Exploring Ecopreneurship: An examination of business practices in pursuit of sustainability goals on a firm and supply chain level

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A dissertation submitted to the University of Bristol in accordance with the requirements for award of the degree of Doctor of Philosophy in the

Faculty of Social Science and Law
School of Economic, Finance and Management

May 2019

Word count: 76,116

Abstract

The IPCC's renewed warnings underline the need for systemic change to the way we conduct business to address climate change. Academics have claimed that entrepreneurship can make a contribution to resolving environmental issues and thus the concept of ecopreneurship was developed. While the literature makes propositions about the ecopreneurs' impact on sustainable development, little is known about how ecopreneurs deliver their sustainability goals. This doctoral dissertation seeks to address that gap. Since food concerns everyone and its production accounts for a third of anthropogenic greenhouse gas emission, it was chosen as the study's empirical context. The research's exploratory nature was addressed by a multi-case study approach using purposeful sampling. Twelve cases within an alternative food network were selected and investigated through semi-structured interviews and document analyses. First, a firm level examination of intra-firm business practices identified ecopreneurial practices contributing to the firm's economic, ecologic and social performance and how sustainability trade-offs are managed. The research finds ecopreneurs prioritise their contribution to sustainable development over profit-maximisation. It further finds a firm's economic performance has a mediating effect on its social and ecologic performance. A firm's engagement in one sustainability dimension affects its economic performance, which subsequently affects the firm's ability to engage in the other dimension. Second, through a supply chain level examination, the research uncovers how value-centred supply networks are created and how these enable ecopreneurs to pursue their mission under economic viability constraints. Economic selection criteria are applied to the ecopreneurs' distribution decisions, while sourcing decisions are primarily value-led within economic viability constraints. Accordingly, economic sustainability appears to flow upstream in the supply chain, while social and ecologic sustainability flow downstream. This dissertation contributes to the fields of entrepreneurship and supply chain management within a sustainability context and adds to our understanding of hybrid ventures and alternative food networks.

Acknowledgements

First of all, I would like to thank the participants of my research. I am very grateful that they took time out of their incredibly busy schedules to meet with me. The interviews have been both interesting and inspiring. Without their insights this project would not have been possible.

Second, I would like to thank Dr Mary Phillips and Dr Xiaojun Wang for their outstanding supervision. They spent many hours reading and commenting on my work and provided valuable feedback in countless meetings. Their vast knowledge and constructive comments have shaped my research, challenged and supported me and have helped me grow. This doctoral dissertation would not have been the same without them out.

Next, I would like to express my gratitude to my social support system. Many thanks go out to my friend and flatmate Anna for the endless chats, films and beers at the water that have helped me take my mind of the research. I would also like to extend thanks to the rest of my Bristol friends for being here in the last four years. The shenanigans we have had, have done a great deal to keep me sane. Further thanks go out to my old friends in Germany for the good times we have had on holidays and that we managed to stay in close touch for all these years. I would like to especially thank Albors for his (surprise) visits to Bristol that have meant a great deal to me. I am also grateful for all the chats and laughs I have had with the great colleagues in the office. They have made the lunch times and late hours much more pleasant.
I would like to thank my girlfriend Niamh, who has entered my life on the last stretch of this project. She never fails to make me laugh and cheer me up. I treasure all the time we spend together and cannot wait for our future journey together.

Last but not least, I want to thank my family for their ongoing support. Mum and Dad, I am endlessly grateful that you always support me in my endeavours no matter what I want to do or where I want to go. Leo and Judith you are the world's best siblings and I am grateful (probably to Mum and Dad) that you are in my life. Living in different countries is not always easy for a family, but I feel we have made the best effort to bridge that distance. The connection that we as a family have means the world to me.

To all of you: Thank you!

Author’s declaration

I declare that the work in this dissertation was carried out in accordance with the requirements of the University's *Regulations and Code of Practice for Research Degree Programmes* and that it has not been submitted for any other academic award. Except where indicated by specific reference in the text, the work is the candidate's own work. Work done in collaboration with, or with the assistance of, others, is indicated as such. Any views expressed in the dissertation are those of the author.

SIGNED: ..... DATE: 29/05/2019

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List of abbreviations

AFN	Alternative Food Network
CBS	Community Benefit Society
CO2	Carbon Dioxide
CSR	Corporate Social Responsibility
FAO	Food and Agriculture Organization
GSCM	Green Supply Chain Management
HRM	Human Resources Management
IPCC	Intergovernmental Panel on Climate Change
NGO	Non-governmental Organisation
SCM	Supply Chain Management
SME	Small and Medium Enterprises
SSCM	Sustainable Supply Chain Management
UN	United Nations

Chapter 1: Introduction

During the last two decades, mounting evidence of human influences on climate change has propelled the issue into the global spotlight, making it an important concern for politicians, NGOs, businesses and the general population. Growing pressure from politicians and consumers has put sustainability, as a means to mitigate climate change, on the agenda of businesses and management researchers (Danloup et al., 2015; Filippi, 2014; Marshall et al., 2015a), leading to the rise of environmental management systems in large and established corporations (Ulhøi & Welford, 2000). Despite these efforts and the implementation of climate change policies, the anthropogenic greenhouse gas emissions have continued to increase at an accelerated rate during the last decade (IPCC, 2018). Yet in an examination of large corporations' sustainability reports in 2014, Ihlen & Roper (2014) found that many large corporations claim to have successfully implemented sustainable practices and no longer see themselves on a journey towards sustainability. This attitude may have changed through the recently increased awareness of climate change sparked by Greta Thunberg and David Attenborough. It does, however, show a certain complacency to tackle climate change in large corporations. In their latest report, the IPCC (2018) again postulated that to avoid irreversible climate changes from global warming, mitigation efforts beyond those practiced today are required, yet socio-economic inertia seems to limit the mitigation efforts undertaken by businesses and society. What is needed is a shift in socio-economic values and beliefs to foster innovative sustainable business practices (Phillips, 2015).

One source of socio-economic change that challenges established corporations is assumed to be found in entrepreneurship (Drucker, 2007; Kirby, 2003). With regard to this assumption, sustainability driven entrepreneurship (henceforth: ecopreneurship) is expected to play a role in driving sustainable development (Pastakia, 1998). Sustainable development is a much-discussed issue, with one of the most accepted definitions following the 17 sustainable development goals set out by the United Nations General Assembly (2015). The specific contributions of ecopreneurship to sustainable

development differ across industries. However generally conducting business in a sustainable way is considered as meeting the triple bottom line (Elkington, 1999) of economic, social and ecologic sustainability. Meeting these dimensions could be achieved through creating economic growth, reducing greenhouse gas emissions and improving working conditions simultaneously. The specific sustainability issues addressed by ecopreneurs in this doctoral research will be outlined in the literature review.

1.1 Research background

To date, the literature on ecopreneurship holds theoretical ideas about ecopreneurial opportunities in the sustainability context (Cohen & Winn, 2007; Dean & McMullen, 2007; Kearins, Collins & Tregidga, 2010) and empirical evidence on the ecopreneurs' reasoning behind their motivation to start up and grow their ventures (Dixon & Clifford, 2007; Kirkwood & Walton, 2010a; Kirkwood & Walton, 2010b; Phillips, 2012). The literature also provides insights into organisation design (Parrish, 2010; Tarnanidis, Papathanasiou & Subeniotis, 2019), green product features (Kirkwood & Walton, 2014) and the venture development process (Choi & Gray, 2008; Muños & Cohen, 2018). The hybrid ventures literature lends itself to inform the discussion on ecopreneurship with regards to business models and the challenges faced by firms pursuing multiple conflicting goals (Barrientos & Reilly, 2016; Battilana et al., 2015; Davies & Chambers, 2018; Doherty, Haugh & Lyon, 2014; Dohrmann, Raith & Siebold, 2015; Santos, Pache & Birkholz, 2015; Smith et al., 2012; York, O'Neil & Sarasvathy, 2016). In general, the area is still in its infancy and evidence on how ecopreneurs deliver their contribution to sustainable development through their business practices is lacking. Exploring these business practices is the main objective of this doctoral research.

However, when considering an organisation's sustainability, it is important to assess the sustainability of its entire supply chain (Ahi & Searcy, 2015). While the literature on sustainable supply chain management is rapidly developing, to date the role of ecopreneurs in their supply chain has mostly been overlooked. Among the sparse relevant work, Kirkwood & Walton (2010b)

examined how ecopreneurs' values effect their supply chain decision-making. However, this study focussed on the decision-making within the firm and not on a supply chain level. Another paper examined how sustainable innovation originating from ecopreneurship is disseminated and its impact on incumbent supply chains (Hansen & Schaltegger, 2013). As far as my understanding goes, there is hardly any other research on ecopreneurial business practices in a supply chain context. As I will show in the literature review, there is reason to assume that ecopreneurs' engagement in supply chain management will differ from that of incumbent firms, making researching it worthwhile.

As the empirical context for this doctoral research, I have chosen the food industry. This industry is responsible for one third of anthropogenic greenhouse gases (Conto et al., 2014) and 70% of the world's fresh water use, as well as the provision of livelihood for 40% of the world's population (Food and Agriculture Organisation of the United Nations, 2015). Consequently, the food industry has a major impact on the economic, social and environmental wellbeing of the world. I will show that ecopreneurial activity within the food sector is expected to be high, since their aim of re-localising and re-socialising food production addresses a multitude of sustainability issues emerging from the food industry (Roep & Wiskerke, 2012; Sonnino & Marsden, 2006; Watts, Ilbery & Maye, 2005).

1.2 Research objective and questions

This doctoral research draws on the literature on ecopreneurship, supply chain management and the food industry, specifically alternative food networks to explore the business practices through which ecopreneurs drive sustainable development from a firm level and a supply chain level perspective.

To address the empirical gap in the literature, my research aims at answering the following overarching questions through an explorative case study approach:

RQ1: How do ecopreneurs deliver their sustainability goals through their business practices?

RQ2: How do ecopreneurs' supply chain practices impact the fulfilment of their sustainability goals?

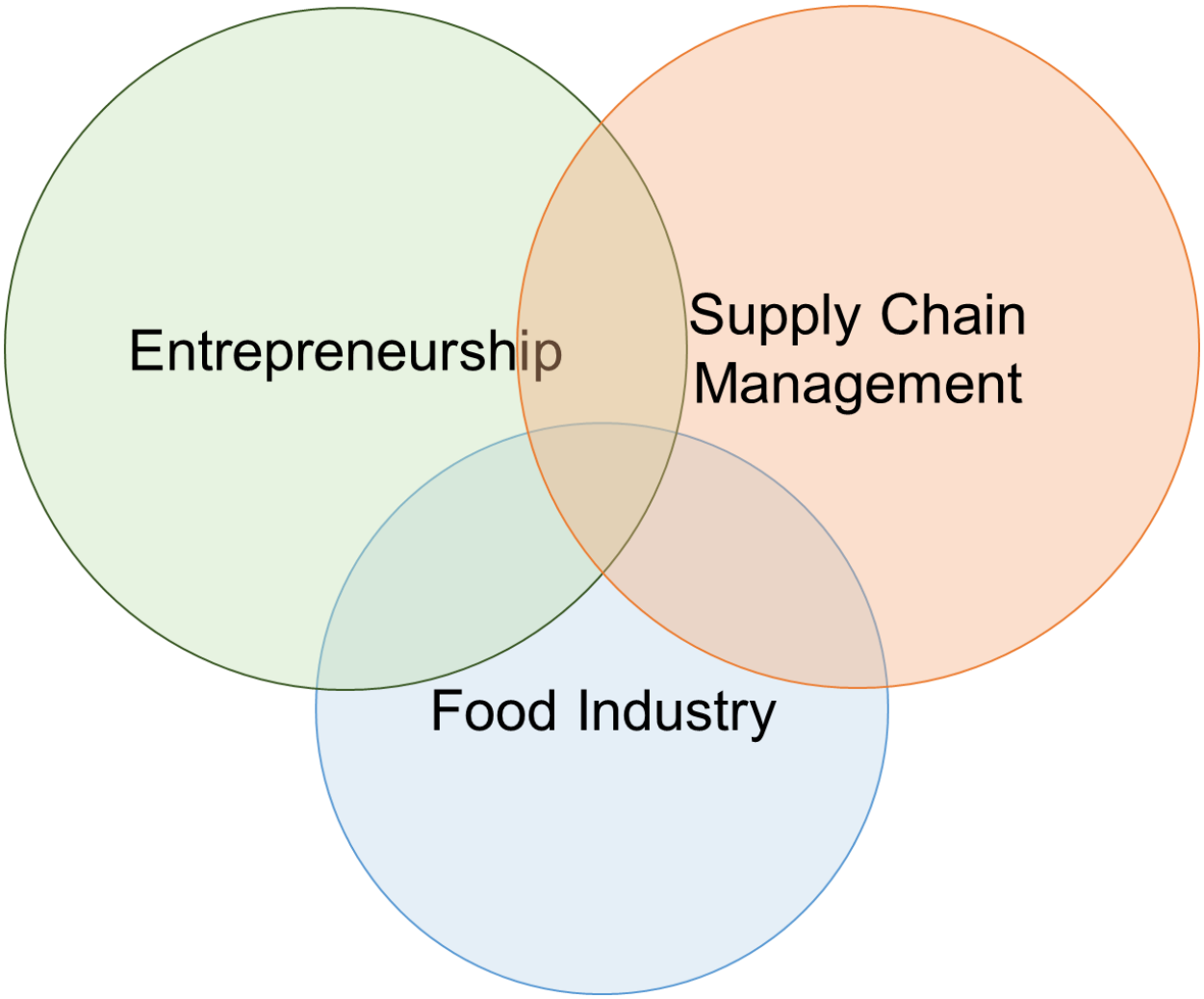


Figure 1-1: Bodies of literature

The research questions address the research objective from the mentioned firm level and supply chain level and signal the main questions of the two findings chapters. The questions were further divided into sub-questions which are outlined in appendix A.

Due to the exploratory nature of the questions, a qualitative approach was adopted in this research. Data were collected through semi-structured interviews and documents on 12 organisations. To make sense of the data, I used inductive coding and a theoretically focussed thematic analysis. The emergent findings were then analysed using two case study approaches. First, using a cross-case examination with the organisations as individual cases, I

explore the ecopreneurial business practices on the firm level. Second, I nest the organisations in one case representing a complete supply network to examine the interactions between the organisations and explore the ecopreneurial business practices on the supply chain level. The resulting insights provide an in-depth understanding of the ecopreneurial practices that foster sustainable development in the food industry.

1.3 Research contribution

My research contributes to the entrepreneurship literature and the sustainable supply chain management (SSCM) literature, especially with regard to ecopreneurial practices, the hybrid ventures literature and the literature on alternative food networks (AFNs). The research contributes to the entrepreneurship literature by providing empirical evidence for the business practices through which ecopreneurs address markets failures (Dean & McMullen, 2007) and drive sustainable innovation (Cohen & Winn, 2007). It further presents evidence for the claim that ecopreneurs are not profit motivated (Kirkwood & Walton, 2010a; Parrish, 2010; Phillips, 2012) and uncovers the interconnected nature of their business practices with regard to the different dimensions of sustainability. This provides insights into the trade-offs ecopreneurs encounter when combining multiple sustainability goals in their business models. My research further creates insights into the practices that ecopreneurs apply to transform economic value captured in their operations, into social and ecologic value to fulfil their mission. Lastly, my research contributes to the entrepreneurship literature by showing that ecopreneurs address all three sustainability dimensions (economic, ecologic and social) simultaneously and thus complement the dichotomies of social and commercial (Williams & Nadin, 2013) and green and commercial entrepreneurs (Kirkwood & Walton, 2014) that are currently dominant in the literature.

My research contributes to the field of SSCM by exploring how sustainability is pursued in the absence of a focal firm. This constitutes a new approach in comparison to the existent SSCM research which focusses on sustainability measures implemented by larger corporations with a power advantage

(Dubey, Gunasekaran & Ali, 2015; Frostenson & Prenkert, 2015; Hall, Matos & Silvestre, 2012; Lee, 2016; Seuring & Müller, 2008). By investigating the supply network of ecopreneurs, this research provides novel insights into SSCM in complex networks made up of firms without a dominant player. My findings hold empirical evidence for the collaborative approaches used in the absence of power advantages, which are seen as promising routes towards sustainable development in supply chains (Lee, 2016; Leigh & Xiaohong, 2015; Zhang & Awasthi, 2014). It shows that ecopreneurs build their supply networks on trust and integrate the wider community into the decision-making process (Cholette et al., 2014; Danloup et al., 2015; Parrish, 2010). My research further provides evidence for supply chain practices through which ecopreneurs deliver their sustainability driven values (Kirkwood & Walton, 2010b). Because ecopreneurs do not subscribe to a profit maximising logic, they apply a mix of value-led and pragmatic selection criteria in their sourcing and distribution decisions. This also gives some indication about the flow of sustainability in supply networks, where economic sustainability appears to flow upstream, while social and ecologic sustainability flows downstream through the supply chain.

Through the combined insights from the firm level and supply chain level analysis, my research uncovers the ecopreneurial business logic that considers profit as neutral to organisational success unless it is translated into activities that contribute to sustainable development. This contribution touches on the wider field of management, as it holds the potential to evaluate business practices in a sustainability context through an alternative understanding of organisational performance.

To the hybrid venture literature, my research contributes by placing ecopreneurs, as organisations pursuing economic, ecologic and social sustainability equally, within its domain. Through this, it expands our understanding of hybrid ventures by bridging the gap between social hybrid ventures (Barrientos & Reilly, 2016; Battilana et al., 2015; Doherty, Haugh & Lyon, 2014; Dohrmann, Raith & Siebold, 2015; Santos, Pache & Birkholz, 2015; Smith et al., 2012) and environmental hybrid ventures (York, O'Neil &

Sarasvathy, 2016). Further my research presents empirical evidence of business models in hybrid ventures and the mechanisms through which value is delivered (Osterwalder & Pigneur, 2011). The ecopreneurial business practices I explored contribute to the hybrid venture literature by expanding our knowledge on the ventures' income streams, pricing policies and trade-offs. The ecopreneurial business logic further adds to our understanding of hybrid ventures by uncovering the reasoning ecopreneurs could use to avoid mission-drift (Dohrmann, Raith & Siebold, 2015).

My contribution to the AFN literature is derived from the findings of the three other literature streams within an AFN context. The AFNs' aim of challenging the current system of food provisioning links to the ecopreneurial actions of driving change, which supports Migliore et al.'s (2015) claim that AFN members are social entrepreneurs. My exploration of ecopreneurial business practices in AFNs enriches the literature by providing micro level insights into the actions of AFNs, which have so far been mostly researched from a macro perspective. Through this my research shows business practices that enable AFNs to re-localise and re-socialise food (Seyfang, 2007; Sini, 2014). In this context, the ecopreneurial supply chain practices have uncovered ways through which AFNs shorten supply chains. Especially novel are my insights into organisations in AFNs that span multiple supply chain tiers to reduce supply chain length, which adds to the literature that currently focuses on reducing the number of tiers. The non-profit maximising business logic employed by the ecopreneurs also demonstrates how ecopreneurs tackle typical problems AFNs face around exclusivity created through high prices (Brecard et al., 2009; Holloway & Kneafsey, 2000). Linking the AFN literature to ecopreneurship and hybrid ventures, my research provides knowledge on business models and trade-offs in AFN member organisations. My examination of the ecopreneurs' supply network gives insight into the structure of an AFN and the practices through which organisations within AFNs interact.

1.4 Structure of the thesis

The structure of this doctoral dissertation will be outlined as follows. Chapter 2 provides the literature review upon which I am basing my research. In section 2.1, I examine how entrepreneurship drives change. Beginning with economic and social theory of entrepreneurship, I review the Schumpeterian and Kirznerian streams of entrepreneurship literature in the context of sustainable development. For this, section 2.1.1 examines the market's failure of achieving sustainability, which holds ecopreneurial opportunities. In section 2.1.2, I examine the existent ecopreneurship literature outlining the ecopreneurs' motivation, discovery of opportunities, their attitude to growth and the market economy, and finally provide my understanding of the concept of ecopreneurship. Based on this, I establish that a single ecopreneurial firm is limited in its impact on sustainable development and show the necessity for investigating the phenomenon from a supply chain perspective. Section 2.2 provides a review of the literature on SSCM. I start this review by outlining the difficulties of achieving sustainability in supply chains due to the existing trade-offs between the different sustainability dimensions (section 2.2.1) and then move on to the different measures through which firms aim to drive sustainability in their supply chain (section 2.2.2). The ecopreneurship and SSCM literature overlap where ecopreneurs offer alternative solutions to SSCM, such as innovation and collaboration. Only one paper on supply chain management in ecopreneurship appears to exists, which indicates the research gap that I identify at the end of section 2.2.

To provide the empirical context of my research, I review the literature on the food industry in section 2.3. Section 2.3.1 examines the current sustainability challenges within the food industry from an environmental and social perspective. Section 2.3.2 reviews the literature on AFNs, outlining how they aim to tackle the existing challenges. In this part, I also show that members of AFNs act as ecopreneurs, which makes AFNs an interesting example of ecopreneurship to research.

Chapter 3 provides my methodology. I begin by explaining how my ontological and epistemological considerations inform my research (section 3.1). Building

on these considerations, in section 3.2 I discuss quality criteria in qualitative research from a realist and social constructionist perspective. In section 3.3 I derive my research question and show how they fit into my philosophy and address the research objective. Section 3.4 outlines the basic case study approach I have chosen for answering my research questions. Section 3.5 explains my purposeful sampling approach and provides an overview of the organisations that entered my sample as well as the data collected on them. The data collection process is explained in section 3.6. Section 3.7 describes the four stages of data analysis that I conducted, going into further detail about the cross-case and nested case examinations. I provide my ethical considerations in section 3.8 before concluding chapter 3 with a summary in section 3.9.

Having reviewed the relevant literature and outlined my methodology, I move on to present my findings in two chapters. Chapter 4 provides the findings of my firm level analysis. It starts in section 4.1 with the case descriptions of the organisations included in the study. Section 4.2 gives an overview of the organisations' goals of challenging the status quo, improving the environment, selling local produce and providing access to good products. Having created an understanding of the organisations, I present the firm level business practices in section 4.3. This will follow the structure of the triple bottom line approach, with section 4.3.1 showing the practices in pursuit of economic sustainability, section 4.3.2 those in pursuit of ecologic sustainability, and section 4.3.3 the practices concerned with achieving social sustainability. Section 4.3.4 explains the trade-offs ecopreneurs face when trying to deliver their sustainability goals. The firm level analysis finishes with a discussion of the business practices and provides a conceptual model for the interconnected nature of the different sustainability domains within a firm.

Chapter 5 then presents the findings from the supply chain level analysis. It begins with an overview of how the organisations are nested into a single case representing their supply network. I will elaborate on the unique features of the network that arise from the absence of a focal firm. Here, I also show the

importance of separately examining the supply network from a distribution and a sourcing perspective. In section 5.1, I take on the distribution perspective, by first examining the different types of distribution channels (section 5.1.1), followed by an exploration of the selection criteria by which ecopreneurs choose their distribution channels (section 5.1.2). In section 5.3, I then adopt the sourcing perspective and analogously first present the supplier types in section 5.2.1, followed by the selection criteria applied to them in section 5.2.2. Having established an understanding of how the supply network is created, I present the findings of how ecopreneurs aim to drive sustainability in section 5.3. Section 5.3.1 shows the ecopreneurs' sustainability driven engagement with their supply chain partners. This outlines the supply chain management practices the ecopreneurs employ within their firms. To examine the interfirm supply chain practices, I present the collaborative approaches to driving sustainability in section 5.3.2. These include sharing business practices and techniques, sharing resources and benefitting from brand association. The chapter finishes with a discussion of the supply chain practices and highlights the flows of sustainability through the supply chain (section 5.4).

Chapter 6 provides the discussion of the entire dissertation, by bringing both studies together. I discuss the findings on the firm and supply chain level in the context of the existing literature. For this, I begin with the findings specific to the AFN literature in section 6.1, and then move to industry independent insights in the subsequent sections. Section 6.2 discusses the business practices through which ecopreneurs address market failures, after which I discuss the practices that deliver eco-innovation (section 6.3). In these two sections, I show that eco-innovation and ecopreneurial discovery are not mutually exclusive but intrinsically linked. In section 6.4, I discuss the ecopreneurs' responses to the trade-offs encountered on the inter and intra firm level. This leads me to my final conceptual model (section 6.5) in which the insights from both studies are merged. The model shows the interconnected nature of economic, ecologic and social performance within and across firms. Building on this model, I drive three theoretical propositions

about the ecopreneurial business logic as an alternative to the profit maximising paradigm.

The dissertation ends with a conclusion in chapter 7 that outlines my contributions to different streams of literature (sections 7.1 – 7.4), the implications for policy makers (section 7.5) and practitioners (section 7.6) and finally the limitations and avenues for future research (section 7.7).

