ensuring supplier continuity	Transparency, how got paid what
	Supplier development
	Continuity of suppliers (transparency plays a role here)
Reconceptualize the chain	Reconceptualizing what the chain does
	Reconceptualizing who is in the chain (ecocentric perspective)
	Supplier selection
	Closed loops/ reverse logistics
Supply Chain Management: sourcing	Traceability
	Supplier certification
	Buy not total cost not price
	Collaborate with suppliers
Supply Chain Management: operations	TQM
	Lean/JIT
Supply Chain Management: invest in human capital	Commitment to employees (high quality work)
	Maintain and / or build culture formally
Measurement	Lifecycle thinking/analysis
	Measurement and reward systems linked to sustainability
Other measures not bundled	Collaborate with customers
	Sustainability helps in recruiting and motivating employees
	Adding new suppliers to spur change and innovation
	Developed own certification
	Supplier, supplier interaction, suppliers working with each other to

	improve the overall chain
	Local chain, source from closest sources
	Licensing
Seuring and Müller (2008), Strategies Towards SSCM	
Supplier management for risks and performance	
Supply chain management for sustainable products	
Supporting factors for sustainable supply chain management	Company-overlapping communication
	Management systems (e.g., ISO 14001, SA 8000)
	Monitoring, evaluation, reporting, sanctions
	Training education of purchasing employees and suppliers
	Integration into the corporate policy
Barriers for sustainable supply chain management	Higher costs
	Coordination complexity/effort
	Insufficient/missing communication in the supply chain
Goals Relations	Win-win-situations
	Trade-offs
	Minimum performance
Östrom 1990	
Principles for managing a commons in a sustainable and	Define clear group boundaries.

equitable way in a community	
	Make rules governing use of common goods to local needs and conditions.
	Ensure that those affected by the rules can participate in modifying the rules.
	Make sure the rule-making rights of community members are respected by outside authorities.
	Develop a system, carried out by community members, for monitoring members & behaviour.
	Use graduated sanctions for rule violations.
	Provide accessible low cost means for dispute resolution.
	Build responsibility for governing the common resource in nested tiers form the lowest level up to the entire interconnected system.
Beske-Janssen, Johnson and Schaltegger 2015	
Dynamic Capabilities	Co-evolving, introduced previously by Defee and Fugate (2010)
	Knowledge assessment is an extension to their knowledge accessing, the extension lying most importantly in the capacity to evaluate information given by SC partners, e.g. in the case of self evaluations provided by suppliers (Seuring and Muller, 2008a, b).
	Re-conceptualizing the SC, introduced by Pagell and Wu (2009).
	SC partner development
	Reflexive SC Control
Broman & Robèrt 2017	
FSSD	Nature is not subject to systematically increasing concentrations of substances extracted from the Earth Crust
	Nature is not subject to systematically increasing concentrations of substances produced by society
	Nature is not subject to systematically increasing degradation by physical means
	People are not subject to structural obstacles to health
	People are not subject to structural obstacles to influence

	People are not subject to structural obstacles to competence
	People are not subject to structural obstacles to impartiality
	People are not subject to structural obstacles to meaning making
Nutag Framework (SFA 2016)	
Economic pillar:	A stable cashmere market for buyers/retailers with much improved eco-credentials to fulfil a company's social responsibility. Also improve the long-term productivity of herding families through better herding practices leading to higher profitability and sustainability.
Ecological pillar:	Sustainable Grassland Stewardship and Remediation programme- to reverse the desertification of the grassland.
Socio-cultural pillar:	Creation and collaboration with herder cooperatives to help preserve nomadic culture and a traditional way of life in rural Mongolia.
Animal welfare pillar:	The SFA will ensure that participating cooperatives follow the approved animal health, welfare and environmental standards. The wellbeing of animals - the quality of fibre - is intrinsically linked to feed, nutrition, suitable access to pasture and freedom to behave naturally. The SFA also supports monitored breeding R&D to optimise the genetic gain of cashmere goat.

Appendix C - Interview questions and format

Below is a list of our guiding interview questions used for our data collection. These were semi-structured interviews and thus we created ‘core’ questions (right column) to ask and then additional questions (left column) to encourage further information if a respondent was more knowledgeable or interested about an area of questioning due to their personal or work experience.

Further ‘job specific’ questions were created to enable more detailed information from respondents if the researchers appeared to have a deeper understanding of their role.