Chapter 2: Literature review

This literature review situates my research in the academic field of sustainability driven entrepreneurship and combines with the hybrid venture literature and the literature on SSCM. Empirically, my research is situated in the food industry, which will be reviewed to establish the context of my inquiry. The purpose of the review is to identify the gap in the literature upon which I built my research questions:

RQ1: How do ecopreneurs deliver their sustainability goals through their business practices?

RQ2: How do ecopreneurs' supply chain practices impact the fulfilment of their sustainability goals?

The literature review will start off with an overview of entrepreneurship theory and explain my selection of theories regarding entrepreneurial socio-economic impact. From there I will outline the economics perspective on the potential for entrepreneurship-driven change. Examining the assumptions of neoclassical theory, the section will explain why markets are incapable of creating sustainability, highlighting opportunities for entrepreneurial action. Following the economics perspective, I will examine theories on values and motives of ecopreneurs, underlining them with narratives and linking them to definitions of sustainable entrepreneurship and ecopreneurship to understand the ecopreneurs' construction of social reality and self-identity (Bryman, 2008; Butler-Kisber, 2010). With this novel combination of economic theory and social construction, I use a synthetic approach to management research (Hodgkinson & Starkey, 2012) that integrates two remote perspectives to expand our understanding of ecopreneurship (Pacheco et al., 2010). Using Weinberg's (1998) approach of 'dimensionalising', I will bring the antagonistic systems of economics and environmentalism together (Weinberg, 1998) and provide my understanding of the concept of ecopreneurship. Through the creation of the dimensions I will show that ecopreneurs are likely to run hybrid ventures that engage in commercial activity in order to fund an environmental and/or social mission. I will also

show limitations to the impact of a single ecopreneurial venture. This, together with the fact that a company's impact on sustainability goes beyond the boundaries of the company (Ahi & Searcy, 2015; Kirkwood & Walton, 2010b; Marshall et al., 2015a), leads me to adapting a supply chain management lens to fully understand the role of the ecopreneur in sustainable development. The second section of the literature review will examine the state of sustainable development in supply chain management. I will compare approaches of large players and ecopreneurial ventures in response to challenges around sustainability in supply chain management. Up-to-date literature on ecopreneurial action in supply chain management is very limited, which requires me to make assumptions based on the social entrepreneurship literature. In the last section of the review, I will review the relevant work in the food industry with a particular focus on social and ecologic challenges and alternative food networks.

2.1 Entrepreneurship as a driver of change

A plethora of entrepreneurship definitions exist within the economics, management, psychology and sociology literatures (Cheah, 1990). The first mention of the entrepreneur goes back to Richard Cantillon describing the act of buying and selling goods in markets with different prices (Bjørnskov & Foss, 2016). Since then, entrepreneurship has grown in the economics literature until it started to bleed into other research areas in the 20th century (Junaid et al., 2015). Baumol (1990) identifies two main streams of entrepreneurship literature: one focuses on the founder/owner entrepreneur and the other on the entrepreneur as driver of social and/or economic innovation. The former is often associated with the study of management in small and medium sized firms (Bjørnskov & Foss, 2016; Stokes & Wilson, 2010) as well as the personalities and the social and cultural construction of entrepreneurs and entrepreneurship (Lindh de Montoya, 2000; Junaid et al., 2015), regardless of their impact on the socio-economic environment. Since I want to investigate entrepreneurship's impact on sustainable development through discovery and innovation, this stream of literature is not relevant to my research. The second stream examines entrepreneurship from a range of complementary

approaches: external influences on entrepreneurial activity (Baumol, 1990), institutional entrepreneurship (Bjørnskov & Foss, 2016), how, by whom and with what effect opportunities are discovered and exploited (Shane & Venkataraman, 2000), and sources and mechanisms of innovation (e.g., Bessant & Tidd, 2011; Drucker, 2007). These different approaches all look at different notions of the same phenomenon (Baumol, 1990) and base their analysis on two conceptualisations of entrepreneurship, namely the Schumpeterian and the Austrian school of thought, which I will outline in more detail below. Therefore, I will also base my literature review and investigation of ecopreneurship on these concepts of entrepreneurship.

For Schumpeter, entrepreneurship is the process of innovation, independent from venture creation or the person performing it (Gunter, 2012). An entrepreneur develops a technology, production method or resource and commercialises it (McDaniel, 2011). By doing so, the innovation is disseminated which changes an existing market or opens up a new one. Existing products become inferior such that incumbent firms have to adapt them to new standards or leave the market. This is what Schumpeter termed "creative destruction" (Baumol, 1990; Bureau, 2013; Gunter, 2012). Such innovation can lead to higher productivity and growth which pushes an economy's production possibility frontier outwards and the market into a state of disequilibrium, where perfect input and output quantities are no longer given (Sautet, 2013). However, this assumes that the market was in equilibrium before. Neoclassical theory suggests that markets are in a state of equilibrium, where supply meets demand and resources are fully utilised. Increasing output of one product leads to decreasing output of another product, unless technological advances increase productivity and enable growth (Lipsey & Chrystal, 2007).

Kirzner (1997) summarises a different stance on entrepreneurship from the Austrian school of thought, which assumes that markets are in a state of disequilibrium as a result of market failures of allocating resources and imperfect information on supply and demand levels. Austrian economics proposes that entrepreneurs drive a market towards equilibrium through

entrepreneurial discovery, a process in which the entrepreneur discovers a disequilibrium and sees an opportunity for entrepreneurial rent in closing the gap between supply and demand. This changes the input and output quantities and moves the market toward the equilibrium state. However, evolving consumer preferences, resource availability and technological possibilities hinder the market from ever reaching a state of equilibrium.

Hence, entrepreneurial opportunities exist in the commercialisation and dissemination of new products and production methods, moving a market away from the equilibrium state and in the discovery of market failures as the source of disequilibria. By looking at market failures in a sustainability context, we identify potential entrepreneurial activity. It should not, however, be assumed that through entrepreneurship the market is repaired and thrives towards sustainability itself. Entrepreneurship should rather be seen as aiming to alter the paradigm underlying the faulty market (Kearins, Collins & Tregidga, 2010; Parrish, 2010).

2.1.1 Failure of markets to achieve sustainability

Neoclassical theory assumes market perfection, which leads to an equilibrium state where resources are perfectly allocated and no further changes can be made in order to increase the benefits for one party without making another party worse off. This state is known as Pareto efficient (Kirzner, 1997). Since no party wants to be worse off, trading in the perfect market will only occur in the quantities that conform to Pareto efficiency. Our current economic system lacks Pareto efficiency, which is evident in the fact that businesses increase their profits at the expense of the environment (Cohen & Winn, 2007). Thus, businesses are better off, while society and nature bear the effects of environmental degradation and are worse off. With reference to Bator (1958), Dean and McMullen (2007) identify this as a form of market failure. In Bator's definition, market failure is present when a market fails to stop undesirable action (such as environmental degradation) or fails to sustain desirable action (such as environmentally sustainable practices). Cohen and Winn (2007) identify four categories of market imperfections that lead to market failure, which in consequence cause environmental degradation:

inefficient firms; flawed pricing mechanisms; existence of externalities; and asymmetric distribution of information.

2.1.1.1 Lack of perfect efficiency

The first imperfection is the lack of perfect efficiency, whereby firms apply inefficient production processes, neglect opportunities for recycling and/or waste resources. This is evident, for example, in the incomplete utilisation of resources needed for production and distribution of a business's service or product (Cohen & Winn, 2007). It occurs through imperfect allocation of material resources which enter the product directly, or wasteful use of natural resources which are used or polluted as a by-product in the production process (Ambec & Lanoie, 2008). The latter is often a result of flawed pricing mechanisms, as described in the following section (Pacheco, Dean & Payne, 2010). The former holds the opportunity for entrepreneurs to introduce new, more efficient production techniques. Saving resources, and therefore reducing cost, is beneficial for both the business and the environment. Due to the simultaneous gains for business and environment, the introduction of more efficient production techniques is often termed the "win-win scenario" of sustainable development (Ambec & Lanoie, 2008; Kearins, Collins & Tregidga, 2010). However, the win-win case only looks at the business side of ecopreneurship and therefore neglects the personal motivation of the ecopreneur (Parrish, 2010), which I will examine later.

2.1.1.2 Flawed pricing mechanisms

Under the assumption of neoclassical economics, in a perfect market all resources are priced correctly through supply and demand. Due to their large number and equal size, businesses have similar market power and no influence on the prices of their input factors or the selling price for their products (Lipsey & Chrystal, 2007). Consequently, businesses optimise their production according to the prices they find in the market (Kirzner, 1997). Because in our current economic system natural resources are often not priced properly or at all, businesses have no incentive to use these resources in a sustainable way, which leads to wasteful use of the resources and pollution (Ambec & Lanoie, 2008; Cohen & Winn, 2007). Dean and McMullen

(2007) link this behaviour to a discrepancy between private and social gains and private and social costs. Private costs refer to the costs a business incurs from the production of a good or service. Social costs refer to the costs incurred by society through the business' production of a good or service. Likewise, private and social gains are the gains a business or the society accrues from the production of a service or good. When natural resources are not priced accordingly, businesses can accrue private gains that exceed their private costs. For example, the cost of environmental degradation caused by production will then be incurred by society in the social costs of production. There is no incentive for businesses to take on these costs, as internalising the social costs would increase the cost of production for a business, while its competitors, leaving their production unchanged, sustain a cost advantage. Businesses therefore choose to maximise their profits at the expense of society and the environment (Pacheco, Dean & Payne, 2010; Seyfang, 2007). Flawed pricing mechanisms thus lead to a wasteful use of natural resources.

2.1.1.3 Existence of externalities

The described effects of flawed pricing mechanisms highlight another flaw of the assumptions behind perfect markets. In perfect markets, no externalities exist. This means that the action of a business in a market does not affect the wellbeing of others (Cohen & Winn, 2007). The difference between private gains and private costs, however, leads to businesses externalising part of their costs of production, which leads to negative effects on the wellbeing of others and therefore constitutes the existence of negative externalities.

2.1.1.4 Information asymmetries

Further, the concept of perfect markets builds on the assumption that consumers and producers are aware of existing supply and demand levels and available technology (Kirzner, 1997, Dean & McMullen, 2007). This perfect information is often not given. Producers not knowing exactly how much demand for a product or certain features (i.e. sustainability) exists leads to imperfect supply levels and unsatisfied demand. Furthermore, information asymmetries exist on the effects the provision of products and services has on society or the environment, which hinders consumers from making

sustainable buying decisions. It cannot be said that consumers would not decide to use unsustainable products, were they fully informed. Rather, the lack of complete information on the environmental impact of products might let one product wrongly seem more sustainable than another. Consequently, through this market failure, demand arises for unsustainable products, which leads to environmental degradation (Cohen & Winn, 2007; Dean & McMullen, 2007; Hall, Matos & Silvestre, 2012).

These imperfect markets fail to prevent and mitigate environmental degradation and pollution. This market failure holds opportunities for entrepreneurship to correct the failure and create economic value for the entrepreneur (Cohen & Winn, 2007; Dean & McMullen, 2007) whilst also creating social and environmental value beneficial to society (Dixon & Clifford, 2007; Jayashankar, Van Auken & Ashta, 2018). Entrepreneurial opportunities exist in the Schumpeterian ways of introducing new (more efficient) products, production techniques, and new resources to the market through which the entrepreneur increases resource utilisation, reduces waste or uses resources with smaller environmental impact (Baumol, 1990; Dean & McMullen, 2007; Vega & Kidwell, 2007). Furthermore, opportunities exist in the Austrian concept of entrepreneurship. By closing demand and supply gaps, the entrepreneur pushes prices and quantities for resources and products closer to the equilibrium state and negates the negative effects of imperfect pricing, which leads to higher resource utilisation. By disseminating information (e.g. educating consumers) the entrepreneur shifts demand towards sustainable products. Thus, the entrepreneur reduces market imperfections and enhances efficient use of resources (Cohen & Winn, 2007; Kirzner, 1997). These notions of entrepreneurship summarised by terms such as “sustainable/environmental entrepreneurship” (Dean & McMullen, 2007) or “ecopreneurship” (Dixon & Clifford, 2007), receive increasing interest from academics. I will use the term “ecopreneur” as an umbrella term for all sustainability driven entrepreneurship because, as I will show later, the proposed separation of environmental and social concerns, is not viable in ecopreneurship.

Calling for more resource efficiency recognises the limitations of the natural environment to support our current lifestyle while relying on technological optimism and supporting the dominant paradigm of growth and consumption (Kearins, Collins & Tregidga, 2010). The eco-modernist paradigm summarises conceptions of a market-led shift toward sustainable development, originating within businesses and from technological advances (Fineman, 2001; Springett, 2003). Solely relying on eco-modernism might be insufficient as it is questionable whether the solution to sustainable development can be found in management systems alone or rather in changes of human behaviour (Ulhøi & Welford, 2000). The economics perspective also portrays entrepreneurship as a non-human force that exists alongside the market without regard for the entrepreneur as a person with values and motivations, which is important for a holistic understanding of entrepreneurship (Kirby, 2003). This holds true especially for understanding ecopreneurship in which the rationale of profit maximisation falls short of explaining the actions of the ecopreneur. Often ecopreneurs engage in creating hybrid ventures that seek a combination of commercial activities, social and environmental value creation (Doherty, Haugh & Lyon, 2014; Dohrmann, Raith & Siebold, 2015; Jayashankar, Van Auken & Ashta, 2018; Santos, Pache & Birkholz, 2015; Tarnanidis, Papathanasiou & Subeniotis, 2019; York, O'Neil & Sarasvathy, 2016). The motivations and ways ecopreneurs do this will be the subject of the next section. Understanding these will help us examine the managerial challenges ecopreneurial ventures face in trying to be successful (Smith et al., 2012).

2.1.2 The ecopreneur

Ecopreneurship as a term first appeared in the literature in the late 1990s (Isaak, 1998; Pastakia, 1998). The most cited papers defining ecopreneurship are Isaak (2002), Schaltegger (2002) and Pastakia (1998). Isaak (2002) and Schaltegger (2002) described ecopreneurs as entrepreneurs with a green mission who drive innovation that improves the ecological environment. Isaak (2002) focuses primarily on new venture formation, while Schaltegger (2002) also includes intrapreneurial tendencies, i.e. ecopreneurs working to innovate

within existing corporations. In contrast to those two authors who focus on commercial entrepreneurship with an environmental mission, Pastakia (1998) included commercial as well as social enterprises in their definition of ecopreneurship. Further Pastakia (1998) derives their concept of ecopreneurship from the idea of entrepreneurs responding to market failure and delivering ecologic and social value by correcting these. The concept since then has grown in the literature and been further developed through empirical evidence. Over time, competing but also largely overlapping definitions and typologies of ecopreneurs and sustainability driven entrepreneurship have emerged (Muños & Cohen, 2018). In the following I review in these to provide my understanding of the ecopreneur. I follow Weinberg's (1998) assertion that trying to find a single valid definition of a sustainable business can be counterproductive as it appears to be a never-ending debate and that the concept of sustainable business should be considered along dimensions, which allows to capture more varied approaches to sustainable business. In a similar fashion I provide the dimensions from which I build my understanding of an ecopreneur at the end of this section, because there seems to be little consensus in the literature as to what exactly constitutes an ecopreneur.

In an attempt to gain understanding of how ecopreneurs see themselves, how they are contrasted to commercial as well as social entrepreneurs and where links to the economics view exist, I gathered characteristics of ecopreneurial action and motivation found in the literature and support them with self-narratives from ecopreneurs. The self-narratives were gathered as secondary data from three existing studies (Dixon & Clifford, 2007; Kirkwood & Walton, 2010a; Phillips, 2012). The insights drawn from these studies enable the creation of a unified concept of ecopreneurship, which draws from the strengths of the different theories.

While not clearly defined, the social entrepreneur is often seen as the opposite to the commercial entrepreneur (Migliore et al., 2015). Most definitions see social entrepreneurs as starting ventures with a mission of addressing social issues in their community through economic and trading activities that create

social value or reduce injustice (Gliedt & Parker, 2007). These activities can be placed in the non-profit, for-profit, or government sector, with profits usually being reinvested to support the mission (Battilana et al., 2015; Doherty, Haugh & Lyon, 2014; Tarnanidis, Papathanasiou & Subeniotis, 2019). Social and commercial entrepreneurs are not dichotomous, but rather the ends of a scale with many fluid concepts in-between (Williams & Nadin, 2013). With green and social values strongly interlinked (Kirkwood & Walton, 2010b), the ecopreneur is likely to be found on the scale between social and commercial entrepreneurship (York, O'Neil & Sarasvathy, 2016). The hybrid ventures literature suggests that combining commercial and social goals requires businesses to be clear which operations aim to serve which goal (Doherty, Haugh & Lyon, 2014). The business needs to cater to the needs of the commercial goal, which creates revenue, while also creating social value in order to fulfil its mission. The beneficiaries of the mission, however, are not always the paying customers (Battilana et al., 2015). For example, a business providing a product by reintroducing long-term unemployed into the labour market, leads these people back into employment, while customers who enjoy the product pay for the social value creation (Santos, Pache & Birkholz, 2015). This divide between customers and beneficiaries has to be considered for ecopreneurial ventures too. Since businesses with environmentally degrading practices seem to accrue private gains at the expense of wider society, society would benefit from ecopreneurial activities that mitigate environmental damages. Society and the environment in this case can be seen as the beneficiaries, which constitute a larger and partially distinct group from the customers who directly benefit from the interaction with the ecopreneurial venture. The motivation behind the venture creation, as well as ecopreneurial action and challenges, will be the subject of the next three sections.

2.1.2.1 Motivation for venture creation

Hall, Daneke and Lenox's (2010) systematic literature review on sustainable development and entrepreneurship finds that a great number of scholars regard new venture creation as the panacea for many social and environmental challenges. This potential is attributed to new ventures due to

their innovativeness and flexibility in response to change. Kearins, Collins and Tregidga (2010) define the "visionary small enterprise" through their founding entrepreneur's care for nature and their motivation to engage in paradigm-shifting activities. For Kearins, Collins and Tregidga (2010), visionary small enterprises focus on embedding activities in their local environment through which they break with the globalisation-dominated paradigm of mass consumption that utilises long distance trade to shift economic activity to geographical areas of low production cost (North, 2010). This socio-economic change is driven by the values of ecopreneurs (Parrish, 2010). Parrish (2010) states that ecopreneurs engage in new venture creation not to exploit resources for short-term personal gain, but to sustain their quality for long-term gains for the wider environment. For this the activities of the ecopreneurs must be sustained to continuously deliver their mission. This is illustrated by a statement of Green Works' CEO found in Dixon and Clifford's (2007, p. 333) case study:

> *"It seems to me that I have a duty to continue, I can't just say I should stop cause this is a nice comfortable level of business [note of evangelism in CEO's eyes and voice here]... I've just begun to address the issue. So I've got to keep on going".*

It is evident that the founder started the venture for his cause instead of profit. The company is profitable and running well, but the CEO feels he has to keep going to achieve the change he aimed for. For some ecopreneurs the motivation to found a venture appeared to follow their environmental values:

> *"I would not be running any kind of business, the only reason Paul and I are developing this business is because we have the same passion around environmental issues" (Phillips, 2012, p. 804).*

Others see venture creation as being inseparable from their cause:

> *"Well a business is an organization designed for profit and a cause is motivated by changing the world and I've just melded the two. I don't see it as separate. I think, you know they're one in the same" (Kirkwood & Walton, 2010a, p. 216).*

These examples represent ecopreneurs using the venture as a vehicle for achieving their goals. However, there are also ecopreneurs that are equally driven by the motivation to start a venture or monetary goals as they are by their mission:

> *Being asked on motivation to start a business: "50 percent my set of values and 50 percent financial because it was worth us doing it, you know?" (Kirkwood & Walton, 2010a, p. 216).*

From these narratives, we can see that the drive to save the environment is a strong motivation for the venture creation in all the ecopreneurs. The drive to generate profits can be seen as a scale reaching from ecopreneurs that never intended to make profits with their venture to those that value generating profits equally as much as their environmental cause. In between are ecopreneurs, who see generating profits as a positive side effect of their engagement in venture creation. This is supported by Kearins, Collins and Tregidga's (2010) suggestion that ecopreneurs are modest and not motivated by wealth creation, as long as they can make a living off what they do. Migliore et al. (2015) put this in economic terminology by claiming that socially orientated organisations (i.e. ecopreneurial ventures) seek to maximise social value creation whilst capturing enough profits to maintain the operations and reinvest in growth, a notion that Parrish (2010) defines as one criterion for successful sustainability-driven enterprises. These propositions can be found in the following statement:

> *"Neither Tim or I are particular profit driven so it's not like we'd looking to extract every single profit from an organization so we would be looking at covering costs and making a living and that would be it" (Kirkwood & Walton, 2010a, p. 217).*

Nevertheless, all ventures capture some sort of revenue and operate in a market environment to some degree. Identifying these revenue streams can be interpreted as entrepreneurial discovery.

2.1.2.2 Discovery of ecopreneurial opportunities

Linking back to economic theory, Dean and McMullen (2007, p. 58) have defined sustainable entrepreneurship as:

> *"The process of discovering, evaluating and exploiting economic opportunities that are present in market failures which detract sustainability, including those that are environmentally relevant."*

As discussed above, one symptom of market failure is the disequilibrium of demand and supply. With regard to environmental sustainability, this can mean unmet demand for green products. Serving this demand proved to be an opportunity for some of the ecopreneurs interviewed in the examined studies:

> *"With this business it was an opportunity I guess...natural products were growing worldwide" (Kirkwood & Walton, 2010a, p. 217).*

These ecopreneurs clearly identify the lack of supply in green products and the opportunity to serve the demand by starting a business. The entrepreneurial opportunity here is given in closing the gap between supply and demand, a notion one of the interviewed ecopreneurs addresses literally:

> *"To me it was just a glaring gap, it was something I was interested in and could do" (Kirkwood & Walton, 2010a, p. 217).*

Kirkwood and Walton (2010b) find that ecopreneurship, in the sense of the visionary small enterprise, often acts locally. Ecopreneurs use local embeddedness for pursuing sustainability, but also as a possibility for branding, which helps to address the unmet demand for green products and supports capturing revenues. Ecopreneurs acting according to Kirzner's interpretation of entrepreneurship show notions of opportunistic behaviour

in order to gather revenues. This can be seen as exploiting economic opportunities, as mentioned in Dean and McMullen's (2007) definition. Ecopreneurs exploit these opportunities primarily to fund and leverage their mission towards sustainability. The negative connotation of exploitation is likely to be opposed by the ecopreneurs, which we will discuss later.
Dean and McMullen's (2007) definition refers to Kirznerian entrepreneurs acting upon market failure. Cohen and Winn (2007) deliver a definition derived from Schumpeter's view on entrepreneurship. For them, sustainable entrepreneurship is created through:

> *"Opportunities for achieving entrepreneurial rents through innovation which reverse or mitigate unsustainable conditions" (Cohen & Winn, 2007, p. 36).*

Innovation can be achieved by the entrepreneur through the introduction of a new product, which the following ecopreneurs find to be necessary, due to the lack of products that fulfil its values:

> *"As a family, we're very environmentally friendly and it was really frustrating because there was nothing available (Kirkwood & Walton, 2010a, p. 217).*

From this frustration, the ecopreneurs started a venture to create and supply products with a supportable environmental impact - a step also taken by the architects in Phillips (2012) study who develop houses (new products or construction technique) that minimize the environmental impact during their life cycle. Other types of innovation include new production methods and the introduction of new resources. The latter can be found in the works of Green Works, who started using waste (i.e. old furniture) as the resource for their operations.

> *"We are a young organisation driven by commitment and enthusiasm to prove that waste is an opportunity rather than a problem: an opportunity to save valuable resources and an opportunity to create jobs (CEO)" (Dixon & Clifford, 2007, p. 332)*

This ecopreneur's entrepreneurial opportunity is created through innovation (i.e. introducing a new resource) that aims at reducing unsustainable conditions (i.e. waste). The motivation of this ecopreneur is given in the environmental impact he can have, as well as the social value of providing jobs to the economy. This is in line with Parrish's (2010) claim that these motives drive socio-economic change towards sustainability. They aim towards the paradigm shift Kearins, Collins and Tregidga (2010) attribute to the visionary small enterprise. Thus, I conclude that ecopreneurs can capture revenues through entrepreneurial discovery of market failure and through innovation, as defined by Schumpeter. The captured revenues let them create and maintain ventures as vehicles for change towards sustainability (Parrish, 2010).

2.1.2.3 Ecopreneurship and the market economy

Ecopreneurs' values are their strongest motivation for starting ventures (Kirkwood & Walton, 2010a). Their management decisions are guided by their impact on the natural and social environment (Jayashankar, Van Auken & Ashta, 2018; Kirkwood & Walton, 2010b). However, acting in a market environment challenges ecopreneurs to maintain financial viability, whilst staying true to their values (Indaco-Patters et al., 2013). Nature and business growth, for example, are often perceived as conflicting (Kearins, Collins & Tregidga, 2010) and ecopreneurs might choose not to grow if it means sacrificing sustainability (Kirkwood & Walton, 2010b).

> *"we don't want to grow like some of the other stationers and end up with big offices, generating a whole lot of junk ourselves" (Phillips, 2012, p. 807).*

The conflict between nature and business often leaves the ecopreneur feeling alienated by the commercial world and/or the activist side:

> *"there is a large sector of the Green community that alienates mainstream business because they are still perceived as beard toting, sandal wearing, yogurt eating" (Phillips, 2012, p. 809).*

> *"As a business, I think we've already crossed the bridge in the sense that people view us – other social enterprises, other charities, are very wary of the big commercial beast that we are" (Manager) (Dixon & Clifford, 2007, p. 340).*

This tension also leads to ecopreneurs distancing themselves from the business world. There has been a long-standing view of entrepreneurship as the incarnation of profit maximisation and capitalism (Williams & Nadin, 2013), which leaves some ecopreneurs distancing themselves from entrepreneurship or justifying themselves for running a business.

> *"[I am] an environmental innovator … the only reason Paul and I are developing this business is because we have the same passion around environmental issues" (Phillips, 2012, p. 809).*

Here the term "entrepreneur" is consciously avoided and replaced by "environmental innovator" in order to separate the environmental goals from the venture creation. However, in Schumpeter's definition, the innovation is at the heart of his concept of entrepreneurship. The creation of a business is secondary to Schumpeter and not the qualifying notion of entrepreneurial action. The negative stigma of entrepreneurship engrained in society lets ecopreneurs distance themselves from being entrepreneurs. According to Williams & Nadin (2013), profit-maximising entrepreneurs account for only a third of entrepreneurial activities and should not be the dominant image of entrepreneurship.

Overcoming this stigma could lead to more support for social entrepreneurship. The tension between mission and market logic holds dangers in two ways. Firstly, mission drift, as the risk that businesses loosen their social mission in order to gain financial viability or increase financial returns, poses a threat to the business' mission (Santos, Pache & Birkholz, 2015). The ecopreneurs in our examples expressed views that favour the mission over growth, however, mission drift can occur unconsciously because social value creation is harder to measure than financial value creation and receives less attention in the short-term goals of the business (Doherty, Haugh & Lyon, 2014). Secondly, focusing on the mission at the expense of the

business' financial performance can be dangerous to the mission itself. If the revenues from commercial activity don't cover the business' operating costs, external funding is needed to avoid bankruptcy (Dohrmann, Raith & Siebold, 2015). Consequently, resources tied up in gathering this external funding are no longer available to work towards the mission of the business. Additionally, the business might have to cut back on staff who deliver its mission and thus favouring the mission over the financial performance can indirectly limit the impact the business has (Battilana et al., 2015). Where the mission and financial performance are completely incompatible, the business might have to close down, which negatively affects the beneficiaries who relied on the business' social value creation (Santos, Pache & Birkholz, 2015). Managing this trade-off appropriately is therefore a vital success factor of ecopreneurial ventures.

2.1.2.4 Understanding value creation in the ecopreneurial context

In the context of these challenges, it is important to understand how ecopreneurial ventures create value in terms of not only economic, but also ecologic and social value. Concepts of business models have been developed as a structured way to describe the mechanisms and logic of value creation and delivery in organisations (Schaltegger, Hansen & Lüdeke-Freund, 2016). One of the most applied frameworks to conceptualise a business model is the business model canvas by Osterwalder and Pigneur (2010). The canvas describes a business model in nine segments of value proposition, customer groups, channels, relationships, revenue streams, key activities, key resources, key partners and the cost structure. In the sustainable business model literature, the framework has been critiqued for its underlying profit-maximising logic and its focus on creating, delivering and capturing economic value (Upward & Jones, 2016). To address this shortcoming Joyce and Paquin (2016) have proposed to create triple layered business model canvases. This framework requires filling out canvases for the social, ecologic and economic value creation individually. While this pays more attention to each of the dimensions, it creates a wealth of information that limits the understanding of the actual business model. The separate treatment of the three dimensions

on individual canvases hinders the analysis from showing the mechanisms through which social, ecologic and economic value is created simultaneously and the interconnectedness of the dimensions in the business model.

The problem with the original business model canvas appears to stem from the understanding of value as economic value. Therefore, to apply it in a sustainability context, what is needed is not a different framework, but rather a different understanding of value. Dohrmann, Raith and Siebold (2015) show that by changing the understanding of value and including non-economic value propositions in the canvas it is possible to apply the framework to social entrepreneurship, whilst maintaining the analytical strength that stems from the business model canvas' simplicity. Due to the similarities of ecopreneurs and social entrepreneurs I will therefore use the original business model canvas by Osterwalder and Pigneur (2010) to examine the mechanisms of value creation in ecopreneurial ventures in the firm level analysis. I will show how including multiple value propositions allows to create an understanding for ecopreneurial business models in a single canvas.

2.1.2.5 The space of the ecopreneur

I have started this chapter by outlining entrepreneurship as a driver of change brought through innovation or discovery and exploitation of economic opportunities derived from market failure. In the context of sustainability, innovation is created through commercialisation and dissemination of new (more efficient) production techniques, less hazardous resources, or the creation of environmentally friendly substitutes for existing products. The market failures exist in lack of perfect efficiency, flawed pricing mechanisms, existing externalities and information asymmetries. I further found that ecopreneurs are strongly motivated by their green values to start ventures as vehicles for change. For some ecopreneurs, who often act according to Schumpeter's concept of entrepreneurship, their mission is motivation enough. They drive sustainable innovation into the market, which mitigates the environmentally degrading effects of existing products and practices.

Others are more financially motivated and mostly engage in the act of entrepreneurial discovery. Among the interviewed ecopreneurs, the unmet

demand for green products was the most mentioned market failure that leads to environmental degradation. These differences among ecopreneurs show that, just as for entrepreneurship, it is unfeasible to find a single ecopreneurship definition. Instead, we can identify a three-dimensional space in which we can find the ecopreneur. The first dimension, which reaches from the pure motivation to improve the environment to an equal balance between environmental and monetary goals, reflects the ecopreneurs' motivations to engage in venture creation. The second dimension captures the nature of entrepreneurial actions performed by the ecopreneurs and reaches from the Kirznerian notions of opportunistic exploitation of economic opportunity to the Schumpeterian notion of innovation. The third dimension captures the ecopreneurs' attitudes towards the market economy and growth. It reaches from ecopreneurs opposing economic concepts of entrepreneurship and business growth to the pursuit of growth that doesn't compromise the environmental goals. This is outlines in figure 2-1.

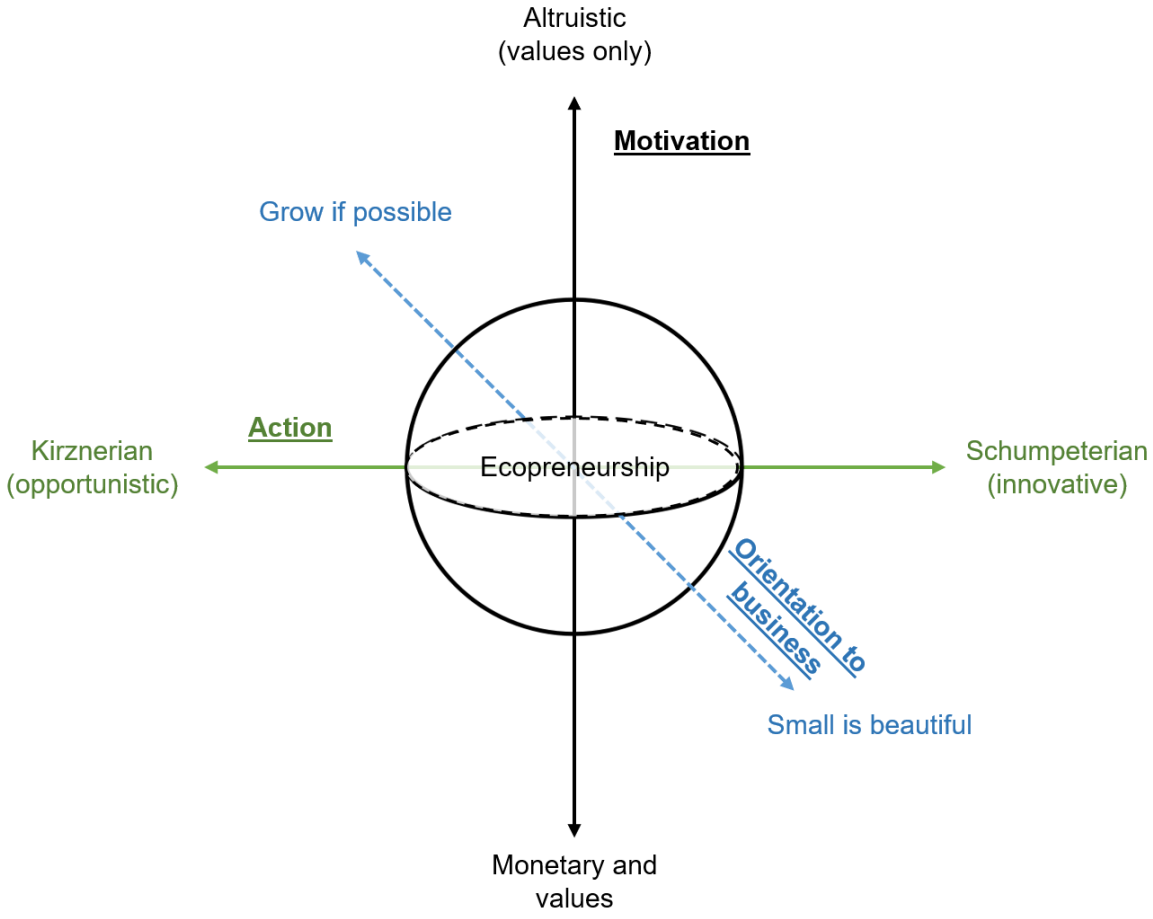


Figure 2-1: Dimensions of Ecopreneurship

I suggest that satisfying demand for sustainable products and introducing sustainable innovation into the market is beneficial to the environment, regardless of the motivation behind it. Returning to the question of ecopreneurship's possible impact on sustainable development, the third dimension is of special interest. Weinberg (1998) proposes that green businesses with sufficient growth hold the potential to drive unsustainable competitors out of the market. Similarly, Schumpeter's later works suggest that innovation from larger businesses hold the most potential of creating lasting change (Nightingale & Coad, 2013). For the ecopreneurial ventures to reach a size that enables considerable change, both ends of the third dimension pose as obstacles. On the one side of the dimension there is the ecopreneurs' perception that they are not entrepreneurs and are reluctant to grow their businesses. From the narratives, we can see that ecopreneurs act as entrepreneurs according to the two dominant definitions of entrepreneurship by Schumpeter and Kirzner. This supports Drucker's (2007) claim that entrepreneurship is similar regardless of the context it is set in. Breaking down the opposition towards businesses may create space for a self-construction that embraces entrepreneurship and empowers the ecopreneur to seek to grow its impact (Springett, 2003). It might also be interesting to look at ways ecopreneurs spread their mission outside of their businesses, such as spreading the mission through their own supply chain or educating other ecopreneurs to create new supply chains with the same mission. On the other side of the dimension remains the limitation to growth created through the tension between financial viability and environmental impact. For successful growth (meaning staying sustainable while increasing their economic social and environmental impact), ecopreneurial ventures require business practices that allow upscaling operations without upscaling adverse environmental effects (Weinberg, 1998). The IPCC (2014) identified industrial and transportation activities as the biggest greenhouse gas emission sources, thus, operations in these areas hold great potential for improvement (Taticchi et al., 2015). These improvements might come from research and ecopreneurial innovation. The environmental impact of a company's operations usually reaches beyond the boundaries of that company (Ahi &

Searcy, 2015; Kirkwood & Walton, 2010b; Marshall et al., 2015a). Together with the limited impact a single ecopreneurial venture might have through the challenges around growth, this points towards examining the potential for sustainable development through a supply chain lens.

2.2 Sustainable development in supply chain management

In addition to economic goals of supply chain management, sustainable supply chain management enriches the concept with the environmental and social aspects of sustainability. Thus, SSCM focuses on all three dimensions of the triple bottom line (an approach to combine economic, social and environmental goals) (Elkington, 1999; Frostenson & Prenkert, 2015; Genovese et al., 2013; Khalid et al., 2015; Tajbakhsh & Hassini, 2015; Taticchi et al., 2015). Linking the dimensions of sustainability to traditional definitions of supply chain management, Seuring and Müller (2008) and define SSCM as:

> *"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." (Seuring & Müller, 2008, p. 1700).*

As discussed above, win-win scenarios arise for new and incumbent businesses from market forces' failure to create sustainability. Capitalising on these is one goal of SSCM too (Brandenburg & Rebs, 2015). In addition to win-win effects, a competitive advantage through product differentiation can be gained by improving the supply chain's sustainability (Danloup et al., 2015; Marshall et al., 2015a; Mitra & Datta, 2014; Taticchi et al., 2015). This allows companies to capture revenues from environmentally aware consumers (Tajbakhsh & Hassini, 2015), which is similar to the entrepreneurial exploitation of unmet demand for sustainable products. Despite these proposed positive outcomes for the members of sustainable supply chains, companies have so far failed to create truly sustainable supply chains (Pagell & Shevchenko, 2014), which is evident in the increased emission of greenhouse gases during the last decade (IPCC, 2018). In the

following section, I want to examine obstacles to sustainable development in supply chains and possible ways to overcome them.

2.2.1 Trade-Offs in SSCM

The complexity of sustainability that arises from the interdependent nature of the objectives (Dania, Xing & Amer, 2018; Hall, Matos & Silvestre, 2012) is one possible hurdle for firms to create sustainable supply chains. The infeasibility of maximising all values in the dimensions of sustainability simultaneously, forces the actors in a supply chain to accept trade-offs between conflicting goals (Brandenburg & Rebs, 2015). Economic goals can conflict with environmental goals, for example, when investments into pollution control impede the firm's profitability. Dealing with economic-ecologic trade-offs is simpler than dealing with conflicts along the social dimension because they are measurable. Cost and effect as well as the revenue gains from effective implementation of environmentally sustainable practices can be quantified (Wilhelm et al., 2016), which has led to a greater appreciation of environmental sustainability over social sustainability in theory and practice (Beske, Land & Seuring, 2014; Marshall et al., 2015b; Tajbakhsh & Hassini, 2015).

The social dimension of sustainability covers areas of human interaction within the supply chain, from direct impacts such as employee's working conditions and job satisfaction (Lee, 2016), to broader indirect effects of social welfare in the local community (Cholette et al., 2014). Due to large overlaps of the areas, the literature on social supply chain management is strongly linked to the field of corporate social responsibility (CSR) (Chkanikova & Mont, 2015) and social supply chain management is used as a concept that covers CSR activities spanning across multiple firms (Eriksson & Svensson, 2015). Trade-offs between the social and the economic dimension of sustainability typically arise around working conditions. Supply chains in developed countries are concerned with paying living wages, stress and workload, and mental and/or physical health issues (Carter & Jennings, 2004). Global supply chains also struggle with working conditions in developing countries such as sweatshops and child labour (Mani, Agrawal & Sharma, 2015).

Abolishing unethical practices results in higher costs for the supply chain (e.g. it is more expensive to employ an adult than a child), nevertheless these improvements should be non-negotiable and have become increasingly so through government regulation, increased consumer awareness and pressure from competition (Danloup et al., 2015). Improving working conditions around workplace benefits, health and safety, equality and diversity, or training, often increases cost in the short run, but is likely to result in higher productivity through greater employee motivation, less injuries and decrease in days of sick leave (Evans et al., 2006; Grover & Crooker, 1995). The outcomes of these measures are (unlike the environmental measures) very subjective and contextual. How effective a change in the working conditions for any employee is highly dependent on the employee and the cultural context they are in (Mani, Agrawal & Sharma, 2015). This makes the social dimension hard to quantify. Pava (2007) sees this lack of measurability as one weakness of the triple bottom line approach that has limited the efforts of corporations to implement social sustainability into sustainability accounting. It is likely that the mentioned underrepresentation in SSCM stems from this lack of accountability for socially responsible measures. In other disciplines that might rely less on quantitative results, social sustainability is more readily applied, which is evident, for example, in the emergence of various hybrids of CSR and HRM (Jamali, El Dirani & Harwood, 2015; Newman et al., 2016).

In addition to the economic trade-offs in SSCM, trade-offs between the social and environmental dimension should be considered (Marshall et al., 2015b). For example, compliance with stricter environmental standards could lead to increased pressure on employees (Frostenson & Prenkert, 2015). These trade-offs suffer from two drawbacks. Firstly, the difficulty in measuring the social dimension makes them hard to quantify. Secondly, questions like “How much CO2 can you offset for a certain percentage increase in employee satisfaction?” seem impossible to answer, which renders any quantification worthless. Consequently, the trade-offs between social and environmental sustainability are only theoretically addressed in the SSCM literature and no evidence on these exists.

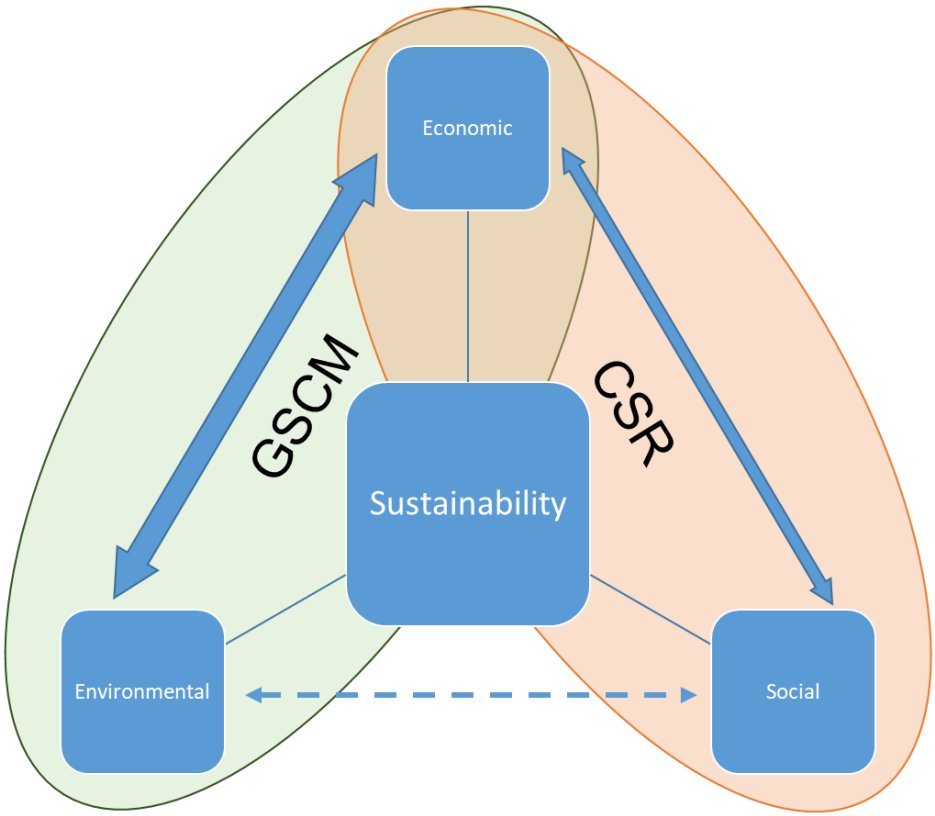


Figure 2-2: The trade-offs of sustainability

Figure 2-2 displays the relationship between the dimensions of sustainability and their placement within the literature. The green supply chain management (GSCM) literature deals with the environmental and economic goals, while the corporate social responsibility (CSR) literature captures the social and economic goals. The double-sided arrows symbolise the trade-offs between the dimensions. The strengths of the arrows indicate how strongly the respective trade-offs are represented in the literature and in practice. From the literature, it is evident that the trade-offs between economic goals and the environment are frequently addressed, while we find considerably less on the trade-off between economic goals and social considerations. Proposals for measurement and future research on the economic–social trade-offs exist and seem to be growing. The dashed arrow for the environmental and social trade-offs indicates this dimension's underrepresentation in literature and a lack of approaches towards balancing these trade-offs.

Due to these existing trade-offs, supply chains should aim at achieving Pareto optimal solutions in which every goal within the dimensions of sustainability is fulfilled to a level that maximises its own value without compromising any

of the others (Devika, Jafarian & Nourbakhsh, 2014; Hall, Matos & Silvestre, 2012 or Govindan, Jha & Garg, 2016). Kulak et al. (2015) identified that in conflicting cases, most supply chains prioritise economic goals over environmental or social goals. This reflects the mindset of many companies and academics: sustainability needs to be justified economically. A vast amount of the literature is concerned with revenue gains through the implementation of sustainable practices (e.g., Brandenburg & Rebs, 2015; Busse, 2016; Carvalho & Barbieri, 2012; Gualandris & Kalchschmidt, 2014; Mitra & Datta, 2014; Tajbakhsh & Hassini, 2015; Taticchi et al., 2015; Tognetti, Grosse-Ruyken & Wagner, 2015), or the simultaneous achievement of cost and resource efficiency (Pagell & Shevchenko, 2014). These studies use organisational performance (measured in economic performance measures) as the independent variable affected by sustainable supply chain practices (Busse, 2016). This mindset appreciates sustainability only when it improves, or at least does not harm, organisational performance. However, Marshall et al. (2015b) identified companies with a strong entrepreneurial orientation will proactively seek to identify fundamental changes in their products and processes, valuing sustainability for its long-term benefits. Proactivity in this context means actively pursuing the identification and implementation of sustainable practices before pressure from external stakeholders arises (Beske, Land & Seuring, 2014). In their study on how green values affect ecopreneurs' supply chain management, Kirkwood and Walton (2010b) found that ecopreneurs' awareness of the mentioned trade-offs made them seek the most sustainable way to run their operations from the day they started trading. Their values led them to actions that can be seen as being proactive towards sustainability. Aiming to minimise their environmental impact, ecopreneurs avoid exporting and importing goods wherever possible, even if that limits business growth. Importing goods was never considered for reasons of cost-efficiency, but only when the required goods or technology were not available locally. Additionally, ecopreneurs did not consider suppliers with unethical working conditions, even if the environmental impact was acceptable. Therefore, Kirkwood and Walton (2010b) conclude that green and social values cannot easily be separated in

ecopreneurs and trade-offs within the environmental and social dimension are considered equally. However, in order for these considerations to have a real impact, they need to be present throughout the entire supply chain and reflected in an intra-organisational environment committed towards managing trade-offs in the supply chain (Defee, Esper & Mollenkopf, 2009). Based on the different mindsets of ecopreneurs and incumbent firms, it can be suspected that both take different approaches to driving sustainability into their supply chain. However, research in this area is sparse.

2.2.2 How firms drive sustainability in the supply chain

A focal firm is assumed to be present in conventional supply chains, which usually represents the end of the chain and has autonomy and power to push for sustainability in its own and its suppliers' products and processes (Frostenson & Prenkert, 2015). The focal firm's motivation lies in increased awareness of sustainability issues, consumer pressures and present or anticipated government intervention (Beske, Land & Seuring, 2014; Busse, 2016; Genovese et al., 2013; Marshall et al., 2015a; Taticchi et al., 2015; Tognetti, Grosse-Ruyken & Wagner, 2015). The consumer pressures are reflected in the proposed revenue increases (Brandenburg & Rebs, 2015; Tajbakhsh & Hassini, 2015) and competitive advantages (Danloup et al., 2015) firms acquire when implementing sustainability. This flow of pressure from consumers, via the focal firm towards suppliers, indicates that sustainability is pushed upstream through the supply chain. Setting standards is a common way for focal firms to achieve compliance with sustainability among suppliers. This often includes some form of supplier certification process (Wilhelm et al., 2016) and adherence to a code of conduct, both of which can be followed up through audits (Lee, 2016). These measures create arms-length relationships (Marshall et al., 2015b) and can lead to suppliers conforming to only the minimum requirements for internal practices, which may lead to firm level optimisation and suboptimal results at supply chain level (Mena et al., 2014).

2.2.2.1 Supply chain collaboration

Collaborative approaches to SSCM are proposed to hold effective routes to the implementation of sustainability (Dania, Xing & Amer, 2018; Lee, 2016; Leigh & Xiaohong, 2015; Zhang & Awasthi, 2014). Collaboration relies on the supply chain's organisations fostering communication, sharing information and developing cooperative processes to increase the supply chain's (sustainable) performance (Defee, Esper & Mollenkopf, 2009). These approaches reach beyond the certification process and include joint development and design of new technology, products, processes (Beske, Land & Seuring, 2014; Leigh & Xiaohong, 2015) and joint governance of supply chain activities (Danloup et al., 2015). Where the focal firm holds a size advantage, collaboration can also include active development of the suppliers' capabilities, for example, in form of training or funding of more sustainable technologies by the focal firm (Beske, Land & Seuring, 2014; Wilhelm et al., 2016). Eriksson & Svensson (2015) find mutual dependencies in supply chains have a positive impact on socially responsible SCM practices. Mylan et al. (2015) find that eco-innovation is more likely to happen in supply chains with collaborative governance structures. This indicates that the proposed collaborative approaches improve a supply chain's sustainability.