Date/time	
Location	
Interviewer	
Respondent	
Information on Respondent	
Observations	

QUESTIONS (for everyone)

<p><u>Understanding the interviewee's role</u> What is your role in AB today? In your perception, what is sustainability to you in general? What, if any, general awareness about sustainability is present in the company? Do you believe that your role is related to sustainability?</p>	
<p><u>Definition of sustainable supply chains</u> What is a sustainable supply chain to you? What would it take to make your current supply chain sustainable in a perfect world? What is complex about the cashmere sector and sustainability?</p>	
<p><u>Perceived responsibilities and actions taken</u> In your position, how do you perceive your responsibility for sustainability? · What is the responsibility of AB in making the cashmere supply chain more sustainable? · What specific sustainability actions are taken today by AB? What are the responsibilities of other actors of your supply chain regarding sustainability? · What actions are taken by other actors</p>	<p>· What are the drivers for ...? · What are the barriers for ...? To ask if need prompts: · How is this responsibility fulfilled today? If not - why? (barriers & actions) · Actions? · Do you think these responsibilities are fulfilled? If not - why? · Actions?</p>

<p>for a sustainable supply chain? How are decisions being made regarding sustainability measures?</p>	
<p><u>Sustainability challenges and issues of the case company's supply chain</u> What challenges does your company face regarding sustainability? What challenges does AB's/this supply chain face regarding sustainability? What challenges does the cashmere sector face regarding sustainability?</p>	
<p><u>Influence</u> Which actor has the most power and/or influence to address the aforementioned sustainability challenges in the supply chain? Do you perceive AB's level of influence over the supply chain as a barrier to becoming a more sustainable supply chain? What do you think could play a role in overcoming influential barriers? What increased influence do you think can be achieved by collaborating with other actors (NGOs, competitors, collaborative organisations, certifications schemes)? What is your personal level of influence regarding sustainability initiatives within AB?</p>	<p>To ask if need prompts: · Why? · Has this influence changed over time and why? · If so - do you think this barrier can be overcome and in that case how?</p>
<p><u>Transformation from luxury fashion to affordable fashion</u> · How has the rise of the fast fashion business model affected the cashmere industry and AB?</p>	
<p><u>Additional Questions</u> · If you were me, looking for leverage points to influence sustainability in this (AB's) supply chain, what is missing or has not been discussed in this interview?</p>	

Specific Questions based on job description

Sales & Design Directors

- What are the core drivers in sales connected with sustainability?
- How do your clients influence sustainability with their orders?
- What, if any is the perception of sustainability in design/artistic trends?
- What are the core drivers in design/trends connected with sustainability?

Planning Manager

- What type of planning manager?
- What are the long/short term strategies of production? Is sustainability taken into account?

Technical Director

- What type of technical director?

Sales Office Manager

- What are the core drivers in sales connected with sustainability?
- How do your clients influence sustainability with their orders?

Head Designer

- What, if any is the perception of sustainability in design/artistic trends?
- What are the core drivers in design/trends connected with sustainability?

Yarn Controller

- How much control do you have with the yarn used?
- Is sustainability in your control when choosing yarn?

Supplier

- Why do you think there no rise in price or degradation of quality of the cashmere?
- Economic and legal responsibilities - issues in Mongolia to ask about?

Production Director

- Economic and legal responsibilities - issues in Mongolia to ask about?

SFA (NGO)

- Why do you think there no rise in price or degradation of quality of the cashmere?
- Economic and legal responsibilities - issues in Mongolia to ask about?

Appendix D - Coding Structures

There were five levels were coded from the conceptual framework: System, Success, Strategic Guidelines, Practices (Actions) and Tools. Coding categories were predefined before coding and while reading interview transcripts new variables of these categories emerged during the coding process – that is, they were added to the list of variables after being identified in a transcript. These are referred to in this appendix as “Additional Practice Codes”.

What follows is a list of all constructs and variables that were coded during the study.

Table D.1 Codes for Conceptual Framework

CODE	DESCRIPTION/ PROPERTIES	SUBCODE	DESCRIPTION/PROPERTIES SUBCODE
System	Understanding of the system	Nested Systems	Nested system description of sustainability
System	Understanding of the system	Separate Systems	Triple Bottom Line description of sustainability
Success	Definition of sustainability	Economic	Economic description of sustainability
Success	Definition of sustainability	Environment	Environment description of sustainability
Success	Definition of sustainability	Social	Social description of sustainability
Success	Definition of sustainability	Animal Welfare	Animal welfare description of sustainability
Success	Sustainability Principles	SP1	Mining
Success	Sustainability Principles	SP2	Chemicals
Success	Sustainability Principles	SP3	Degradation