However, lack of trust is a large barrier to supply chain collaboration (Dania, Xing & Amer, 2018; Danloup et al., 2015; Van der Heijden & Cramer, 2017) and changing the supply chain strategy to a collaborative sustainability driven set-up means a significant change to their raison d'être for many companies who value their own performance over that of the supply chain (Marshall et al., 2015b). Instead, the companies need to follow a reasoning that enables all supply chain members to achieve their best performance as a whole supply chain. Linking back to the entrepreneurship literature, Parrish (2010) identified that the raison d'être for ecopreneurs lies in the collaborative creation of value for multiple stakeholders. Further, Cholette et al.'s (2014) findings suggest that social entrepreneurial ventures don't adhere to traditional market models, but instead build their business and respective supply chain on an ally-building model of reciprocating partners. The

ventures in their case study are concerned with setting up sustainable supply chains relying on means such as environmentally responsible purchasing and the development of the community in which they operate. I therefore assume that ecopreneurs internalise the aforementioned trade-offs and build supply chains with holistic approaches that include non-traditional supply chain members (such as the local community) (Marshall et al., 2015b). This assumption is supported by the findings of Van der Heijden and Cramer (2017), who conducted a longitudinal study of sustainable supply chain collaboration in the Netherlands. Whilst not taking an entrepreneurship perspective, they identified the efforts of a change agent towards driving sustainability efforts in the supply chain through fostering collaboration between the supply chain members. Seeing that ecopreneurs are recognised as change agents for sustainability (Pastakia, 1998), I expect them to show similar efforts of driving the supply chain towards sustainability. However, when doing so, ecopreneurs face challenges such as their organisational size, small order sizes and limited power over their suppliers that might limit their impact (Cholette et al., 2014) or even make it impossible to produce sustainable products in the first place (Kirkwood & Walton, 2010b).

Another obstacle to driving sustainability into the supply chain, which applies to ecopreneurs and commercial businesses alike, lies in the distance between the supply chain members.

2.2.2.2 The effect of distance on sustainability in supply chains

The distance in a supply chain can be assessed in multiple ways, such as geographical distances, supply chain characteristics, like the number of tiers in a supply chain, and their respective size/power (Robbins, 2015).

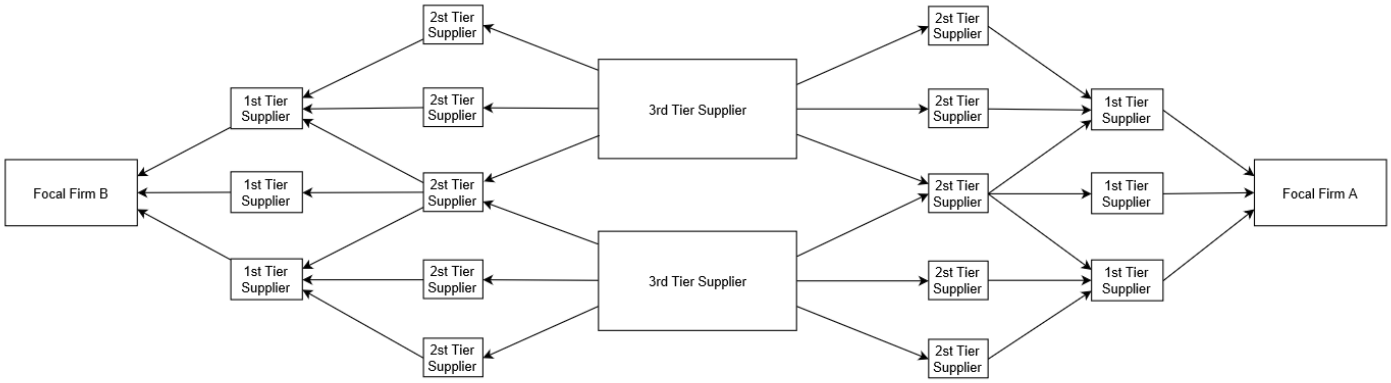
When discussing geographical distance and sustainability, greenhouse gas emissions from transportation instinctively comes to mind. Many studies propose local production and consumption as a means to mitigate the environmental degradation caused by long distance transport (e.g., Curtis, 2003; Frankova & Johanisova, 2012; Hogan & Lockie, 2013; North, 2010; Quaye et al., 2010; Seyfang, 2007). Theurl, Haberl and Lindenthal (2014), however, find that producing locally does not always result in lower

greenhouse gas emissions. When products require certain resources, conditions and storage, the greenhouse gas emissions from production in unfavourable conditions often outweigh the savings of greenhouse gas emissions from the reduced travel routes. Weber and Matthews (2008) find similar results, concluding that the type of products have a larger impact on a consumer's carbon footprint than their place of production. Furthermore, the method of transport has a greater impact on greenhouse gas emissions than the distance travelled. For example, the average distance food travels in the USA increased by 25% between 1997 and 2004, while carbon emissions only increased by 5% due to a shift from trucks to ocean ships (Weber & Matthews, 2008). Where transportation has a smaller effect on sustainability than the production phase, supply chain members should direct their focus at improving production processes. This often requires considerations down the entire supply chain, where the number of tiers comes into play.

Studies have shown that the majority of focal firms care about and influence sustainability within their suppliers (Busse, 2016), which the focal firm's purchasing power enables them to do (Lee, 2016). However, the focal firm can struggle to increase sustainability when it has limited influence over its supplier's resources and sustainability implementation efforts (Frostenson & Prenkert, 2015). The further away a supplier from the focal firm is, the smaller the focal firm's influence gets. This is mostly due to the diminishing proportion of revenue the focal firm accounts for with the upstream suppliers. While the focal firms often make up a substantial part of the revenue in their first-tier suppliers (which, for example, produce parts especially for the focal

Figure 2-3: Supplier size along the tiers of the supply chain

firm), the first-tier supplier often buys raw material from larger suppliers that it cannot influence (Wilhelm et al., 2016).



As schematically drawn out in figure 2-3, the size of suppliers might decrease over a certain number of tiers due to specialisation of suppliers, but will eventually increase again, when inputs become more basic. With increasing distance (measured in tiers) to other supply chain members, the focal firm's influence decreases which makes it harder for the focal firm to implement sustainability (Wilhelm et al., 2016) unless a collaborative approach and common mindset towards sustainability grows within the supply chain (Frostenson & Prenkert, 2015). Creating this mindset relies on vertical coordination (Mena et al., 2014) and strong sustainability driven supply chain leadership (Defee, Esper & Mollenkopf, 2009; Lee, 2016).

2.2.2.3 Leadership for SSCM

A supply chain leader is seen as an entity, responsible for development, dissemination and coordination of supply chain strategies (Defee, Esper & Mollenkopf, 2009). Accordingly, sustainability driven leadership is about implementing environmental and social policies and goals to stimulate improvements. This requires the leader to have a long-term vision and the ability to influence other supply chain members (Dubey, Gunasekaran & Ali, 2015), which a single firm in many cases might not have. To be effective the supply chain leader thus needs to adopt a transformational leadership style, which aims at establishing shared goals that benefit the entire supply chain (Defee, Esper & Mollenkopf, 2009) instead of a transactional leadership style that builds on coercive power and asks for sustainable practices in exchange for revenue (Lee, 2016). Transformational leadership is an essential part of the concept of entrepreneurial orientation, which if present in the supply chain leader, fosters the successful implementation of sustainability

(Marshall et al., 2015b). Entrepreneurial orientation in the supply chain leader also positively influences its drive for innovation (Birasnav, Mittal & Loughlin, 2015), which is an important part of achieving sustainability. I expect entrepreneurial orientation to be high with ecopreneurs; however, their role as supply chain leaders for sustainability has not been researched to date.

2.2.2.4 Innovation in SSCM

As discussed above, products and production processes need to change for supply chains to become sustainable. This potential to achieve sustainable development in supply chains is proposed to be lying in innovation (Beske, Land & Seuring, 2014; Isaksson, Johansson & Fischer, 2010). Due to the fact that supply chains are still not fully sustainable, this potential in supply chain management could lie in undiscovered innovation (Gualandris & Kalchschmidt, 2014) which could be unlocked through increasing the visibility of its opportunities (Isaksson, Johansson & Fischer, 2010). Porter and Van der Linde (1995) claim that ignorance towards the possibilities of sustainable development hinder companies from identifying these potentials for innovation. We can also find that "sheer ignorance" is what Kirzner (1997) finds to be the hurdle to entrepreneurial discovery. Entrepreneurial discovery, again, is the very act that identifies market failures and creates visibility for opportunities to innovate. I therefore expect ecopreneurs to engage in activities that foster innovation in a supply chain context.

The majority of innovation towards sustainability is found in end-of-pipeline approaches, such as reuse and recycling (which is also strongly advocated by, for example, Marshall et al., 2015a; Mitra & Datta, 2014; Pullman & Wu, 2012; Zhang & Awasthi, 2014). A more viable approach could be found in innovating earlier in the life cycle by improving the product design and production processes (Carvalho & Barbieri, 2012) often subsumed in the literature as eco-design. Eco-design applies life cycle assessments, analytical hierarchy processes and analytical network processes to approximate and seek the product design with the lowest environmental impact, from production overuse to the end of the product's life (Wang et al., 2015). This

narrow focus on the environmental impact neglects the social and economic dimensions of sustainability and should extend to these too (Wang, Chan & White, 2014). Pagell & Shevchenko (2014) claim this kind of product (and process) innovation has historically been found most in new ventures, which supports Isaksson, Johansson & Fischer's (2010) claim that retrospectively examining existing companies and practices makes us blind towards undiscovered opportunities from radical innovation. Since innovation has contributed to the level of environmental degradation we are currently facing, Carvalho & Barbieri (2012) propose to explicitly focus on sustainable innovation, which they define as:

> *"The introduction (production, assimilation or exploitation) of products, production processes, management or business methods, new or significantly improved, that bring economic, social and environmental benefits when compared with relevant alternatives." (Carvalho & Barbieri, 2012, p. 146)*

The above definition holds the elements of Schumpeter's entrepreneurial innovation, enriched by the dimensions of sustainable development. This, and the proclaimed need for entrepreneurial discovery, hint towards the potential of ecopreneurship for creating sustainable innovation in supply chains. However, no studies exist on the innovating activities of ecopreneurs in a supply chain context.

The review above shows the different aspects of developing supply chains towards sustainability, dealt with in SSCM literature. Further, there is evidence indicating that ecopreneurs will approach the challenges regarding sustainable supply chains differently to commercial and/or established companies, but the evidence is limited, and further research is needed on how ecopreneurs manage their supply chains to deliver their sustainability goals. This is where I see my research gap.

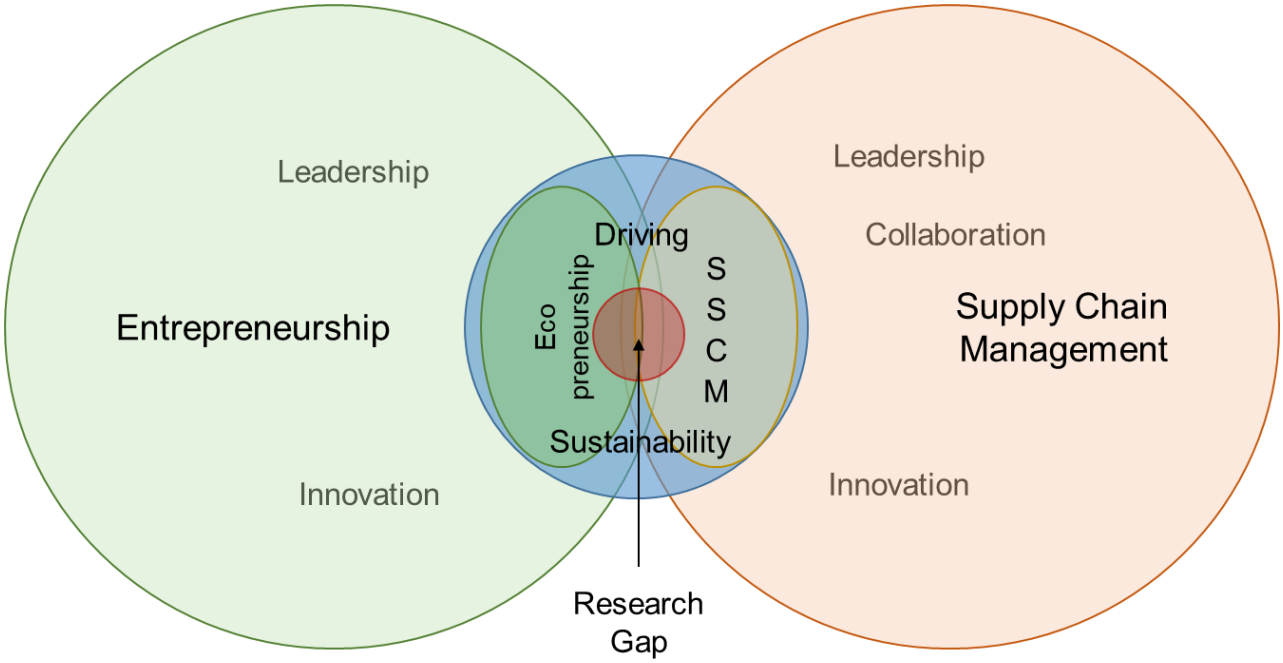


Figure 2-4: Combining two remote bodies of literature

The next section will examine the mentioned challenges in the case of the food industry and show why it is a suitable context for this doctoral research.

2.3 Food Industry

Food supply is an issue of global scale and should be of concern to everyone, as agriculture demands 70% of the world's fresh water usage, provides the livelihood for 40% of the world's population and crop production takes up 12% of the world's land area (Food and Agriculture Organisation of the United Nations, 2015). Through its impact on fresh water and the provision of jobs, food supply has a major impact on the economic and social wellbeing of regions. Furthermore, agriculture fuels global warming twofold: globally it accounts for one third of anthropogenic greenhouse gas emissions, while at the same time it is responsible for 17% of the world's deforestation (Conto et al., 2014). Thus, agriculture not only creates greenhouse gases, but also destroys areas that can reduce carbon dioxide in our atmosphere. As a consequence of consumers' constant demand for a large variety of agricultural products, regardless of origin and seasonality (Theurl, Haberl & Lindenthal, 2014), 200 billion metric tons of food are being transported globally every year (Konieczny, Dobrucka & Mroczek, 2013). With an increasing population and rising living standards these figures are expected to rise due to the increased

demand in resource intensive meat and dairy products, which accelerates problems around land use and greenhouse gas emissions (Garnett, 2014; Kulak et al., 2015). It is expected that the global demand for food will double by 2050 (Accorsi et al., 2016), while available resources such as land, water and minerals remain the same at best (Garnett, 2014). This subjects the food industry to challenges around its environmental impact as well as social issues like food security, food safety and fair trade.

2.3.1 Challenges within current food supply

The mentioned developments in the food industry created long food supply chains with many intermediaries, increasing size of players and delocalised production methods (Sini, 2014). The drive towards mechanisation and efficiency has created uniformity and standardisation within the food supply chain (Robbins, 2015). These delocalised and standardised production methods have disconnected producers and consumers, made products undifferentiated and independent of their origin and created global competition based on simple financial measures. In consequence, agricultural activities are clustered in areas where production is cheap and marginalised areas with less favourable production conditions (Wiskerke, 2009). While this system of food provisioning is considered to be efficient on a commercial scale, it has recently received growing criticism along all dimensions of sustainability (Sini, 2014).

2.3.1.1 Environmental challenges

The current mass consumption demands intensive agricultural methods in the agro-food sector to produce huge quantities of food (Garnett, 2014). Intensive agriculture leads to environmental degradation as a result of its pursuit of cost efficiency and neglect for environmental externalities (Accorsi et al., 2016). Among the dominant impacts of the food industry on the environment are: Biodiversity loss, soil depletion, deforestation, desertification, water pollution and greenhouse gas emissions (Conto et al., 2014; Zahir & Sharif, 2016; Robbins, 2015; Voget-Kleschin, 2015; Wiskerke, 2009).

These environmental effects can mostly be attributed to the production and cultivation stage of food supply. Looking at the issue with a holistic view also requires consideration of the impacts of processing, packaging, storing, distribution and waste (Accorsi et al., 2016). All these stages in the food supply chain influence greenhouse gas emissions, which are mostly made up of carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O) (Figueiredo Pereira De Faria et al., 2016; Theurl, Haberl & Lindenthal, 2014). Of these, CO2 accounts for the lion's share of emitted greenhouse gases. A useful concept when examining different steps and methods of food supply is the carbon footprint, which makes different activities comparable with respect to their impact on global warming (Konieczny, Dobrucka & Mroczek, 2013).

Cattle, for example, emits methane - livestock faeces contain ammonia, which can create nitrous oxide (Garnett, 2014). Some greenhouses need a CO2 enriched atmosphere while others cause its creation indirectly, through the heating they require (Theurl, Haberl & Lindenthal, 2014). Converting these emissions into CO2 equivalent units creates a common denominator that allows comparison of different activities. This is also useful to compare different sources of energy provision (Blanke & Burdick, 2005; Pullman & Wu, 2012) and fuel needed for transportation and distribution (Kneafsey et al., 2013, Garnett, 2014). The latter has received increasing interest among academics and activists recently, with studies and opinions subsumed under the headline of food miles (for examples see: Holloway & Kneafsey, 2000; Roep & Wiskerke, 2012; Seyfang, 2007; Sonnino & Marsden, 2006). Food miles capture the distance between the places of the production and consumption of food (Seyfang, 2007). Bridging this distance requires transportation which emits CO2. Consequently, many academics advocate reducing food miles as a means for decreasing the food production system's environmental impact (Curtis, 2003; Frankova & Johanisova, 2012; Holloway & Kneafsey, 2000; Watts, Ilbery & Maye, 2005). Evidence on this claim is inconclusive, however. As discussed earlier, distance is just one factor influencing CO2 emissions and one must also consider the transportation methods (Weber & Matthews, 2008). Furthermore, Theurl, Haberl and Lindenthal (2014) claim that that upstream transportation has a larger impact than final delivery, which

supports local production, while Wiskerke (2009) claims the final delivery, especially individual trips to the point of sale, makes up the largest part of the environmental impact, which wouldn't be reduced in the case of local production. Finally, local production is not always possible without increasing CO2 emissions. Theurl, Haberl and Lindenthal (2014), for example, found that importing tomatoes from Spain is more favourable than growing tomatoes out of season in heated greenhouses in the UK. Also, the more favourable production conditions in one country result in a higher per acreage yield and greater utilisation of machinery, which reduces the carbon footprint sufficiently to offset the emissions from shipping the produce to another country (Blanke & Burdick, 2005). We can see that considerations on food miles are highly complex and dependent on a number of variables, so a general statement about them cannot be made.

The food industry has a large environmental impact and greatly contributes to climate change (Accorsi et al., 2016; Garnett, 2014; Wiskerke, 2009). Nevertheless, many farmers do not consider the environmental impact of their farms (Tilman et al., 2002) and retailers and wholesalers focus on profit maximisation while neglecting the environmental burden of their actions (Accorsi et al., 2016). Therefore, the food industry increases negative environmental impacts to which itself is incredibly vulnerable (Conto et al., 2014).

2.3.1.2 Social challenges

The social implications of our current food system are various and strongly interlinked with the environmental challenges. They range from international political scale to implications on individual level.

On the consumer side, concerns exist about food safety, nutrition, health and food security (Bonney, Collins & Miles, 2013; Cicatiello et al., 2016; Garnett, 2014; Kneafsey et al., 2013; Wiskerke, 2009). On a macro level concerns revolve around access to resources (Voget-Kleschin, 2015), employment and income (Conto et al., 2014), displacement and dispossession (Robbins, 2015) and international trade (Kneafsey et al., 2013), all of which bear the potential for international conflict (Figueiredo Pereira De Faria et al., 2016).

These issues touch on food security in one way or the other, which provides us with an anchor to examine the social concerns and their links to environmental challenges. The United Nations' Food and Agriculture Organization (FAO) proposes that food security exists when:

> *"[…] all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life." (Bonney, Collins & Miles, 2013, p. 3)*

Zahir and Shaif (2016) have identified two problems in this definition that pose as challenges in food provision. Firstly, continuous growth of populations, makes supplying food to all people an ongoing challenge. Secondly, with growing standards of living, people's food preferences change towards increased demand for meat products, which create the highest amount of greenhouse gas emissions (Garnett, 2014). To cope with the growing demand, the developed world has established industrialised agricultural systems with the purpose of maximising outputs (Kneafsey et al., 2013). This was effective in creating a sufficient and cheap supply of food and establishing food security in large parts of the developed world (Wiskerke, 2009). At the same time, industrial agriculture generates adverse environmental effects, which change the climate and destroy fertile land, therefore impeding on food security in the developed as well as the developing world (Figueiredo Pereira De Faria et al., 2016). The developed world has also brought social challenges to developing countries. By exporting surpluses at low prices, developed countries have put local farmers in developing countries out of business (Kneafsey et al., 2013). At the same time, importing food from developing countries increases prices, thus making food unaffordable to the population of the exporting country (North, 2010; Quaye et al., 2010). Both of these measures destabilise regions and impede on food security, as they make food unaffordable due to lacking income and/or increased prices (Conto et al., 2014; Voget-Kleschin, 2015). This indicates food security is not just about producing enough food, but also ensuring physical and economic access to it (Cicatiello et al., 2016; Garnett, 2014). Affordability of food is often overlooked

in the debate about food security in developed countries, which focuses on healthy and nutritious food (Kneafsey et al., 2013). Further, wholesalers and retailers in the food supply chain attribute the largest share of profits (Gruber, Holweg & Teller, 2016), forcing farmers to seek profits through large scale farm operations that neglect environmental impacts (Wiskerke, 2009). Further problems arise through food waste, which is a loss of volume, weight or nutrition of food, caused by human action (Cicatiello et al., 2016). Whenever food is wasted it leads to more greenhouse gas emissions and use of resources than is necessary (Visschers, Wickli & Siegrist, 2016), as well as financial inefficiency (Garnett, 2014), which diminishes farm income and negatively affects the regional economy and social wellbeing (Wiskerke, 2009).

The various and interlinked challenges related to the food industry demonstrate that the problems at hand are complex and far from easily solved. According to Kulak et al. (2015), sustainability can be achieved by two means: alterations to our consumption patterns and/or improvements in the food supply chain. Garnett (2014) links the two, proposing that what is needed is a change in the way food is supplied that is supportive of and built upon changes in consumption behaviour.

As one response to the challenges of altering production and consumption systems in the food industry, AFNs have been put forward by a growing number of academics (e.g., Conto et al., 2014; Kneafsey et al., 2013; Roep & Wiskerke, 2012; Robbins, 2015; Seyfang, 2007; Sonnino & Marsden, 2006; Watts, Ilbery & Maye, 2005).

2.3.2 Alternative food networks

AFNs come in various forms such as: farmer's markets (Migliore et al., 2015; Rickett Hein, Ilbery & Kneasfsey, 2006; Seyfang, 2007), farm shops (Rickett Hein, Ilbery & Kneasfsey, 2006), community supported agriculture (Migliore et al., 2015; Rickett Hein, Ilbery & Kneasfsey, 2006; Seyfang, 2007), solidarity purchasing groups (Migliore et al., 2015), food box programmes (Robbins, 2015; Seyfang, 2007) and cooperatives (Filippi, 2014).

AFNs differ in their ways of food distribution, but share assumptions underlying their actions. AFNs aim at shortening the supply chain through establishing new distribution channels that market the goods as directly as possible to the consumer (Conto et al., 2014; Robbins, 2015; Seyfang, 2007; Sini, 2014). Thus, reducing the geographical distance as well as the number of intermediaries (Robbins, 2015). This shortening of the supply chain re-locates production closer to the place of consumption and strengthens the connection between producers and consumers by enabling more direct communication (Seyfang, 2007). Therefore, AFNs are re-localising and re-socialising food (Sonnino & Marsden, 2006; Watts, Ilbery & Maye, 2005) and embed production in their local area, which strengthens the regional economy, creates jobs, and enhances social wellbeing (Conto et al., 2014; Migliore et al., 2015; Roep & Wiskerke, 2012; Watts, Ilbery & Maye, 2005; Wiskerke, 2009). The shorter supply chains grant more power to the farmers, which enables them to accrue larger proportions of the profit and thus stabilises farm income (Seyfang, 2007; Sonnino & Marsden, 2006). This allows farmers to operate smaller farms and enables the farms to avoid environmentally degrading practices caused by large scale farming operations. Alongside contributing to regional social and economic wellbeing, environmental protection is one of the main goals of AFNs (Conto et al., 2014; Migliore et al., 2015; Wiskerke, 2009). To achieve this, AFNs often rely on organic farming methods and avoid artificial additives, colorants and conservants during the processing phase (Holloway & Kneafsey, 2000; Zsuzsa, 2012). In addition to this, AFNs seek environmental benefits in the reduction of food miles (Seyfang, 2007; Watts, Ilbery & Maye, 2005). As a mere reduction in food miles does not always translate into a smaller carbon footprint, it is important for AFNs to embed their choice of plants, animal breeds and crop cycles in the local particularities of their region (Roep & Wiskerke, 2012; Wiskerke, 2009). In addition to improving food supply on the dimensions of sustainability, AFNs also seek to change consumer behaviour towards more sustainable consumption patterns (Roep & Wiskerke, 2012; Seyfang, 2007). Customers of AFNs are predominantly concerned with environmental impact, animal welfare, food safety, taste and support for local

producers (Winter, 2003) and it is suggested that AFN customers seek higher quality products (Watts, Ilbery & Maye, 2005). This is reflected in their willingness to pay premium prices for food (Brecard et al., 2009). Their motivation to pay more is also built on the utility customers gain from buying "acceptable" food and supporting the local agriculture (Cembalo et al., 2015; Seyfang, 2007). The higher prices limit the extent to which consumers can participate in supporting AFNs, who mostly cater to a very small consumer group (Holloway & Kneafsey, 2000). Due to the very specialised customer group and higher prices, AFNs' potential of transforming production and consumption patterns towards a more sustainable future is restrained and does not impact large parts of society. Thus, a contribution to food security is questionable. I acknowledge the fact that AFNs do not solve all the problems of food provisioning, but rather suggest they act as one alternative to the status quo and can play an important part in driving sustainability.

Since some players in AFNs introduce alternative production methods that challenge the established system of food provisioning, they can be seen as an entrepreneurial phenomenon (Migliore et al., 2015) that aims to tackle environmental and social challenges of food supply. Therefore, I propose that AFNs hold ecopreneurial ventures that address sustainability issues of supply chain management in a food context. Ecopreneurs in AFNs aim to shorten the supply chain and avoid environmentally degrading production techniques as well as strengthening the producers and the local economy. Through this, they also mitigate the adverse effects of global trade such as rising food prices in developing countries. I therefore propose that AFNs are a good context to examine how ecopreneurial ventures drive sustainability in food supply chains. I build this claim on Hansen and Schaltegger's (2013) findings, who identified that sustainable measures were introduced into the market through entrepreneurial ventures setting up alternative clothes supply chains and then picked by larger companies who implemented them into mainstream clothes supply chains. In a similar fashion, I expect AFNs to drive sustainability into food supply chains.

2.4 Summary

I have started this literature review by outlining the role entrepreneurship can play in contributing to sustainable development. From the various streams of entrepreneurship literature (Baumol, 1990), two appeared most relevant in this context. First, the Schumpeterian concept of entrepreneurship that focuses on innovation (Drucker, 2007) was recognised for its focus on entrepreneurs' ability to alter existing markets and create new ones through creative destruction (McDaniel, 2011). In this process, new firms enter the market with innovative products that make the existing products obsolete and force incumbent firms to alter their products or leave the market. In the context of sustainable development, creative destruction was seen to enable ecopreneurs to introduce new, more sustainable products into the market and therefore force the incumbent firms to adopt the sustainable products or leave the market (Cohen & Winn, 2007).

The second stream of literature builds on Kirzner's (1997) concept of entrepreneurial discovery. Through entrepreneurial discovery the entrepreneurs identify economic opportunities in market failures, which they correct through exploiting them. In the context of sustainable development, ecopreneurs are finding opportunities in the lack of perfect efficiencies, flawed pricing mechanisms, the existence of externalities and information asymmetries (Dean & McMullen, 2007). Ecopreneurs identify these failures and address them by introducing more efficient products and production methods, internalising the social cost of production and educating consumers. Through these actions ecopreneurs are regarded as change agents for sustainable development (Pastakia, 1998). I have reviewed the existing literature on ecopreneurship with regards to the ecopreneurs' motivation (Dixon & Clifford, 2007; Jayashankar, Van Auken & Ashta, 2018; Kearins, Collins & Tregidga, 2010; Kirkwood & Walton, 2010a; Migliore et al., 2015; Phillips, 2012; York, O'Neil & Sarasvathy, 2016), their actions as outlined above, and their attitude towards growth and the market economy (Dixon & Clifford, 2007; Doherty, Haugh & Lyon, 2014; Dohrmann, Raith & Siebold, 2015; Kearins, Collins & Tregidga, 2010; Kirkwood & Walton, 2010a;

Kirkwood & Walton, 2010b; Phillips, 2006; Phillips, 2012). Along these dimensions I have created the space of the ecopreneur to provide my understanding of the concept. In addition to the literature on ecopreneurs' motivation, actions and growth attitudes, literature on the organisational design (Battilana et al., 2015; Parrish, 2010; Santos, Pache & Birkholz, 2015) and the venture development process (Choi & Gray, 2008) exists. What appears to be underdeveloped in the literature is how the ecopreneurs are delivering the proposed impact on sustainable development in terms of their business practices (Muños & Cohen, 2018). Exploring these is the first aim of my doctoral dissertation.

Since an organisation's sustainability cannot be assessed without considering the sustainability of their supply chain (Ahi & Searcy, 2015; Kirkwood & Walton, 2010b; Marshall et al., 2015a), I also reviewed the literature on SSCM.

I started by identifying the problems organisations face when trying to implement sustainability in their supply chains. This led me to examine the existing trade-offs between economic, ecologic and social sustainability that make introducing sustainability along the supply chain highly complex (Dania, Xing & Amer, 2018; Hall, Matos & Silvestre, 2012). The review of the literature showed that economic-ecologic trade-offs are well represented in the research, due to their quantitative nature, while economic-social trade-offs are less researched because of the difficulty of assessing the social impact (Beske, Land & Seuring, 2014; Tajbakhsh & Hassini, 2015). Further, the ecologic-social trade-offs are largely unexplored in the literature, which might be attributed to research focusing on the impact of sustainability on organisational performance as equated to economic performance (Devika, Jafarian & Nourbakhsh, 2014; Hall, Matos & Silvestre, 2012; Kulak et al., 2015). Combing these insights with the notion that ecopreneurs work outside the profit maximising paradigm, I postulated that ecopreneurs might approach sustainability in their supply chain differently to conventional businesses. To evaluate this claim, I continued my literature review by reviewing how firms drive sustainability in the supply chain.

Many studies in SSCM assume a focal firm (Frostenson & Prenkert, 2015), as a downstream entity with power over its suppliers, is needed to implement sustainability efforts through contracts, audits and certification processes (Beske, Land & Seuring, 2014; Busse, 2016; Genovese et al., 2013; Marshall et al., 2015a; Taticchi et al., 2015; Tognetti, Grosse-Ruyken & Wagner, 2015). However, it is recognised that this approach may lead to suppliers only complying with the minimum required regulation rather than pushing for sustainability themselves, which limits sustainability efforts (Mena et al., 2014). In response to this, collaborative approaches have recently received increasing attention in the literature (Dania, Xing & Amer, 2018; Marshall et al., 2015b; Van der Heijden & Cramer, 2017). Collaboration includes joint development and design of new technology, products, processes (Beske, Land & Seuring, 2014; Leigh & Xiaohong, 2015) joint governance of supply chain activities and maintaining supply chain relationships (Danloup et al., 2015). Collaboration, however, requires trust and a shared commitment by the supply chain partners (Dania, Xing & Amer, 2018), which can be influenced by change agents in supply chains (Van der Heijden & Cramer, 2017). To get more insights into influence in the supply chain, I next looked at factors affecting influence of supply chain members, specifically the distance in the supply chain and leadership.

With regards to distance in supply chains, I showed that distance can be assessed in terms of geographical distance, but also number of tiers between supply chain members (Robbins, 2015). The geographical distance was perceived to have a negative impact on sustainability, however, factors like production and transportation methods and place of production might have larger impacts (Theurl, Haberl & Lindenthal, 2014; Weber & Matthews, 2008). The research here is inconclusive and varies according to industry context. The distance as number of tiers between supply chain members has a significant impact on the influence one supply chain member can have over others. This especially holds for buyers who derive influence from their purchasing power (Lee, 2016). The further one supply chain member is removed from another, the smaller its influence gets with many buyers'

influence dropping significantly beyond their first-tier suppliers (Wilhelm et al., 2016).

Considering that collaboration can be influenced by change agents, but influence diminishes with distance between supply chain members, I examined the importance of leadership on SSCM. This examination showed that the traditional transactional leadership style adopted by focal firms is limited in its ability to drive sustainability in the supply chain due to the issues of joint commitment for collaboration and distance (Lee, 2016). Instead, a transformational leadership style is assumed to be more effective, as it might inspire supply chain members to collaborate for a shared cause rather than comply with certification processes (Defee, Esper & Mollenkopf, 2009). The literature suggests this leadership style to be present in firms with an entrepreneurial orientation (Marshall et al., 2015b), which could indicate ecopreneurs aim for a transformational leadership style. Birasnav, Mittal and Loughlin (2015) also propose that firms with an entrepreneurial orientation drive innovation in supply chains, so I moved my literature review to examining innovation in the SSCM context.

The review of the innovation SSCM literature highlighted that great potential for sustainability improvements lies with innovation (Beske, Land & Seuring, 2014; Gualandris & Kalchschmidt, 2014; Isaksson, Johansson & Fischer, 2010). However, the innovation needs to be focused on sustainability and Carvalho and Barbieri (2012) provide a definition for sustainable innovation that matches the Schumpeterian concept of entrepreneurship and Cohen and Winn's (2007) definition of ecopreneurship. Further, the literature highlights that opportunities for innovation need to be discovered (Isaksson, Johansson & Fischer, 2010; Porter & Van der Linde, 1995), much like in the process of entrepreneurial discovery (Kirzner, 1997; Shane & Venkataraman, 2000). Both of these findings led me to assume that ecopreneurs to play a role in sustainable innovation in the supply chain context.

From the review of the SSCM literature, it emerged that ecopreneurs might play a significant role in driving sustainability in supply chains, through collaborative approaches, transformational leadership and sustainable

innovation. However, no literature on these areas with regards to ecopreneurship exists. Currently we know the ecopreneurs' potential to contribute to sustainable development, their motivation, actions in terms of opportunity discovery or creation, their organisational design and some of the challenges they face when pursuing their sustainability goals. However, a gap in the research exists when it comes to how they aim to deliver their sustainability goals through their business practices on an inter and intra-firm level. This gap in the literature is addressed by my research.

Empirically I have chosen to situate my research in the food industry because it emits one third of all anthropogenic greenhouse gases (Conto et al., 2014), demands 70% of the world's fresh water use, and provides the livelihood for 40% of the world's population (Food and Agriculture Organisation of the United Nations, 2015) making it a relevant context for all areas of sustainability. I have reviewed the environmental challenges around biodiversity loss, soil depletion, deforestation, desertification, water pollution and greenhouse gas emissions (Conto et al., 2014; Zahir & Sharif, 2016; Robbins, 2015; Voget-Kleschin, 2015; Wiskerke, 2009) as well as the social challenges around food safety, nutrition, health, food security (Bonney, Collins & Miles, 2013; Cicatiello et al., 2016; Garnett, 2014; Kneafsey et al., 2013, Wiskerke, 2009), employment and income (Conto et al., 2014), displacement, dispossession (Robbins, 2015) and international trade (Kneafsey et al., 2013). Building on these challenges, I have identified AFNs as a setting within the food industry that holds opportunities for ecopreneurs. The AFNs' goals of improving the sustainability of food production and shortening supply chains (Conto et al., 2014; Robbins, 2015; Seyfang, 2007; Sini, 2014) show they share many features with ecopreneurs and SSCM. This makes the food industry - and more specifically AFNs - an appropriate context for my examination of ecopreneurial business practices on a firm and supply chain level. Table 2-1 outlines the reviewed streams of literature, the main gaps and their connection to my research questions.

Research Stream	Key Papers	Main Gaps	Main research questions	Sub-questions
Ecopreneurship	Choi & Gray, 2008; Cohen & Winn, 2007; Dean & McMullen, 2007; Pastakia, 1998; Kearins, Collins & Tregidga, 2010; Dixon & Clifford, 2007; Jayashankar, Van Auken & Ashta, 2018; Kirkwood & Walton, 2010a; Muños & Cohen, 2018; Parrish, 2010; Phillips, 2006; Phillips, 2012	The business practices employed by ecopreneurs in pursuit of their sustainability goals	RQ1: How do ecopreneurs deliver their sustainability goals through their business practices?	What sustainability goals can be found in ecopreneurs' value propositions?
				Which stakeholders do ecopreneurs aim their value proposition at?
Hybrid ventures	Battilana et al., 2015; Doherty, Haugh & Lyon, 2014; Dohrmann, Raith & Siebold, 2015; Santos, Pache & Birkholz, 2015; York, O'Neil & Sarasvathy, 2016	The business models of hybrid ventures aiming to fulfil all three dimensions of the triple bottom line		What business practices do ecopreneurs apply to deliver their value proposition?
				What tensions between sustainability goals exist?
				How is financial viability maintained?

Sustainable supply chain management	Ahi & Searcy, 2015; Beske, Land & Seuring, 2014; Dania, Xing & Amer, 2018; Frostenson & Prenkert, 2015; Hall, Matos & Silvestre, 2012; Kirkwood & Walton, 2010b; Lee, 2016; Marshall et al., 2015a; Seuring & Müller, 2008; Van der Heijden & Cramer, 2017	The supply chain management practices of change agents (such as ecopreneurs) with regards to collaboration, leadership and innovation	RQ2: How do ecopreneurs' supply chains practices impact the fulfilment of their sustainability goals?	What role to ecopreneurs play in achieving sustainable supply chains?
Alternative food networks	Bonney, Collins & Miles, 2013; Cicatiello et al., 2016; Conto et al., 2014; Garnett, 2014; Kneafsey et al., 2013; Kulak et al., 2015; Migliore et al., 2015; Robbins, 2015; Seyfang, 2007; Sini, 2014; Theurl, Haberl & Lindenthal, 2014; Voget-Kleschin, 2015; Wiskerke, 2009; Zahir & Sharif, 2016	The creation of supply networks (such as alternative food networks) in absence of a dominant firm		How do ecopreneurs disseminate sustainable business practices through supply chains?

Table 2-1: Literature streams to research questions

The remainder of the dissertation is structured as follows. First, I will outline the methodology of my exploratory research project. In this section I will explain how my philosophical considerations inform my research, how I derived my research questions and the methods I use to answer them. Second, I will present my findings in two chapters. The first is concerned with the ecopreneurial business practices on a firm level. The second will show my findings of the ecopreneurs' supply chain management. Third, I will provide a discussion of my findings that will merge the two studies together and place them in the context of the existing literature. Last, I will finish with a conclusion outlining my contribution to the different literature streams and the implications for policy and practitioners. The limitations and avenues for future research will be provided.

Chapter 3: Methodology

This chapter will outline the methodology of my research. As I have shown in the literature review, theory on ecopreneurship, especially with a supply chain perspective, is sparse. In cases like this where little or no theory exists, a phenomenon should be explored and understood through a qualitative research design based on an inductive approach (Creswell, 2007). Therefore, I chose an inductive approach to my research, which means discovering patterns and themes that emerge from the data through my interaction with it (Patton, 2002). The philosophical foundations underpinning exploring a subject through this approach will be explained in the ontological and epistemological considerations. The explorative approach is reflected in the "how" nature of my research questions that deal with addressing, discovering and describing unexplored research areas (Blaikie, 1993). My questions, which I will outline below, thus portray my aim of exploring and understanding ecopreneurship. As I am following an inductive approach of qualitative research, I will not begin with deriving hypotheses from theory that will be tested in my research project. Due to the lack of existent theory, this is not possible. Further, due to the explorative nature of my project and my aim to deepen understanding of ecopreneurship, it is also not desirable to do so (Bryant, 2014). Forming hypotheses for generalisation is based on abstraction and bears the risk of relying on what we already know, thus making us blind to experiencing the unknown and creating understanding beyond what we already know (Simons, 2014).

To explain my methodology, I will first explain the ontological and epistemological considerations that informed my research. Second, I will provide a brief discussion of quality criteria in qualitative research and how these link to my research philosophy. This will build a foundation to refer to when justifying my methods. Third, I will show how I derived my research questions from the literature, before explaining the methods I chose to answer them. Fourth, I will outline the chosen case study approach, my data collection and the analysis. This chapter will end with the ethical implications I took into consideration during my research.

3.1 Ontological and epistemological considerations

The challenges to my ontological and epistemological considerations stem from multiple features of my research. First, I combine the remote fields of entrepreneurship and supply chain management. Supply chain management has a strong history of quantitative studies and as a successor of scientific management often applies positivist approaches. Entrepreneurship (as outlined in the literature review) has been predominantly researched in economics, psychology and management and therefore has been dealt with through a multitude of perspectives. Second, I also deal with sustainability, which has multiple angles and dimensions. The concept of sustainable development has developed from the often cited Brundtland Commission report (WCED, 1987) which stressed safeguarding future generations' abilities to meet their needs whilst present generations fulfil theirs; from combining economic, social and environmental sustainability in the triple bottom line (Elkington, 1999), to the now 17 sustainable development goals put forward by the United Nations (UN General Assembly, 2015). These definitions vary in their understanding of development, needs and sustainability and place differing focuses on economic and ecologic development, whilst often neglecting the social dimension (Barkemeyer et al., 2014). This goes to show that different elements of the research areas and sustainability offer opportunities for investigations from different ontological and epistemological stances. This holds at least for constructionist and interpretivist researchers - to which I partly count myself, as I will elaborate in the following.

I don't subscribe to the positivist tradition and do not believe in absolute truth. I do not, however, fully reject positivist methods and see value in evidence-based knowledge created through the scientific method within the natural sciences. I build the argument of my research on the existence of climate change, which has been proven to exist through positivist methods (IPCC, 2014). Rejecting a positivist approach outright would claim an absolute (non-positivist) truth, which could only be claimed through a positivist stance and is as such paradoxical (Seale, 1999). Therefore, these three research

areas all influence my ontology and epistemology and have confronted me with the challenge of marrying the different approaches.

I build my considerations on Spencer, Pryce and Walsh's (2014) claim that challenging and transgressing epistemological boundaries will open novel avenues for research and that a single philosophical assumption fails to capture social interactions in their complexity. Further, I build on Maxwell's (2012) assertion that a realist ontology is not inextricably linked to a realist epistemology. Realism corresponds most closely with my perception of the existence of the world. I believe that the world and natural phenomena exist independently of our perception or knowledge about them (Clark, 1998; Sayer, 1992). I do not experience the melting of the polar ice caps and have not noticed the rise of CO2 levels in the atmosphere, but nevertheless I believe these exist, pose a real threat to humanity, and would continue to do so even if no one was aware of them. I also believe these phenomena have been proven sufficiently by evidence created through scientific approaches.

In contrast to the natural world, I see social phenomena and social constructs, to which I count our perception of reality and knowledge about the natural world, as dependent on and created by social actors (Bryman, 2008). This leads me to take a social constructionist stance to epistemology (Crotty, 1998). Sticking to my example of climate change, I can acknowledge its existence independently of the knowledge and awareness of social actors but see any facts and knowledge about climate change as socially constructed and context dependent (Silverman, 2013). My own perceptions of social reality can never be fully detached from the knowledge I am creating, and the outcome of my research will be value laden (Blaikie, 1993; Clark, 1998; Sayer, 1992). This links in with the realist stance outlined by Sayer (1992), who also supports the notion of social phenomena being dependent on the social actors creating them but points out that they can exist independent of the researcher studying the social actors. Therefore, I adapt the notions of constructionism that all knowledge of the world is created and negotiated through human practices (Crotty, 1998), but do not go as far as claiming that reality is reliant upon our knowledge of it. Rather, I follow Silverman's (2013) approach to

constructionism that sees social realities as products of social interactions and therefore claims social realities are dependent on our knowledge of them, while realities in the natural world can exist independent of our knowledge.

Seeing practices as a socially constructed link between the world and our knowledge about it (Sayer, 1992), I can apply a constructionist epistemology to the examination of them. In the constructionist fashion, I acknowledge that multiple accounts of these practices exist and our understanding of them is socially constructed. I will appreciate this in my research and present varied accounts of my participants' practices. However, in contrast to a constructivist epistemology that gives equal value to each perception of reality (Crotty, 1998), the social constructionism and realist approach I follow lets me distinguish between the merit of different accounts of perceived reality (Patton, 2002). This is an important distinction as I cannot give value to the account of a president perceiving a cold day and concluding global warming does not exist. Neither can I accept that companies using green washing claim they drive sustainable development. The idea of researching alternative approaches to business that are beneficial in working towards sustainable development requires me to make a judgement on their practices. This is supported by the realist notion that actions influence the natural world regardless of our perception (Clark, 1998; Sayer, 1992). Considering the constructionist epistemology, however, my account of the practices and perception of their merit will be influenced by my prior knowledge and values (Blaikie, 1993).

To summarise, I see the natural world - with its occurrences such as climate change - to be real and exist independently of our knowledge about them. I see the knowledge about the real world as socially constructed and understand ecopreneurs as social phenomena reacting to their knowledge of the real world through their practices, which I will investigate in my research. Social realities are negotiated between actors, but not all accounts of reality hold equal merit. My job as a researcher is to identify valid accounts of reality, however, any judgement of these accounts' merits will always be influenced by my values. Therefore, it is possible for me as a researcher to observe social

phenomena, like ecopreneurship, through the practices employed by the ecopreneurs and create knowledge of this phenomenon. The created knowledge will not be objective as it is value-laden (Blaikie, 1993), but represents my account of how I make sense of ecopreneurship.

Building on this elaboration of my ontological and epistemological stance, I will next provide a discussion about the implications this will have on assessing the quality of my research. This discussion will provide a basis of my understanding of quality criteria, which I will use in the remainder of this chapter to justify my research approach.

3.2 Quality criteria in qualitative research

In the positivist tradition the quality of research is concerned with the reliability and validity of findings (Bryman, 2008). The questions researchers have to answer is whether their research has correctly and objectively captured reality and whether they presented the findings appropriately. This could be evaluated by checking whether correct procedure was applied when collecting (mostly quantitative) data and the right steps in the analysis were taken. Assessing the reliability and validity of the research in this way, however, assumes an absolute reality to be existent and ready to be captured by the researcher (Bryman & Bell, 2011).

As described above, I do not subscribe to a philosophy of singular social realities, which limits the applicability of reliability and validity criteria to my research. However, choosing alternative criteria is challenging. Due to the multiplicity of methods and underlying philosophies in qualitative inquiry, a vast number of quality criteria have emerged (Patton, 2002). The challenge with applying quality criteria to qualitative inquiry is that the criteria on the one hand need to be open enough to account for the multiplicity of social realities, but on the other hand not so loose that they fail to give guidance in the assessment (Seale, 1999). In the following paragraphs I will outline the criteria that I have identified as most applicable to my research. However, I do acknowledge the fact that these will be laden with my own philosophical assumptions and thus invite other researchers to apply their own assessment criteria to my research.

As alternative criteria to those found in positivist approaches, trustworthiness (Lincoln & Guba, 1985), truth and relevance (Hammersley, 1992), and authenticity (Guba & Lincoln, 1994) have been introduced into the research literature. While these criteria for assessing qualitative inquiries are not exhaustive, they are the most discussed and frequently applied (Bryman & Bell, 2011; Patton, 2002; Seale, 1999). The aim of these criteria is not to assess whether the research has successfully captured the absolute reality of a subject, but whether the account of reality presented by the researcher has been produced legitimately and is fair, both from the perspective of the research community and the participants in the inquiry. A constructivist could question the possibility of assessing this legitimacy in a world of individually constructed realities, due to the value-laden nature of quality criteria (Seale, 1999). This would make any quality assessment impossible, and since I subscribe more to the realist and social constructionist stance, I will focus my discussion of quality criteria in the realism-based approaches of trustworthiness (Bryman & Bell, 2011).

As alternative criteria to assessing quantitative studies, Lincoln and Guba (1985) have proposed to assess a qualitative inquiry's trustworthiness along the four criteria of credibility (equivalent to internal validity), transferability (equivalent to external validity), dependability (equivalent to reliability) and confirmability (equivalent to objectivity). I will briefly describe these in the following section.

3.2.1 Credibility

Considering the existence of multiple social realities, the credibility criterion tries to assess how credible the account of social reality presented by the researcher is (Bryman & Bell, 2011). To establish credibility for one's account, the researcher should use rigorous and clearly documented methods for doing their field work (Patton, 2002). This should enable readers of the research outcome to understand the approach and provide the possibility to reconstruct the project (Bryman & Bell, 2011). However, it is questionable whether even a meticulous reconstruction of the study would arrive at similar results, due to the contextual and time-dependent nature of the presented

social reality (Crotty, 1998). To further establish credibility for their account of a phenomenon, the researcher should aim to show they have conducted careful observation (Seale, 1999) and whether their interpretation of the observed is justified. This could be achieved through participant validation and triangulation of data (Bryman & Bell, 2011; Patton, 2002). Bryman and Bell (2011), however, question the ability of research participants to validate the researcher's analysis of the data, as the researcher might draw on prior knowledge of the subject matter and link the findings to pre-existent theory, which the participants are unfamiliar with. As I have shown in the literature review, often ecopreneurs do not identify as entrepreneurial, whilst describing clearly entrepreneurial actions. Based on this, I decided participant validation to have limited value to my research and focused on triangulation of data, as I will describe later. Triangulation not only supports the deeper understanding and correct interpretation of data, but also helps overcoming single-method bias, for example, from loaded interview questions (Patton, 2002). Finally, credibility should be created by acknowledging and looking for negative examples in the data (Seale, 1999). A systematic search for alternative themes and divergent patterns shows the constructionist appreciation for multiple social realities and deepens the understanding of the research matter, by understanding how deviances from observed patterns occur (Patton, 2002).