Success	Sustainability Principles	SP4	Health
Success	Sustainability Principles	SP5	Influence
Success	Sustainability Principles	SP6	Competence
Success	Sustainability Principles	SP7	Impartiality
Success	Sustainability Principles	SP8	Meaning Making
Practices	Commonalities, Cognitions & Orientations		Fitting sustainability in the business model
Practices	Commonalities, Cognitions & Orientations		Proactive stance and organizational commitment
Practices	Commonalities, Cognitions & Orientations		Internal supply chain integration
Practices	Commonalities, Cognitions & Orientations		Daily conversation about sustainability issues and almost always part of the decision making
Practices	Commonalities, Cognitions & Orientations		Touchstone value, that guides businesses
Practices	Commonalities, Cognitions & Orientations		Integrate environmental efforts into the entire organization
Practices	Commonalities, Cognitions & Orientations		Supplier development, to improve other chains
Practices	Commonalities, Cognitions & Orientations		Decommoditize inputs, buying commodities on something besides price and by extension treating commodity suppliers as if they are strategic, also linked to continuity

Practices	Commonalities, Cognitions & Orientations		Reducing supplier risk
Practices	Ensuring Supplier Continuity		Transparency, who got paid what
Practices	Ensuring Supplier Continuity		Supplier development
Practices	Ensuring Supplier Continuity		Continuity of suppliers (transparency plays a role here)
Practices	Reconceptualizing the chain		Reconceptualizing what the chain does
Practices	Reconceptualizing the chain		Reconceptualizing who is in the chain (ecocentric perspective) (NGO's, Academics)
Practices	Reconceptualizing the chain		Supplier selection
Practices	Reconceptualizing the chain		Closed loops/ reverse logistics
Practices	Sourcing: SCM		Traceability
Practices	Sourcing: SCM		Supplier certification / auditing
Practices	Sourcing: SCM		Buy on total cost not price
Practices	Sourcing: SCM		Collaborate with suppliers
Practices	Operations: SCM		TQM
Practices	Operations: SCM		Lean/ JIT
Practices	Invest in human capital: SCM		Commitment to employees (high quality work)

Practices	Invest in human capital: SCM		Maintain and / or build culture formally
Practices	Measurement		Lifecycle thinking/ analysis
Practices	Measurement		Measurement and reward systems linked to sustainability
Practices	Other practices not bundled		Collaborate with customers
Practices	Other practices not bundled		Sustainability helps in recruiting and motivating employees
Practices	Other practices not bundled		Adding new suppliers to spur change and innovation
Practices	Other practices not bundled		Developed own certification
Practices	Other practices not bundled		Supplier, supplier interaction, suppliers working with each other to improve the overall chain
Practices	Other practices not bundled		Local chain, source from closest sources
Practices	Other practices not bundled		Licensing
Practices	Additional Practice Codes	Good Supply Chain Relationships	Good Supply Chain Relationships
Practices	Additional Practice Codes	Sustainability knowledge sharing (S&M)	Training/education of purchasing employees and suppliers and customers
Practices	Additional Practice Codes	Internal knowledge sharing	General process and operation knowledge sharing, through people or systems
Strategic Guidelines	Guidelines for decision making	Return On Investment	Access to cashmere, profitability

Strategic Guidelines	Guidelines for decision making	Right Direction	"doing the right thing"
Strategic Guidelines	Guidelines for decision making	Flexible Platform	Beware of always having a choice, trade offs
Tools	Sourcing: SCM		Supplier certification / auditing
Tools	Other practices not bundled		Licensing
Tools	Additional Tools code		Sustainability Reporting - GRI

Appendix E - Enablers and Barriers

The Enablers and Barriers were all emergent codes that were identified during the coding process as elements of influence within the supply chain.

Table E.1 Barriers to Influence codes

CODE	DESCRIPTION/ PROPERTIES	SUBCODE	DESCRIPTION/PROPERTIES SUBCODE
Barrier	Barriers to influence	Prioritizing X over sustainability	The tradeoff in choice of urgency, quality, price, or customer above sustainability goals
Barrier	Barriers to influence	Complexity of supply chain	Geographic difference, language, many small or isolated raw material suppliers
Barrier	Barriers to influence	Misunderstanding/ Lack of internal definition of sustainability	Having a (shared) vision of success that includes sustainability
Barrier	Barriers to influence	Middleman in supply chain	Not being able to buy direct from suppliers or wholesalers due to quantity of orders, using a mid tier supplier to purchase from
Barrier	Barriers to influence	Perceived quality (100% cashmere)	That all products must be of the highest virgin material quality
Barrier	Barriers to influence	Limited economic leverage	As an SME there is not enough buying power in the marketplace to achieve their sustainability goals
Barrier	Barriers to influence	Consumers unaware of the true cost of cashmere	Unaware of the true cost of production and/or unwilling to pay the true price
Barrier	Barriers to influence	Lack of trying due to Lack of Belief in Possibility.	A self-defeatist attitude. The problem is too big, too complex, too hard to make a difference.
Barrier	Barriers to influence	Lack of resources	Lack of skilled employees