3.2.2 Transferability

Transferability asks whether the findings of a qualitative inquiry might hold in a different context or the same context at a different time (Bryman & Bell, 2011). This considers the contextual nature of social realities, which are being constructed and reconstructed by social actors through their actions and engagement with their environment (Sayer, 1992). While even positivist researchers appreciate that qualitative research does not aim for generalisability beyond the research setting (Yin, 2014), it might still be desirable to arrive at findings that have a larger impact and could contribute to theory building (Eisenhardt, 1989). Instead of building an argument of generalisability on random sampling and probability theory found in quantitative research, the qualitative researcher is encouraged to provide

detailed descriptions of the setting of the study. This enables a reader to understand the circumstances under which the findings have been created and form their own judgement on whether they would hold it in other circumstances (Bryman & Bell, 2011; Seale, 1999).

3.2.3 Dependability

Dependability is concerned with the quality of inferences to theory made by the researcher (Bryman & Bell, 2011). In this regard the researcher should, through their documentation, enable other researchers to assess their research quality and determine whether the researcher's interpretation of the data holds up (Seale, 1999). The literature suggests that for this purpose other researchers audit the data, which requires the original researcher to have it in a readily available form to present to the research community (Lincoln & Guba, 1985). Bryman and Bell (2011) point out that auditing the data of a qualitative research project, which often has large amounts of rich data, would be immensely demanding and time consuming and therefore is often not viable. In addition to this, I personally have ethical concerns about making my data available to the research community because I have ensured my participants' strict confidentiality and have been presented with documents which were for my eyes only. Seale (1999) suggests that triangulation exercises used for a critical evaluation of the data can enhance dependability when different methods or data sources lead to the same interpretation. Therefore, I have chosen to prioritise triangulation over auditing in my research.

3.2.4 Confirmability

Confirmability as the alternative to objectivity is concerned with acknowledging that objectivity cannot be achieved. Instead, the researcher should show that they have acted in good faith and did not purposefully alter the outcomes of the research according to their personal values (Bryman & Bell, 2011). This is a difficult criterion as it has to be accepted that any social inquiry will be value-laden (Burke Johnson & Onwuegbuzie, 2004), but the focus is that the researchers are conscious of their biases and don't alter the meaning of findings with intent. Confirmability is also proposed to be

established through audits by the research community (Seale, 1999). Due to the ethical concerns about audits and the impossibility of removing all personal values from the inquiry, confirmability will take a subordinate role in my research justification. However, I am providing anonymised examples of my participants responses throughout the presentation of my findings and hope these enable the audience of this dissertation to assess the confirmability of my interpretations.

3.2.5 Other criteria

In addition to these criteria, Guba and Lincoln (1994) have proposed authenticity criteria that are situated more within the constructivist epistemology. These are focused on the impact the research has on the members being studied and how it shapes their creation of social reality (Bryman & Bell, 2011). I place less weight on the authenticity criteria in my research for two reasons. First, they do not correspond well with my philosophical assumptions. Seeing that I combine a realist ontology with a social constructionist epistemology, I do not adhere to the constructivist idea of ontological authenticity. Secondly, and more importantly, questions as to whether the research has helped participants improve their viewpoint about themselves or whether they have been empowered by the research, cannot be assessed ex-ante (Seale, 1999) and therefore had little influence on the research design. I do, however, appreciate the need for fair representation and have respected the range of social realities that may be presented by my participants when I designed the research.

Overall, I do not claim these are the right or only ways of assessing qualitative research and appreciate the multitude of not only qualitative approaches, but also underlying philosophical assumptions (Patton, 2002). Therefore, I acknowledge that my research quality could be assessed by more positivist as well as more interpretivist or politically motivated criteria. Interestingly, whilst the different philosophical assumptions have resulted in different quality criteria, the methods for ensuring quality overlap in large parts, especially when it comes to triangulation of methods and data, and the appreciation of deviant/negative examples to deepen our understanding of the subject

matter. Examples of these measures with regards to research quality are found commonly in the literature, be it for validity and reliability reasons (Eisenhardt, 1989; Yin, 2014) or to establish credibility and transferability (Bryman & Bell, 2011; Patton, 2002; Seale, 1999). Accordingly, these two methods will play an important role in my data analysis, as I will show later in this chapter. Having established how the realist ontology and social constructionist epistemology shape my understanding of the natural and social world and my ability to observe social phenomena, I will now outline my research questions.

3.3 Research questions

Ventures within AFNs that aim to challenge the established system and introduce new production methods can be seen as an entrepreneurial phenomenon (Migliore et al., 2015), which may hold the potential to drive food production towards sustainability (Bonney, Collins & Miles, 2013). As I have argued in the literature review, entrepreneurial ventures that drive sustainability are ecopreneurial and as such fall into the domain of hybrid ventures. The ecopreneurs in AFNs serve multiple beneficiaries: the farmers who directly benefit through increased farm income; the local community which benefits from a stronger local economy and reduction in the environmental impact of food provisioning; and the customers themselves. The customers benefit not only as part of the local community, but also through the consumption of high quality, healthy food products. The revenue is mostly generated through customers, who are often restricted through budget constraints and the high prices of produce from AFNs (Brecard et al., 2009). The possible divide between customers and beneficiaries requires the ecopreneurs in AFNs to develop business models that are capable of serving the needs of both groups (Battilana et al., 2015) by, for example, inspiring a willingness to pay among the customers that is great enough to fund the mission, or by creating models in which the commercial activities directly impact the mission and products are made available to a large consumer group (Santos, Pache & Birkholz, 2015). To understand how ecopreneurs within AFNs aim to drive sustainable development we need to gain an

understanding of how they align their diverse goals and which business practices allow them to pursue these goals. Therefore, my first research question asks:

RQ1: How do ecopreneurs deliver their sustainability goals through their business practices?

The firm level analysis investigated the sustainability goals that ecopreneurs build their value propositions on and the business practices they apply to manage the tensions between the different goals. Moving from the single firm level on to an inter-firm level, I applied the aforementioned supply chain lens to investigate how ecopreneurs aim to fulfil their sustainability goals through their supply chain practices. The second research question thus asks:

RQ2: How do ecopreneurs' supply chains practices impact the fulfilment of their sustainability goals?

The supply chain analysis examined how ecopreneurs construct their supply networks, their sourcing and distribution decisions and their approaches to driving sustainability together with their supply chain partners. Here I looked at the roles the ecopreneurs take in supply chains and through which means sustainable practices are disseminated throughout their supply chains. Each research question was split into sub-questions that probe into different areas derived from the literature review and together aim to answer the overall question. The connection of research questions, sub-questions, the literature and the resulting interview questions can be seen in Appendix A – Research Protocol. To answer these research questions, I have chosen a case study approach, which I will outline in the following.

3.4 Case study

In general, a case study can be described as an empirical investigation of a phenomenon based on a rich examination of a variety of data sources (Eisenhardt & Graebner, 2007). Case studies have gained recognition as a strong theory building tool in business research (Bryman & Bell, 2011). Due to their ability to capture data from very different sources and backgrounds, Perren and Ram (2004) have identified case studies as a valuable tool for the

examination of entrepreneurship and small businesses, based on entrepreneurship and small business research's background in a multitude of research areas. Seuring (2008) finds that well-documented case studies, conducted in a structured way showing appropriate rigor, deliver an important contribution to research in SSCM. This is due to the case study's ability to capture examples from the "real world", an area often neglected in many modelling approaches. Rigor in qualitative studies is a controversial topic, as many researchers appreciate that qualitative inquiry relies on the researcher's continued non-linear engagement with the data, rather than following a set of rational steps like in quantitative research (Seale, 1999). Within the context of my research philosophy, rigor can be understood as carefully constructing the research design, thoroughly documenting the findings and systematically searching for alternative interpretations of themes (Patton, 2002). Thus, seeing that the case study is an accepted approach in entrepreneurship and supply chain management research, it is a feasible methodology to examine the overlap between the two disparate topics that I address in this doctoral research. Stuart et al. (2002) find that case studies enable us to examine and understand forms of business behaviour that do not conform to established norms. Since I have identified that ecopreneurs do not act upon mainstream business logics such as profit maximisation, the case study's ability to capture these logics is especially valuable to my research.

In the following I will outline the steps taken in my case study approach. For this I will follow the steps that overlap in Creswell (2007) and Stuart et al.'s (2002) five stages of case study research as shown in figure 3-1.

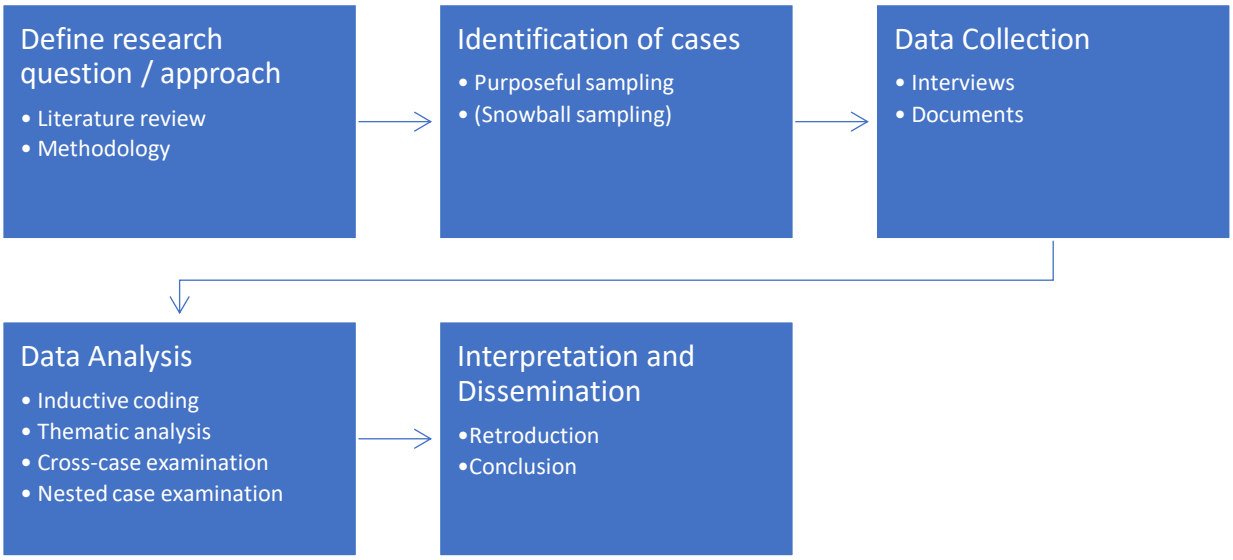


Figure 3-1: Five stages of the case study

Creswell (2007) and Stuart et al. (2002) suggest that any case study should start with a thorough literature review to determine the research questions on the basis of which the research approach can be chosen. The literature review and derivation of research questions has been accomplished in the previous chapter. Following this, the researcher should identify cases that go into the sample, collect the data, analyse it, and finally interpret and write up their findings. To enable a cross-case examination the researcher needs to apply a purposeful sampling approach. The details of this will be outlined in the next section.

3.5 The sample

In purposeful sampling, cases are selected based on their potential to inform the study in novel ways, rather than choosing a random sample as would be applied for a quantitative enquiry (Eisenhardt & Graebner, 2007; Patton, 2002). Choosing each case based on their potential to deliver novel insights to the study limits the scope of the data collection and prevents the research project from taking on an extensive spectrum of cases. Because qualitative data is rich in detail, extensive sampling could overwhelm the researcher (Seale, 1999). Too much data then compromises the analysis because it

hinders the researcher gaining in-depth understanding of each case and limits the possibility of providing thick descriptions to enhance transferability. More importantly than limiting the extent of data collection, the purposeful sampling criteria help identify which cases will bring a maximum variety of perspectives to the study, which is valuable for considering different social realities in a constructionist approach (Patton, 2002). It is advisable to consider for each case whether a replication logic holds, and whether the case should be sampled for reasons of literal replication (producing the same results and therefore supporting the findings) or theoretical replication (producing contradictory results and delimiting the findings) (Ferlie et al., 2005). Assumptions concerning whether a case constitutes a literal or theoretical replication were made before the sampling. To gain deep understanding it is beneficial to sample two cases which display strongly opposing features in one sampling dimension and then move on to a different area to find another opposing pair, until sufficient aspects of the phenomenon have been covered (Eisenhardt, 1989). I have chosen my cases along this approach but have also included cases covering the middle ground and transgressing categories in one dimension.

The dimensions along which I considered the cases were affordability (subsidised, low price or premium prices), the focus of the organisation's scope (variety of products), the organisation's age, and the position within the supply chain (producer, wholesaler, retailer, etc.). The dimensions of affordability and scope were chosen to capture a variety of approaches dealing with the different customer and beneficiary groups, as well as, concerns around economic viability (Battilana et al., 2015). The age dimension was chosen to create an understanding of challenges faced by the organisations at different stages of maturity. This dimension would also hold the possibility of showing occurrences of mission drift (Smith et al., 2012). The position in the supply chain was chosen to sample a near complete supply network. This provided insights into the challenges at each stage of the supply chain, the value distribution within the supply chain, the relationships between supply chain members (Lee, 2016) and how sustainability efforts were disseminated (Cholette et al., 2014; Danloup et al., 2015; Hansen & Schaltegger, 2013).

Certainty about how a case fits into the replication logic, however, could only be achieved ex-post, when the features of the case and the findings became apparent. Sampling multiple cases improved the credibility of the created knowledge as it enables portraying diverse accounts of ecopreneurship (Bryman & Bell, 2011; Eisenhardt & Graebner, 2007) and increased the likelihood of novel findings (Eisenhardt, 1989). With each case that was investigated the richness of data was ascertained and, consequently, the number of cases required was adjusted (Yin, 2014).

The cases that I considered as eligible for the research had the following characteristics. First, the organisation had to be part of an alternative food network. This could be in any stage of the supply chain, for example, farmers or distributors of products like vegetable boxes or the organisers of farmers' markets. When during the data collection it became evident that one participant's partner organisation played a big role in the alternative food network, I applied snowball sampling and included that organisation as a case in the data collection too (Patton, 2002). Second, the organisations had to show ecopreneurial traits. As we have seen in the chapter on ecopreneurs, there is no single definition of an ecopreneur that allowed discrimination of cases. However, what was present in every ecopreneurial venture is the willingness to change the current status quo with regards to the ecological and social environment. Therefore, to be included in the study and be regarded as ecopreneurial, an organisation's mission had to portray the aim of changing the current system of food provisioning. To what extent and with which measures the aforementioned change is achieved, was the subject of my research and could not be assessed ex-ante. Consequently, the intention to create change had to suffice in determining whether a case was regarded as ecopreneurial ex-ante. The cases were geographically limited to the UK to make the research viable on a cost and effort basis. In addition to viability concerns, I have chosen Bristol and the South West of the UK for the high engagement in sustainability driven activities. In 2015 Bristol was the awarded the European Green Capital title and has continued its long-term commitment to sustainability. The appreciation for sustainability is reflected in many industries in the region, amongst them the food industry. I found a

high activity of alternative food networks in and around Bristol, which has made this region a good site for my fieldwork.

The unit of analysis was the individual venture, on which I collected the data. Having established the selection criteria and the dimensions for the purposeful sampling, I created a list of potential organisations through researching the organisations' websites. The list held information such as the organisations' names, contact details, potential interview partners, the organisations' ages, missions and the reasoning why including them would benefit the study. Overall, 40 potential organisations were identified. Based on this information I started contacting the organisations. Where a telephone number was found I initially tried calling to establish the first contact. Where this was not possible, I sent an enquiry by email. After the initial contact, all participants received an information letter with further information about the nature of my research (see Appendix B – Participant information letter). Table 3-1 shows the complete sample with each case's features along the sampling criteria, the reasons for sampling the case and the data collected.

The organisations' ages range from three to 37 years at the time of the data collection. In terms of affordability, I covered organisations across all price ranges, with one organisation cross-subsidising prices between customers with different purchasing powers. The product variety ranges from two producers making only one type of product, to the retail stores selling over 10 product categories. As a category I considered things like vegetables, dairy products, meat, beverages, etc. Six of the organisations offer between five and nine product categories and three others offer between two and four. Two organisations have one product category and one organisation offers more than ten.

Most of the organisations have no clear-cut position within their supply chain and span multiple tiers, as displayed in the table. Seven of the organisations act as retailers and sell through a store or delivery scheme directly to consumers. Five of these seven produce the majority of their sold goods themselves. Five organisations work as producers and grow crop and/or cattle. Three of the organisations work as processors and process produce

they grow themselves and/or buy produce for processing. Three organisations cater to hospitality. Two organisations act as wholesalers in that they sell bought inputs in addition to what they produce to wholesale customers. One of these also imports goods for their wholesale customers.

The sampling was not linear but interconnected with the data collection to allow for snowball sampling, which will be outlined in the following section.

Case	Age	Affordability	Supply Chain Tiers	Product Categories	Reasons for sampling	Data collected
Case 1	5 Years	Low prices	Retailer	5-9	Small scale local delivery scheme. Represents low prices and smallest organisation.	About Description, Interview, Social Media Data, Supplier List
Case 2	3 Years	Target pricing subsidised for certain customer groups	Retailer	5-9	Local delivery scheme with a unique pricing approach based on purchasing power.	About Description, Food Clubs Description, Interview, Social Media Data, Supplier List
Case 3	25 Years	Mid to premium price range	Retailer, Hospitality	>10	Local sustainable supermarket. High commercial awareness, clear mission statement. Largest organisation in sample. Combines retail and hospitality. Largest number of product categories.	Interview, Mission Statement, Organic Statement, Staff Questionnaire, Social Media Data, Suppler Selection Guidelines, Supplier List, Sustainability Statement
Case 4	12 Years	Mid-price range	Producer, Processor, Retailer	5-9	Medium age, sustainability focussed producer. Produces consumer and wholesale customer goods with long shelf life. Combines production, processing and retailing.	About Description, Distributor List, Interview, Social Media Data

Case 5	6 Years	Not currently trading	Producer	2-4	Urban agriculture case. Strong mission towards changing the food system and related politics. Unique production methods.	4 News Articles, Aquaponic Description, Distribution-Marketing Guidelines, Interview, Mission Statement, Social Media Data, Sustainability Statement
Case 6	8 Years	Mid-price range	Processor, Retailer, Hospitality	5-9	First processor case who does not produce themselves. Products targeted at consumers and other hospitality outlets, with short shelf life. Strong focus on social sustainability in the workplace.	About Description, Charity Work, Interview, Mission Statement, Social Media Data, Sustainability Statement
Case 7	15 Years	Large price range with low to premium prices offered	Retailer, Wholesaler	5-9	Large retailer/delivery scheme, aggregating highest number of suppliers. Strong focus on locality. Came up as supplier for other cases.	About Description, Interview, Social Media Data, Supplier List
Case 8	15 Years	Premium prices	Producer, Retailer	1	Organic/Biodiversity producer of single product category. Highest priced case. Long shelf life of products.	About Description, Distributor List, Interview, Mission Statement, Organic Statement

Case 9	8 Years	Low to mid-price range	Producer, Importer, Wholesaler, Retailer	2-4	Medium large organisation that is fast growing. Supplier to large number of retail cases in the sample. Spreads across three tiers of supply chain.	About Description, Interview, Mission Statement, Produce List, Social Media Data, Story, Sustainability Statement
Case 10	37 Years	Mid-price range	Hospitality	2-4	Oldest organisation. Unique financial structure. Only exclusively hospitality focussed case.	About Description, Interview, Mission Statement, Social Media Data, Supplier List, Sustainability Statement
Case 11	30 Years	Mid to premium price range	Producer, Processor, Retailer	5-9	Producers of unique product category. Supplier to several cases in sample.	Interview, Organic Statement
Case 12	3 Years	Not available	Producer	1	Further urban agriculture example. Highly innovative. Supplier to many cases in sample.	About description, Interview, Social Media Data

Table 3-1: The Sample

3.6 Data collection

The literature states that after the sampling the cases the researcher must proceed with data collection (Creswell, 2007; Yin, 2014). However, due to the inductive approach and the potential of snowball sampling, the data collection also informed the sampling and cases were added to the research, where appropriate. In preparation for the data collection, the researcher should create a research protocol that outlines the characteristics of the cases, the information that should be gathered and how evidence should be documented (Stuart et al., 2002). Working with such a protocol helps the researcher stay focused and ensures every case is investigated in a comparable way. This improves the rigor of the field work and enables the audience to reconstruct the data collection, resulting in increased credibility of the research findings (Patton, 2002). The research protocol (appendix A) was initially built from the literature review. It outlines the different areas of interest and links them to the questions for the semi-structured interview guide. In addition to creating my research protocol from the literature, I conducted two expert interviews to test my assumptions about my research approach. First, I met with an academic knowledgeable on research on alternative food networks and highly involved in shaping policies. In an interview of around one hour and 15 minutes, we discussed current issues in the food industry, different angles to look at the problems and the most pressing issues. He confirmed that looking at business practices and different business models employed in AFNs would be a valuable endeavour. He further suggested not trying to evaluate each practice's effectiveness, as consensus on these issues appears to not have been found in over 20 years of academic debate. Rather, looking at the challenges to achieving the different goals and maintaining economic viability would be interesting. Second, I met with the founders of a local food assembly to test my assumptions about how to approach the topic from a practitioner perspective. I had identified the food assembly as ecopreneurial due to their aim of reducing food miles and food waste, as well as establishing close producer–consumer communication. In an open ended 45-minute discussion, I explained the intentions of my research and my assumptions about the

nature of alternative food networks to the two founders. From the discussion of the issues surrounding the founding of the organisation and the establishment of the supply chain, it appeared that the organisation played a crucial role in establishing a network of producers and consumers that created value to the participants beyond the linear flow of goods from producers to consumers, as it also fostered relationships between the producers of complementary goods. Therefore, investigating the creation of supply networks in an alternative food context was found to be a fruitful endeavour. From the founders' reactions to some of my questions, I noticed that I was utilising technical terminology based in management research. This insight has helped me phrase the questions within my research protocol accordingly and improved my data collection through enhanced rapport with the participants (Stuart et al., 2002). Considering the concerns of practitioners and validating my approach through expert interviews enhanced the credibility of my research. It ensured as the data collection was aligned with the understanding of the participants and a represented a relevant approach (Bryman & Bell, 2011).

As sources of data, Creswell (2007) proposes: observations, interviews, documents and audio-visual sources. The data collection in this doctoral research was achieved through interviews and documents. Using multiple data sources for triangulation improves the research credibility and dependability, because it tackles single method bias and helps the researcher consider different perspectives of social realities (Seale, 1999). I applied a semi-structured interview style with questions prepared in the case protocol to guide the interview and to tap into the topics of interest. The questions themselves were open ended to avoid leading the participants' answers and to enable me to understand what the participants see as important (Olsen, 2012). The semi-structured element makes the interviews comparable, which is integral in the multi-case approach (Bryman, 2008). With the participants' consent, all interviews were recorded and transcribed verbatim. The documents I collected include: internal company documents, such as sourcing policies, staff questionnaires and sustainability guidelines; external company documents, such as mission and vision statements, 'about us'

descriptions and supplier lists; and freely available secondary data, such as newspaper articles and social media data. Due to the variations in size and age of the organisations, not all organisations were able to provide the same documents, which is a common challenge in entrepreneurship research (Chandler & Lyon, 2001). The documents thus only offered limited possibility to infer cross-case insights, but were used to triangulate data within the cases, which improved the transferability of my findings (Eisenhardt, 1989; Patton, 2002). The supplier lists also informed my sampling by uncovering important players in the supply network.

For the firm level analysis, 11 organisations were sampled and data was collected on them. Building on the findings from the firm level analysis, a further organisation was identified as important supplier and a shortened case study with focus on the supply chain practices was conducted. A 13th organisation was considered as an example for a recently started venture (younger than one year), but an initial interview revealed a lack of supply chain management practices, so the organisation was excluded from the research. As shown in Table 3-1, in addition to the interviews I gathered social media data on ten organisations, nine about-descriptions, six mission statements, five supplier lists, five sustainability statements, four newspaper articles, three organic statements, two distributor lists and eight individual documents.

3.7 Analysis

Due to my inductive research approach the analysis overlapped with the data collection (Spencer, Pryce & Walsh, 2014). First, as described above, I started the analysis to identify further cases through snowball sampling and thus analysed cases whilst also collecting data on the new ones. Secondly, whilst transcribing the cases I wrote up first impressions of emerging themes and topics the participants placed specific emphasis on (Eisenhardt, 1989; Patton, 2002). These supported my initial coding. The challenge of qualitative research lies in making sense of the vast amounts of information rich data. This requires converting raw data into structured data for subsequent interpretation to identify patterns which can be communicated (Patton, 2002).

To achieve this my data analysis went through three stages: first level and pattern coding to structure the data, thematic analysis to reduce the data and identify patterns relevant to the research questions, and two approaches of case analysis to make inferences from the data.

3.7.1 First level and pattern coding

Following the transcription of the 11 interviews for the firm level examination, I began the systematic data analysis with first level coding, where interesting and recurring ideas in the data where summarised into labels (Miles & Huberman, 1994). No coding framework was used at this stage to prevent limiting the exploratory potential of the research by restricting the emergent findings through labels from existent literature (Braun & Clarke, 2006; Spencer, Pryce & Walsh, 2014). However, the notes taken whilst transcribing the interviews provided a few codes to start with. After the initial coding of the 11 transcripts, I revisited the codes to ensure they captured distinct features of the data and merged codes where no discernible difference was found. At this stage the codes had internal homogeneity and external heterogeneity (Patton, 2002), but were great in numbers. To further reduce the number of codes and lay the foundation for the cross-case analysis, the first level coding was followed up by a round of pattern coding. Pattern coding looks at the set of first level codes and the data to identify common themes and constructs (Miles & Huberman, 1994). In this stage I moved away from the unstructured coding and in a first step made sense of the codes based on my prior knowledge of management research. This involved grouping codes that captured the participants' responses into areas of business they spoke about like value creation, pricing, goal setting, etc.

The result was a set of super codes representing the different aspects of what the participants were concerned about with running their ventures. Each super code held a variety of codes and sub-codes representing different responses to the respective aspect (Gibson & Brown, 2009). At this stage the first version of my code book was finished - which holds 184 codes cascading down to four levels of sub-codes. Due to the inductive approach this was not greatly focused on the research question and the amount of data was too large

for a meaningful cross-case analysis (Bryman, 2008; Patton, 2002; Yin, 2014). To further distinguish the data relevant to answering the research questions and reduce the number of codes, I conducted a theoretical thematic analysis.

3.7.2 Thematic analysis

For the thematic analysis the codes were grouped and sorted into themes that capture features relevant to the research question using an analytic framework, which represents an analytically filtered approach. Instead of creating new data, in this step the researcher uses a framework to select the previously created data with regards to its relevance to the research question (Gibson & Brown, 2009). Since thematic analyses are not derived from any particular theoretical framework, they can be used within frameworks relevant to the research subject area (Braun & Clarke, 2006). For the firm level analysis concerned with how the ecopreneurs aim to fulfil their sustainability goals through their business practices, I applied the triple bottom line of economic, social and environmental imperatives (Elkington, 1999) as my analytic framework. The triple bottom line lends itself to this research, because it examines organisations' approaches to managing their social, environmental and economic performance and thus captures business practices in all three dimensions of sustainability. The framework appears to be a valid approach to the topic as it is commonly used to assess organisations' sustainability practices in the literature (Beske, Land & Seuring, 2014; Frostenson & Prenkert, 2015; Tajbakhsh & Hassini, 2015; Taticchi et al., 2015).

For the thematic analysis guided by the triple bottom line, I revisited the codes to identify themes that captured business practices addressing each of the sustainability dimensions. The codes that did not fit into any themes were excluded from the further analysis but kept in case they needed revisiting at a later stage. A theme was identified when several participants engaged in a certain top-level business practice such as turning waste into value. Within a theme, several sub-themes gathered the different actions that the participants described when pursuing a certain practice. Many of the practices did not touch on only one sustainability dimension and were thus ascribed to more

than one theme. This aggregation of data along the triple bottom line allowed me to examine the commonalities and differences in the participant's approaches to a certain sustainability dimension as well as the relationships between the dimensions (Gibson & Brown, 2009). Capturing the different approaches within the themes built the foundation for the cross-case analysis (Patton, 2002). The codebook for the firm level analysis can be found in appendix D.

To theoretically guide the supply chain level analysis, I have taken the insights from the literature review and the challenges around the lack of a focal firm (Frostenson & Prenkert, 2015), which I outline in more detail in the beginning of the supply chain analysis chapter. First, I have sorted all codes touching on areas of supply chain management into whether they concerned sourcing or distribution activities. This has given me an insight into the supply network structure and my participants' distributor and supplier selection criteria. Second, I revisited all relevant codes and looked for emerging themes concerning the participants' efforts of driving sustainability. These partially overlapped with the insights from the literature, but also new themes arose. Again, within a theme, different approaches to the overarching effort of driving sustainability were captured. The interview of the additional 12th organisation that was added to the supply chain analysis was coded using the existing code book. This provided supporting as well as contradicting insights to those captured from the thematic analysis. The final codebook of the supply chain analysis can be found in appendix E.

The thematic analysis has thus transformed the vast amounts of unstructured interview data into analytically filtered and structured data that enabled me to compare business practices and relationships in a multi case setting (Gibson & Brown, 2009; Miles & Huberman, 1994). Further, the resulting structure allowed for me to make sense of the collected documents, which were not consistent across cases. Using this data, I applied two case study approaches, which I will explain in the following section.

3.7.3 Cross case examination

The firm level analysis applied a cross case analysis approach with the individual firm as the unit of analysis in each case. To make the cases comparable, the researcher first needs to apply data-reductive approaches that order the data into common formats (Miles & Huberman, 1994). This was achieved through the two steps of coding and the thematic analysis. Using the structured data of the thematic analysis, I then attributed each participants' responses to a case record. Next, I added their documents to the respective case records so that each case's record held all available and relevant information from an organisation. The documents were then coded using the code book created in the thematic analysis. The coding of the documents along the themes allowed me to triangulate the data and support or juxtapose the findings from the thematic analysis of the interviews. This improved the credibility of my findings where the documents supported the themes (Seale, 1999). Where the documents contradicted the interview data, I went back into the data to look for explanations. Nonconvergent findings from triangulation did not weaken the research's credibility. Instead, they supported the search for negative cases, which appreciates the existence of multiple perspectives (Patton, 2002) and adds authenticity (Seale, 1999). It further appreciates the context-specific nature of qualitative data and can deepen our understanding of the investigated cases (Modell, 2009). This has helped uncover further novel findings and is a strength of the case study's approach of drawing from multiple data sources (Eisenhardt & Graebner, 2007). In addition to making the data comparable, the cases should be presented in a comparable format using uniform case descriptions and visual displays (Patton, 2002; Yin, 2014). To create comparability, I used the business model canvas by Osterwalder and Pigneur (2010) as shown in Figure 3-2.

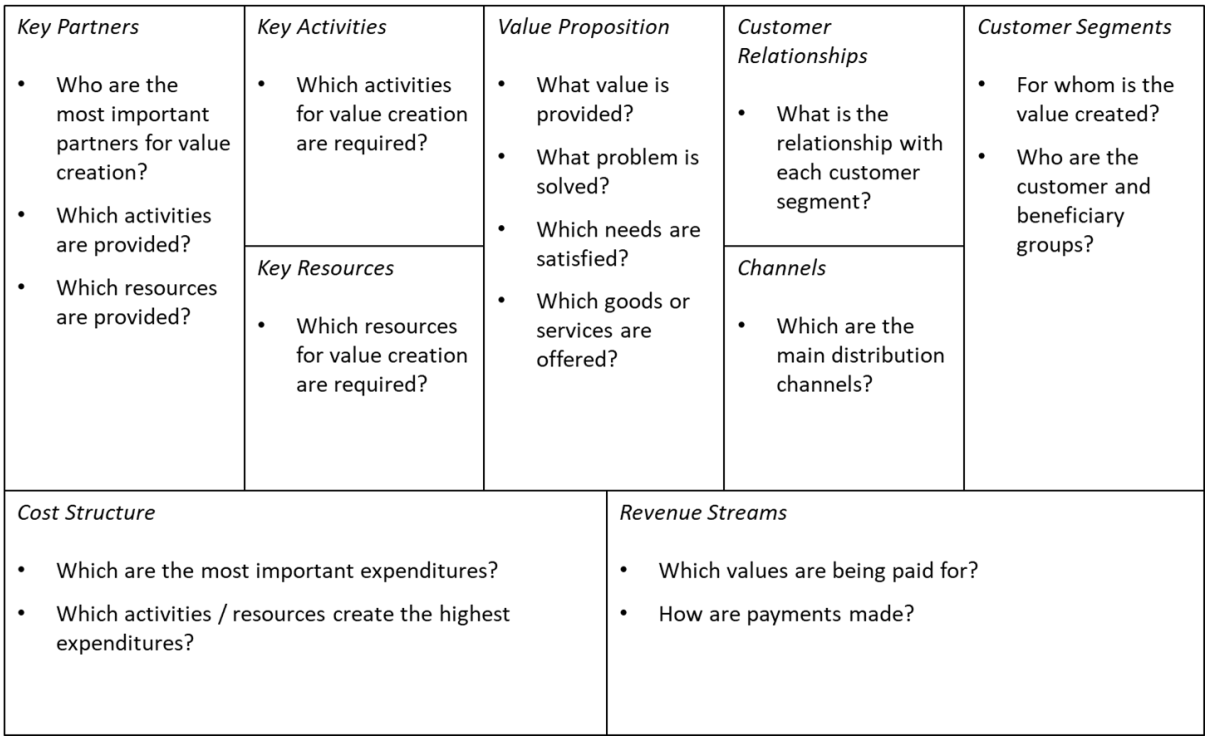


Figure 3-2: The business model canvas

The business model canvas is a tool specifically designed to create a shared understanding of a business model and outlines the most important areas, such as the value proposition, the revenue streams, customers segments, key resources and their connection to delivering value. The sections and the considerations for filling out each section are shown in Figure 3-2. The business model canvas has found growing acceptance as a research tool and is being used in the literature to create understanding of sustainability-driven organisations (Bonazzi & Zilber, 2014; Dohrmann, Raith & Siebold, 2015; Joyce & Paquin, 2016). Using the interview data and the documents, I filled out a business model canvas for each of the organisations and prepared a case description to present their basic process of value creation. The filled-out canvases and case descriptions are presented at the beginning of the firm level analysis and provide an introduction to the cross-case analysis. Following the case descriptions, I went on to examine the findings of the thematic analysis across the cases to address how the ecopreneurs aim to deliver their sustainability goals. This involved comparing the different cases, finding similarities and dissimilarities in their practices and linking the findings back to the existing literature (Patton, 2002). The findings of this will are also presented in the firm level analysis chapter.

3.7.4 Nested case examination

The supply chain analysis built on the same data sources (plus one additional organisation) but used the insights from the supply chain specific thematic analysis. The triangulation of data with interviews and documents was also applied to support my analysis. To understand the relationships between the different organisations and their actions in a supply chain context, I applied a nested case study approach. In a nested case study, the different cases are bound together according to their membership of a certain group (Patton, 2002). This then allows us to understand each case's actions on a firm level within the group context as well as the inter-firm interactions of the group members, as Rodríguez, Giménez and Arenas (2016) show for cooperatives in socially sustainable supply chains. To conduct the nested case study, the organisations were bound into a large case representing an alternative food network in the South West of the UK over all tiers from production to retail. As the case description, I created a network map of the supply network and discussed the unique nature of the supply network at hand. This is presented at the beginning of the supply chain analysis chapter. I then used the data from the thematic and document analysis to examine how the organisations within the case study interacted, their decision making with regards to forming the network, and their joint efforts towards driving sustainability. The findings of the nested case study will be presented in the supply chain analysis chapter.

I have described the analytic procedures in a linear fashion for simplicity. In reality, however, as is the case with most qualitative research projects, I moved back and forth between the data collection, the analysis and the presentation of the findings (Spencer, Pryce & Walsh, 2014). The initial findings influenced the further data collection and analysis. When presenting the findings, going back to the raw data helped capture the meaning of the coded evidence through seeing more context. Equally, the existent literature shaped the explanations I built from the data (Bryant, 2014). The process was anything but linear, but this allowed for the in-depth understanding of the complex challenges organisations face when navigating sustainability issues

and utilised the strength of qualitative case study research (Simons, 2014). However, writing the methodology up in a linear and structured fashion enables the readers of this thesis to better understand how I conducted my research, which allows them to assess the research transferability and confirmability (Bryman & Bell, 2011; Patton, 2002).

3.8 Ethical considerations

This research project was approved by the University of Bristol School of Economics, Finance and Management ethics committee on 24 April 2017. The ethical impact of my research was considered along the principles of avoiding harm to the participants, gaining informed consent, avoiding invasion of privacy and deception, as outlined in Bryman (2008).

With regards to harm, one has to consider harm to the participants themselves through physical harm or mental distress the research project could cause as well as harm to the participant's property. The research involved no activities from the participants other than answering questions, which considerably limits the risk of physical harm. The harm on a mental level could be the result of intrusive or uncomfortable questions. To avoid this, firstly my questions did not ask for any personal information of my participants. Secondly, the questions asked were open ended, which allowed the participants to answer them as they were comfortable. Thirdly, the interview guide was submitted to the University of Bristol School of Economics, Finance and Management ethics committee for approval prior to the data collection. Harm to the participants property could have occurred during my visits to their field sites. To avoid damaging any of their facilities and equipment, I followed my participants lead around the site and took precautions such as putting on a lab coat when instructed to. Overall, I can report that no damage was caused during any of my site visits.

To gain informed consent several measures were taken. First, all participants received a participant information letter, outlining my research and the nature of my data collection. This letter also held the contact details of my supervisors and the ethics committee. Prior to every interview I explained the purpose and nature of my research to the participants and gave them an

opportunity to ask questions. I made them aware that they could withdraw from the study at any time without giving a reason. When all questions were answered I gave the participants a consent form (appendix C) which they signed before and after the interview. A copy of the form was also left with the participant. Finally, I asked for consent to record the interviews and only started recording when this was given. These measures also prevented me willingly or unwillingly deceiving my participants about the nature of my research. After the interviews I once again gave my participants the opportunity to ask questions and encouraged them to contact me on my phone or email if any came up at a later point in time.

To protect my participants privacy, all transcript excerpts that are to be read by anyone other than me were anonymised. No personal information or insights that make an organisation identifiable are presented in this dissertation. The recordings are stored on secure university servers and the names of the recordings do not name the organisation they are from. A password protected file connects the recording names and the organisations. This file is kept at a different location to the recordings on a password protected computer. No content of the company documents is presented in the thesis so that readers cannot make inferences about the identity of the participants from finding the original document through a text search. Overall, great caution was applied to protect my participants.

3.9 Summary

I started this chapter by highlighting the lack of existent theory on the research subject and the need for an inductive approach to my inquiry. I then went on to explain my ontological and epistemological consideration. The realist ontology combined with a social constructionist epistemology allowed me to make sense of the participants' practices as socially constructed responses to challenges of climate change in the natural world. Building on this I have explained how assessing the credibility, transferability, dependability and confirmability of my research appreciates the socially constructed nature of the created knowledge. My research findings thus only

provide one of multiple accounts that can be given about ecopreneurial business practices.

Having established the philosophical foundation of my research, I have derived my research questions and elaborated on their appropriateness for an exploratory study. To answer the research questions, I have chosen a case study approach that allowed me to capture different accounts of a socially constructed reality. I applied a purposeful sampling and snowball sampling approach to select the cases for my investigation. I collected data on the cases by conducting semi-structured interviews and collecting documents. These were analysed using three stages with increasing focus on the research question. In the first stage I analysed the raw data through inductive coding. Second, I conducted a theoretically focused thematic analysis as a data reductive method. Finally, I interpreted the data through a cross-case and a nested case examination. The analysis was described in a linear fashion to give this chapter structure. However, the actual nature of the inquiry was non-linear and I moved back and forth between the different stages of data collection, analysis and interpretation. The findings of my research will be presented in the following two chapters on the firm level and supply chain level before I bring the insights from both perspectives together in the discussion.

Chapter 4: Firm level analysis of ecopreneurial business practices

From the literature review we know that entrepreneurship is concerned with innovation and changes to the way we do business (Drucker, 2007). Ecopreneurship, as a subdomain of entrepreneurship, is concerned with creating change that drives sustainable development (Pastakia, 1998). Ecopreneurs propose to achieve this through exploiting economic opportunities that correct market failures (Dean & McMullen, 2007) and creating innovation that mitigates environmental degradation (Dixon & Clifford, 2007). We have also seen that in the context of the food industry, alternative food networks (AFNs) can be regarded as ecopreneurial ventures that aim to improve ecologic and social sustainability (Filippi, 2014; Follett, 2009; Migliore et al., 2015; Wiskerke, 2009). The literature holds insights about the motivation and attitude of ecopreneurs (Kirkwood & Walton, 2010a; Phillips, 2012), organisational design (Parrish, 2010), and proposed benefits from ecopreneurial actions (Dean & McMullen, 2007; Dixon & Clifford, 2007). Further, the literature holds insights about the shape of AFNs (Migliore et al., 2015; Rickett Hein, Ilbery & Kneasfsey, 2006; Robbins, 2015; Seyfang, 2007) and the benefits they bring to the food sector (Conto et al., 2014; Migliore et al., 2015; Roep & Wiskerke, 2012; Watts, Ilbery & Maye, 2005; Wiskerke, 2009). What has not been covered is how these proposed benefits are delivered in practice, which has led me to the research question of this study:

"How do ecopreneurs deliver their sustainability goals through their business practices?"

To answer this question, I have conducted an exploratory study of ecopreneurial business practices in AFNs. For this I collected primary and secondary data on 11 organisations from different stages of the food supply chain, whose mission statements indicated ecopreneurial tendencies. Through my cross-case analysis I have then identified patterns in the business practices that I discuss in connection with the ecopreneurship and AFN literature. I have further utilised the hybrid organisation literature,

because it holds insights about business practices of organisations with competing goals, such as environmental and social enterprises. Through this approach I aim to uncover the business practices that ecopreneurs use to deliver their sustainability goals. I also highlight trade-offs and tensions between the different practices and their possible effect on the organisations' goal fulfilment. This will deepen our understanding of ecopreneurship and AFNs. I will introduce the ecopreneurial venture in the domain of hybrid organisations as an organisation that bridges the distinction between environmental and social ventures. As well as contributing to the three literature streams (ecopreneurship, AFNs and hybrid organisations), the insights from this study allow for future studies of the phenomenon, such as assessments of the effectiveness of certain practices.

The rest of the chapter is structured as follows: First, I will give brief case descriptions with the organisations as the unit of analysis. Following the case descriptions, I will give an overview of the organisations' goals. Having established a basic understanding of the structure and goals of the organisations in my research, I then go over to the examination of business practices. For this I follow the triple bottom line approach (Elkington, 1999) and examine the practices with regards to economic, ecologic and social sustainability. Since the business practices are interwoven and have an effect on multiple dimensions of sustainability, I will end the examination with a discussion of trade-offs the participants face.

4.1 Case descriptions

First, I provide case descriptions that show the basic mechanisms with which the organisations create value, their target customer groups, and what partners they rely on. To make the cases comparable, I have filled out a business model canvas (Osterwalder & Pigneur, 2010) for each organisation. The business model canvas highlights key components and functions the organisations use to deliver value; it shows how these are interconnected with the stakeholders of the organisations and how the connections generate and help to capture value and profit for the organisations (Joyce & Paquin, 2016). The business model canvas is regarded as one of the most comprehensive

frameworks for understanding business models (Bonazzi & Zilber, 2014) and therefore appropriate to create understanding for the workings of the organisations in this study. Each canvas is supplemented with a brief case description.

4.1.1 Case 1

The organisation in case 1 is a food delivery scheme. The focus of the organisation lies in vegetables and fruit, but customers can choose to add eggs and dairy products. The organisation's mission is to deliver local and organic produce at reasonable prices to get more people engaged with organic food. The mission especially aims at people who would not normally engage with organic food because they are deterred by its high mark-up. The organisation relies on selling set boxes in three sizes that are highly standardised and hence cost efficient in procurement and time efficient in the packing process, which enables the organisation to keep the prices low. The customers order through an online platform before a weekly deadline or can choose to set up a subscription to receive repeated orders. This part of the operation is self-service and automated, which is marked in green in the business model canvas and enables low costs. The deliveries are done two days a week and the owner of the organisation puts much emphasis on the personal interaction during these. Overall, the owner found the personal commitment and being accessible to the customer very important. This is marked in blue on the business model canvas. The revenue for this organisation comes exclusively from the customers through the product sales. This revenue pays for the products, the van and the human resources. It should also cover the rent, which currently the organisation is not paying in full because they share premises with their main wholesale supplier. This is indicated by the dashed arrow linking the warehouse, the main wholesaler and the rent.

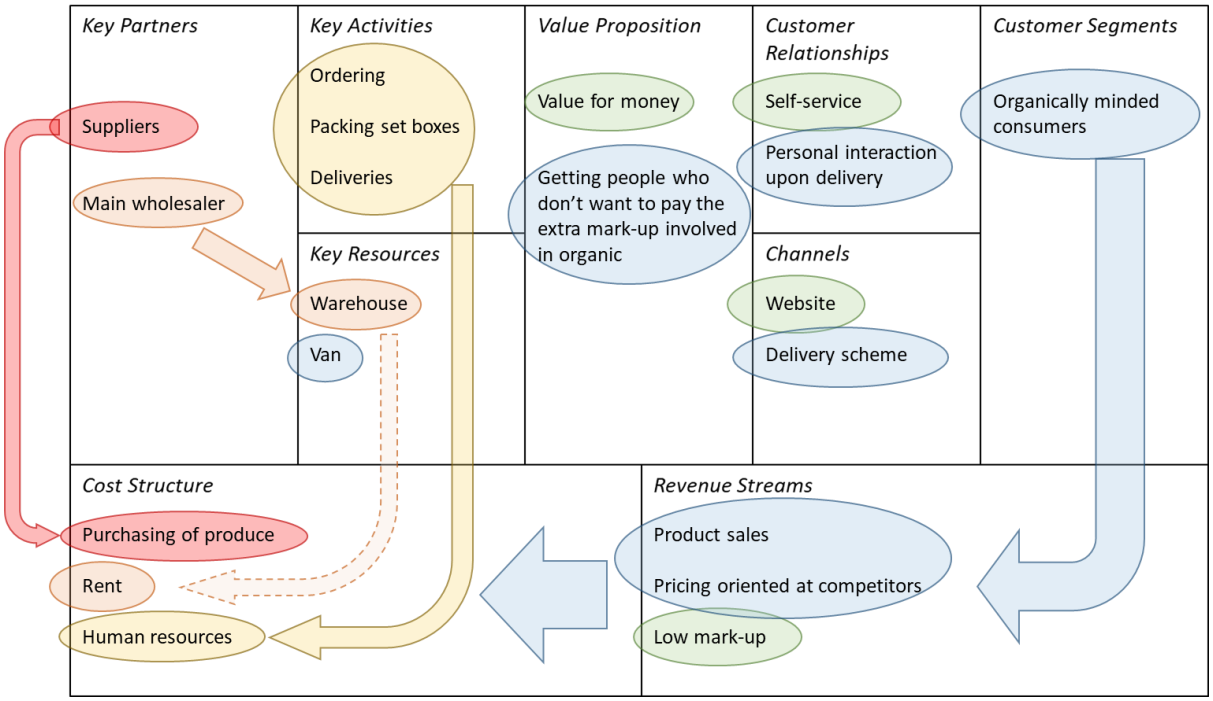


Figure 4-1: Business model canvas - case 1

4.1.2 Case 2

The organisation in case 2 is a food cooperative on the retail side of the supply chain. The organisation has a twofold mission, with one side wanting to inspire anyone to eat better and feel good about their food, and the other side to reduce loneliness and help disadvantaged people by bringing them into a community around health and well-being. The aim is to create an alternative to food banks, with a commitment to helping tackle the problems that led to people requiring food aid, rather than just bridging a short-term income gap. To achieve this dual mission, the organisation is split into a trading subsidiary and a community benefit society (CBS). The trading subsidiary runs a food delivery scheme that aims at bringing local and fresh food into the city. For this, customers order on their website until Monday night and get to pick up the products at one of fifteen collection points throughout the city. A high degree of automation and self-service keep the cost low, as financial viability should not happen at the expense of the suppliers. The proceeds of the trading activity are then used to fund the activities of the CBS. The CBS runs community food centres that offer support to disadvantaged people and build a community to tackle loneliness. Further, the CBS gives food away to those in need, at heavily discounted prices or, in some cases, for free.