Barrier	Barriers to influence	High cost of sustainable production	To create fully sustainable products is a more expensive endeavour than non sustainable products
Barrier	Barriers to influence	Consumers under valuing clothing	The consumerist behaviour of customers and their over consumption of fashion with no closed loops
Barrier	Barriers to influence	Blind Trust	Believing without questioning, believing that the company is sustainable without asking how?
Barrier	Barriers to influence	Lack of cultural awareness	The tradeoff in choice of urgency, quality, price, or customer above sustainability goals

Table E.2 Enablers to Influence codes

CODE	DESCRIPTION/ PROPERTIES	SUBCODE	DESCRIPTION/PROPERTIES SUBCODE
Enabler	Enablers to influence	Collaboration	Cross disciplinary collaboration (internal and external), including academia, NGOs, other suppliers/retailers
Enabler	Enablers to influence	Shared vision	Having a shared history within the company and a shared future for everyone
Enabler	Enablers to influence	Responsibility	When customers demand sustainability and traceability
Enabler	Enablers to influence	Customers demands	An ability to trust those in positions of power and with the knowledge and assurance of ethical business decisions being made
Enabler	Enablers to influence	Trust	Enthusiasm and passion for sustainability and achieving goals is infectious to other actors
Enabler	Enablers to influence	Ability to convince other actors	Within the company and also with other actors, being recognised for being sustainable and being a trailblazer

Enabler	Enablers to influence	Choice	Looking into new innovation capabilities and possibilities for production in the industry
Enabler	Enablers to influence	Being a role model	Having clearly identified company values to all employees and partners/businesses
Enabler	Enablers to influence	Technological Innovation	Cross disciplinary collaboration (internal and external), including academia, NGOs, other suppliers/retailers
Enabler	Taking actions towards success level	Clear company values	Having a shared history within the company and a shared future for everyone

Appendix F - List of Practices found in Results

Total responses for practices mentioned in interviews at Alex Begg and additional practices.

Table F.1 List of Practices and Results

Pagell & Wu Subsection for SSCM	Practices of SSCM	# Respondents
Commonalities, Cognitions & Orientations	Fitting sustainability in the business model	8
	Proactive stance and organizational commitment	12
	Internal supply chain integration	3
	Daily conversation about sustainability issues and almost always part of the decision making	1
	Touchstone value, that guides businesses	13
	Integrate environmental efforts into the entire organization	3
	Supplier development, to improve other chains	2
	Decommoditize inputs, buying commodities on something besides price and by extension treating commodity suppliers as if they are strategic, also linked to continuity	3
	Reducing supplier risk	3
	Ensuring Supplier Continuity	Transparency, how got paid what
Supplier development		3
Continuity of suppliers (transparency plays a role here)		3
Reconceptualizing the chain	Reconceptualizing what the chain does	10
	Reconceptualizing who is in the chain (ecocentric perspective) (NGO's, Academics)	6
	Supplier selection	6
	Closed loops/ reverse logistics	1

Sourcing: SCM	Traceability	11
	Supplier certification / auditing	8
	Buy on total cost not price	6
	Collaborate with suppliers	10
Operations: SCM	Total Quality Management (TQM)	7
	Lean/ Just In Time (JIT)	6
Invest in human capital: SCM	Commitment to employees (high quality work)	9
	Maintain and / or build culture formally	6
Measurement	Lifecycle thinking/ analysis	2
	Measurement and reward systems linked to sustainability	5
Other practices not bundled	Collaborate with customers	9
	Sustainability helps in recruiting and motivating employees	7
	Adding new suppliers to spur change and innovation	2
	Developed own certification	1
	Supplier, supplier interaction, suppliers working with each other to improve the overall chain	5
	Local chain, source from closest sources	1
	Licensing	0

Inductive codes that were found in results but were not in Pagell & Wu (2009) findings:

Additional Practice Codes	Good Supply Chain Relationships	Good Supply Chain Relationships	4
	Sustainability knowledge sharing (Seuring & Muller)	Training/education of purchasing employees and suppliers and customers	7
	Internal knowledge sharing	General process and operation knowledge sharing, through people or systems	4



Master's Programme in Strategic Leadership towards Sustainability
Blekinge Institute of Technology, Campus Gräsvik
SE-371 79 Karlskrona, Sweden

Telephone: +46 455-38 50 00
Fax: +46 455-38 55 07
E-mail: sustainabilitymasters@bth.se