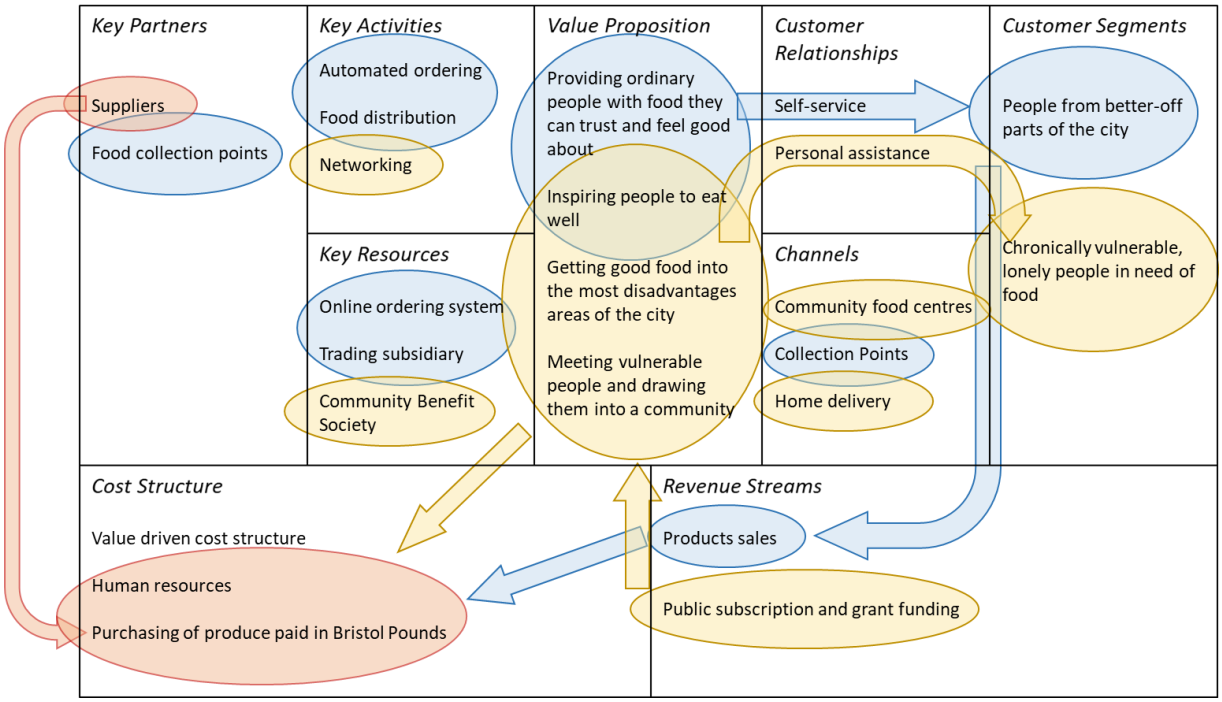


Figure 4-2: Business model canvas - case 2

In the business model canvas, the domains of the trading subsidiary are marked in blue. One part of the value proposition is dedicated to serving the customers who can afford to buy food. This generates revenues from the sale of products. The revenue is used to pay for the ordering system, the human resources needed for the distribution of the food, and the produce from the suppliers. The food collection points are provided by partnering organisations for free. The parts of the canvas that lie within both domains (the trading subsidiary and the CBS) are marked in red. These are the suppliers, the food they provide, and the human resources that run the organisation. The domain of the CBS is marked in yellow. The CBS makes up an own part of the value proposition and caters to a separate beneficiary group of vulnerable people. The interaction here is on a personal level instead of the self-service model used for the trading subsidiary. Where people receive discounted or free food, the city provides additional income through public subscription and grant funding. Additional costs are covered by the proceeds from the trading activity. Since the organisation aims to provide value to the beneficiaries of the CBS regardless of cost, this kind of cost structure can be classified as value driven cost structure.

4.1.3 Case 3

Case 3 is an example of an organisation on the retail side of the supply chain that operates through physical stores. Their value proposition is directed to both sides of the supply chain. The first, marked in blue, is aimed at the consumers. Here the organisation wants to provide organic products, good value for money, and to supply everybody with good food. Their customer groups are segmented into consumers with a very sustainability conscious lifestyle, who are knowledgeable about sustainability issues, consumers with time and money who are interested in learning about the products, and what the manager described as 'millennials'. The latter are customers who are in a rush, want good, convenient products, and are very active online and share their experiences on social media. The shops cater for the first two customer segments through a lot of assistance in store and strong interaction with the customers, as is marked in green. The last customer segment is approached through a convenience food approach that appeals to busy customers. Once engaged with the store and its message, the organisation then aims to convince these customers of their sustainability mission and inspire further shopping.

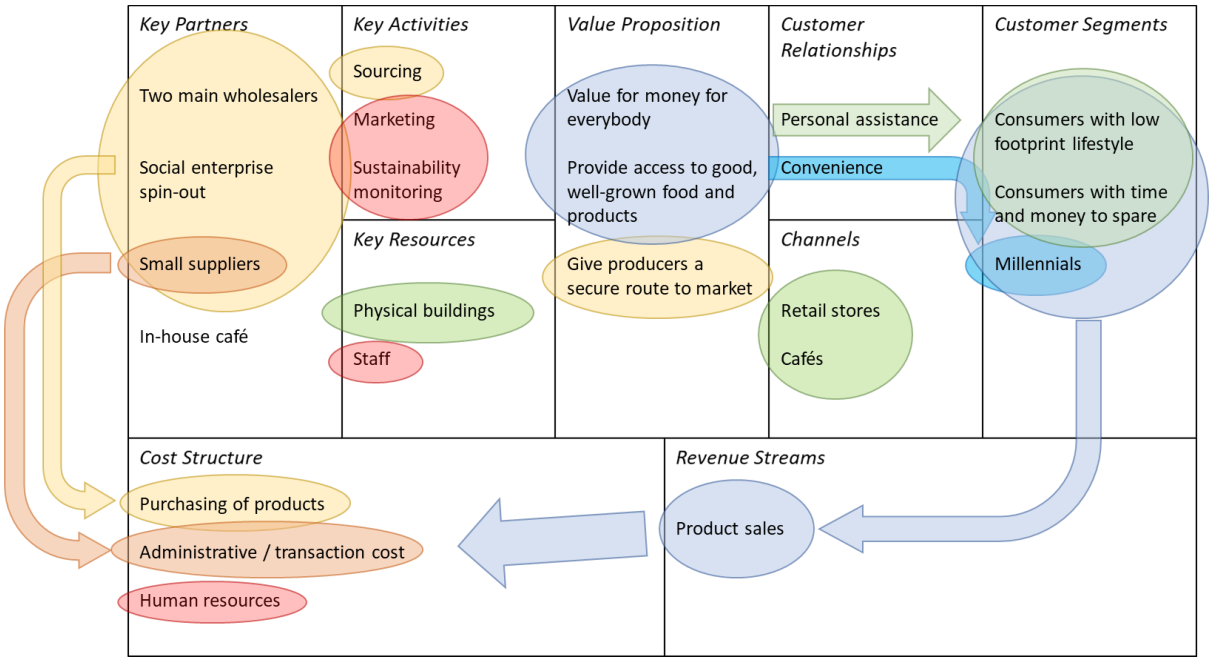


Figure 4-3: Business model canvas - case 3

The other side of the value proposition, marked in yellow, is aimed at the suppliers. The organisation has made it its mission to provide producers who meet their sustainability criteria with a secure route to market. Through this they aim to foster sustainable development and help other likeminded businesses to start-up. One outcome of this engagement to foster start-ups is the organisations own spin-out of a social enterprise. The new venture now holds a farm and a delivery scheme and acts as one of the main produce suppliers to the organisation. At the same time, the new venture also undertakes a lot of social activities, which are part-funded through the revenue from the organisation's business. Other than the spin-out, the organisation buys most products through two main wholesalers. These allow variable and small order sizes and make the inventory management easy. In addition to the big suppliers, the organisation trades with a selection of small suppliers who offer innovative and local products. The number of small suppliers is limited, due to the high administrative cost of dealing with many different suppliers.

The operations are exclusively funded through the revenue from the stores and the café. In addition to generating income, the café is also used to reduce food waste. Produce from the stores that is getting close to its due date will be used and sold in the café.

4.1.4 Case 4

This organisation is a spin-out from a farm and cold presses rapeseed oil. The idea behind the organisation was to find a value for the rape that is grown in between cropping cycles as a break crop (a crop used to replenish the ground with nutrients and to reduce weeds and diseases). The organisation's goals are to make a high-quality oil in a transparent way that engages with the customers and to press the oil as fresh as possible. The organisation has two customer segments: domestic and commercial customers, who they cater different products to. The organisation offers cold pressed rapeseed oil as well as an array of derivatives, such as dressings and sauces, to domestic consumers. This is done through a web shop, third party retailers, and their own store. The own store also holds a demonstration kitchen to host events

and increase consumer engagement. The organisation places a lot of weight on being transparent and accessible to their customers. This reflects their ethos and also helps with marketing. The organisation sees a high value in creating a relationship with the customers so that these create a following for the brand and spread the word about the quality of the product. This interaction is marked in green on the business model canvas.

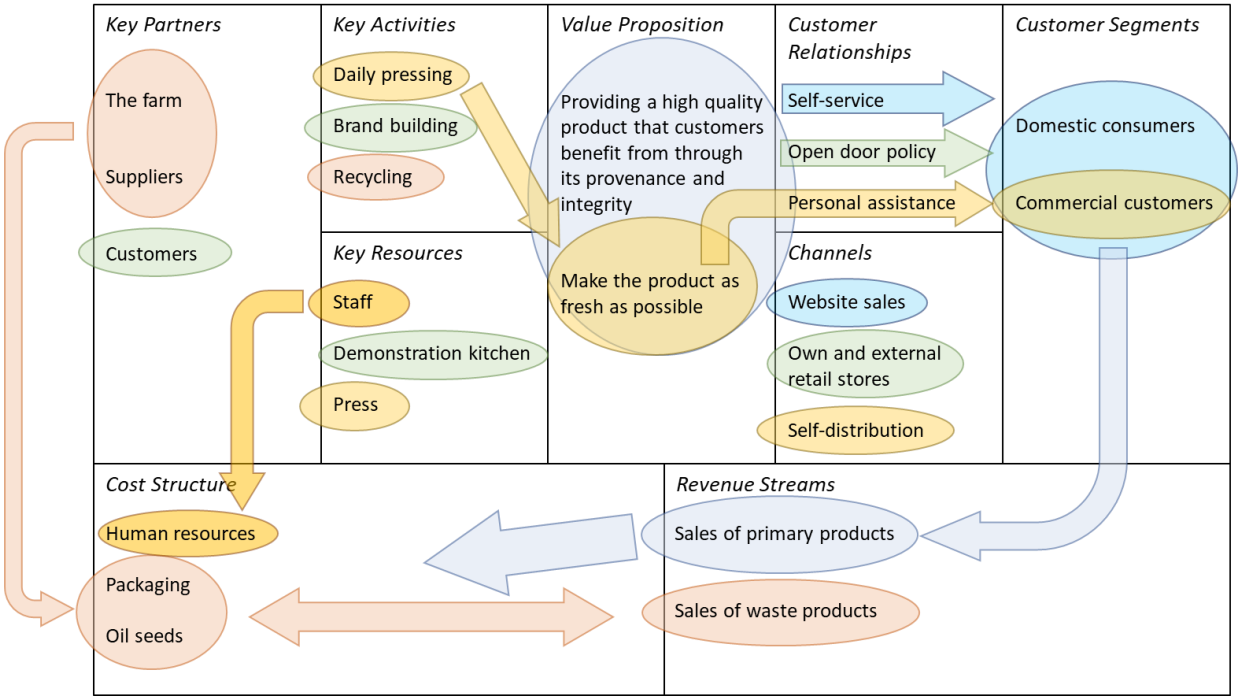


Figure 4-4: Business model canvas - case 4

For commercial customers, the organisation offers the oil in 5 and 20-litre containers. The commercial customers go through larger volumes faster, which means the oil can be pressed daily and delivered fresh every week. The organisation makes these deliveries themselves and keeps a close personal relationship with the customers. This is marked in yellow.

The most important suppliers are the farm and the packaging suppliers, with whom the organisation also keep a close relationship. In addition to the supplies, the biggest cost is the staff. A further goal for the organisation is keeping up a good work environment and developing their staff so they can reach their potential and enjoy work.

The organisation has multiple revenue streams. The largest comes from the sales of their primary products (oil, dressings, sauces). This revenue funds a

large proportion of the cost structure. Additionally, the organisation sells waste products, such as rape meal, returned oil from the commercial customers, and plastics from incoming goods as well as returned containers. This way, the organisation aims at achieving zero waste and at the same time reduces the financial pressure on the operations.

4.1.5 Case 5

The fifth organisation is an aquaponics farm who grow fish in tanks and use the fish waste as a source of phosphates for growing crops. The fish's water runs through the crops' beds, which filters it and nourishes the plants. The clean water is then brought back to the fish.

This organisation also has a double mission. The first, marked in green, is around providing high-quality food, free from pesticides to the local community and making it especially accessible to disadvantaged people. The aim is to not only to provide the food, but to engage with the community and have them involved in the whole process. This includes providing volunteering opportunities and getting everyone to shape the project, from building the farm to running it. Through these activities the organisation aims to tackle food poverty, loneliness, and help people with disability. The social activities, they say, could be done in other ways, but food is the vehicle they chose. The fish and crops will be sold to retailers and creates income to support the organisation's activities. At the same time, using volunteers keeps the costs of the organisation low and enables them to develop the project at low cost.

The second mission, marked in blue, is to spread the reach of aquaponics and to make it widely accessible. The technology is still in its infancy and a lot of tests have to be done to create viable approaches. The organisation develops the system, runs tests and creates frameworks and make their results available for other farms wanting to start aquaponics. The aim is to make the entry for other organisations as easy as possible. To achieve this, their farm also works as a demonstration unit and holds a teaching room. In addition to this the organisations maintains a website and blog with research results and latest developments and offers courses in aquaponics. The courses and the possibility to rent their teaching room create a second revenue source that

helps fund the development of the technology and the farm. Parts of the revenue from teaching go to external instructors, but part of the teaching is also conducted by the team and thus the revenue stays within the organisation.

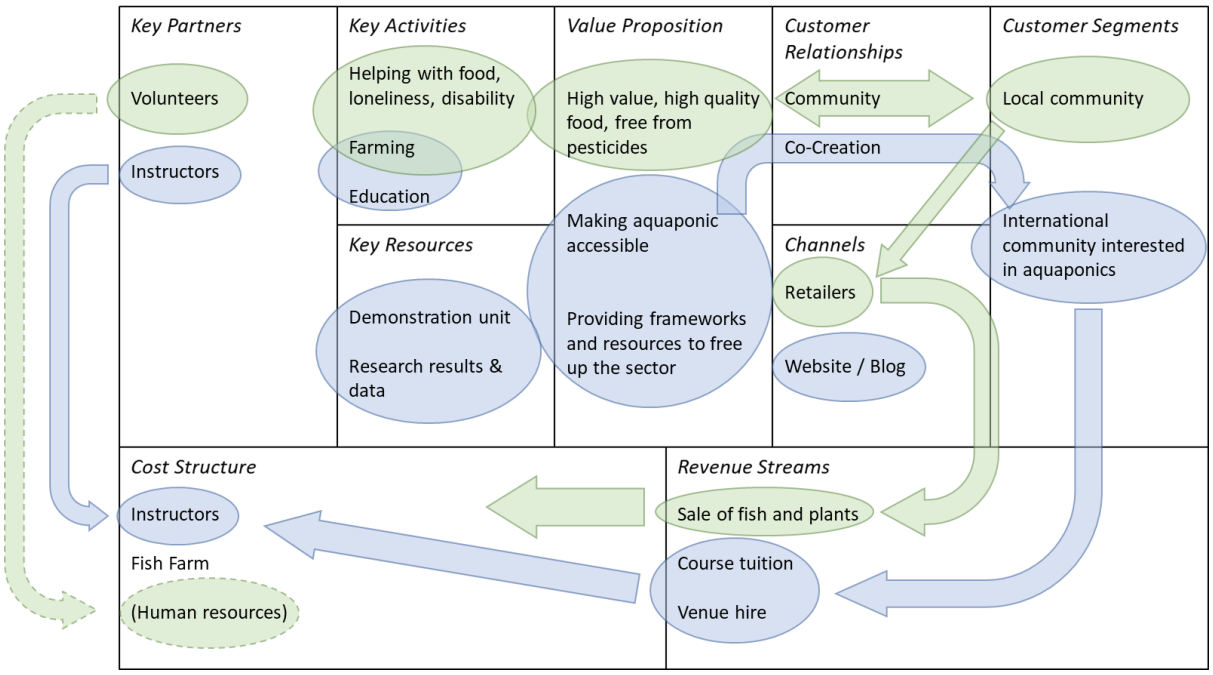


Figure 4-5: Business model canvas - case 5

4.1.6 Case 6

The organisation in case 6 is an artisan bakery. Their value proposition is to provide the best possible products and create them in a work environment that makes the employees feel fulfilled. This should then be reflected in the products' quality and the employees' attitude towards the customers. The organisation is focused on supplying the local community and nearby businesses with the bread. This is done through an own store with a café, third party delivery schemes, and self-delivery to wholesale customers in hospitality. All deliveries are done by bike to keep the environmental impact of the company as low as possible. For this purpose, the organisation has collaborated with a bike engineer to develop the most suitable e-bike for the deliveries. This is marked in green in the canvas. In the own store, marked in blue, the organisation aims at creating an inclusive community feel. The founder is aware that the product attracts a certain customer group with

higher purchasing power but wants to break through that sphere and make the bread accessible to everyone by keeping the prices reasonable.

The organisation is funded through the revenue from the product sales and has adopted a value driven cost structure. It pays a minimum of real living wages to all employees and fair prices to its suppliers. The owners don't extract any profit from the organisation but see their personal return in growing the business and owning the premises. In addition to buying supplies, the organisation also engages in exchanging ingredients with neighbouring businesses, marked in red, often using leftovers like beer from a local brewery and then returning goods in exchange. This further keeps the costs and food waste down.

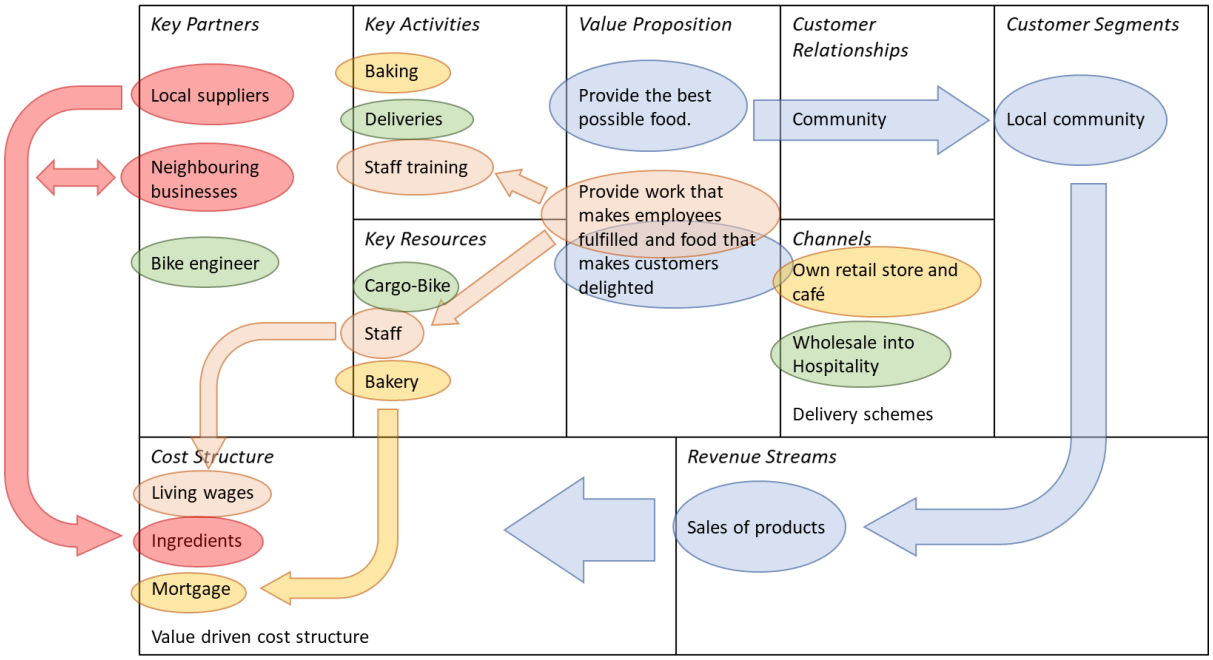


Figure 4-6: Business model canvas - case 6

4.1.7 Case 7

The seventh organisation is a platform connecting consumers and suppliers locally and without intermediaries. It organises the ordering process and packing and delivery of goods. Through the position between consumers and producers the organisation has a two-sided value proposition. For the consumers, the value proposition, marked in blue, is directed at enabling the consumers to find local products easily and get them delivered, instead of having to drive to various markets. This is achieved through a website where

the consumers find all the relevant information about the producers and can order before a weekly deadline. Towards the end of the week the food is then delivered to the customers. The sales from this fund the organisation. The prices are set in a way that the suppliers provide their required price to be sustainable and the organisation then adds a mark-up for their own cost.

The other side of the value proposition, marked in yellow, is aimed at local producers. The organisation enables the producers to reach the consumer directly without having the go through the supermarket dominated system of food provisioning. This allows the producers to accrue a larger share of the profits and, in some cases, is their only route to market because their production output is not sufficient to supply to the mainstream system.

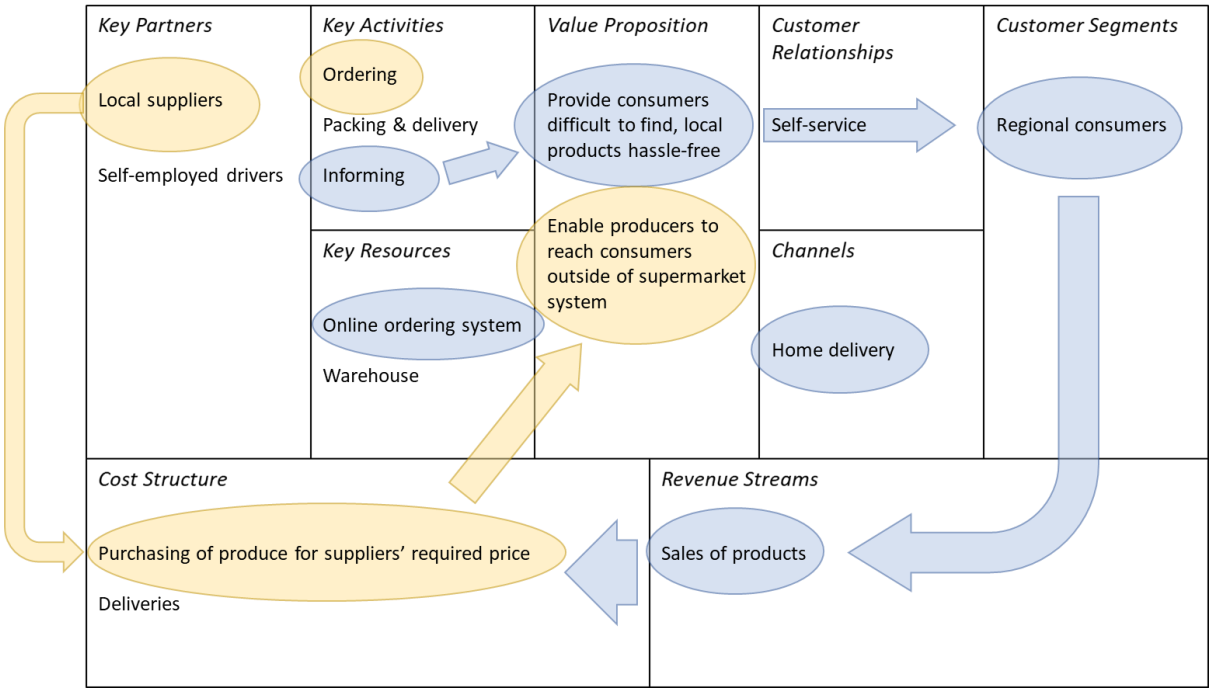


Figure 4-7: Business model canvas - case 7

4.1.8 Case 8

Organisation eight is an organic vineyard with a triple mission. The first, marked in blue, is to produce and sell local, organic wine, with the value for the consumers lying in its organic features and high-quality. The wine is sold through retailers, in restaurants, and can be ordered online, in which case the organisation manages the delivery themselves. The growing and harvesting of grapes is done by the organisation who then send off the grapes

to a winery. The winery presses and bottles the wine up to a specified number of bottles. The grapes in excess are bought by the winery. This reduces the costs or serves as a further income to the organisation, depending on the harvest size. The production and selling of wine generates the largest profits and funds most of the operations.

The second part of the value proposition, marked in green, is focused on educating consumers on how food is grown. Over the summer months the organisation welcomes visitor groups to the vineyard and neighbouring farms, gives tours, and provides opportunities for camping. During the tours the founder explains how the food is grown and the visitors get to try different foods and wines. This creates educational value and adds further revenue to the organisation.

The last part of the mission, which is highlighted in yellow, is the development of organic farming techniques. The organisation is engaged with professional bodies, other organic vineyards and researchers to find new ways of farming organically with minimal environmental impact. This is to help other/new vineyards, but also to improve its own operations.

The cost structure of the organisation is relatively simple, as it does not have a lot of inputs due to the avoidance of chemicals in the organic growing process. The largest expenses are promotion and machinery. It should be said that the organisation does not pay a living wage to the founder and is not fully economically viable in that sense; however, that was never the goal. An operation with about three times the acreage would achieve economic viability. Due to the small size, the organisation shares the cost for machinery with neighbouring farms to increase utility and make them economically sensible.

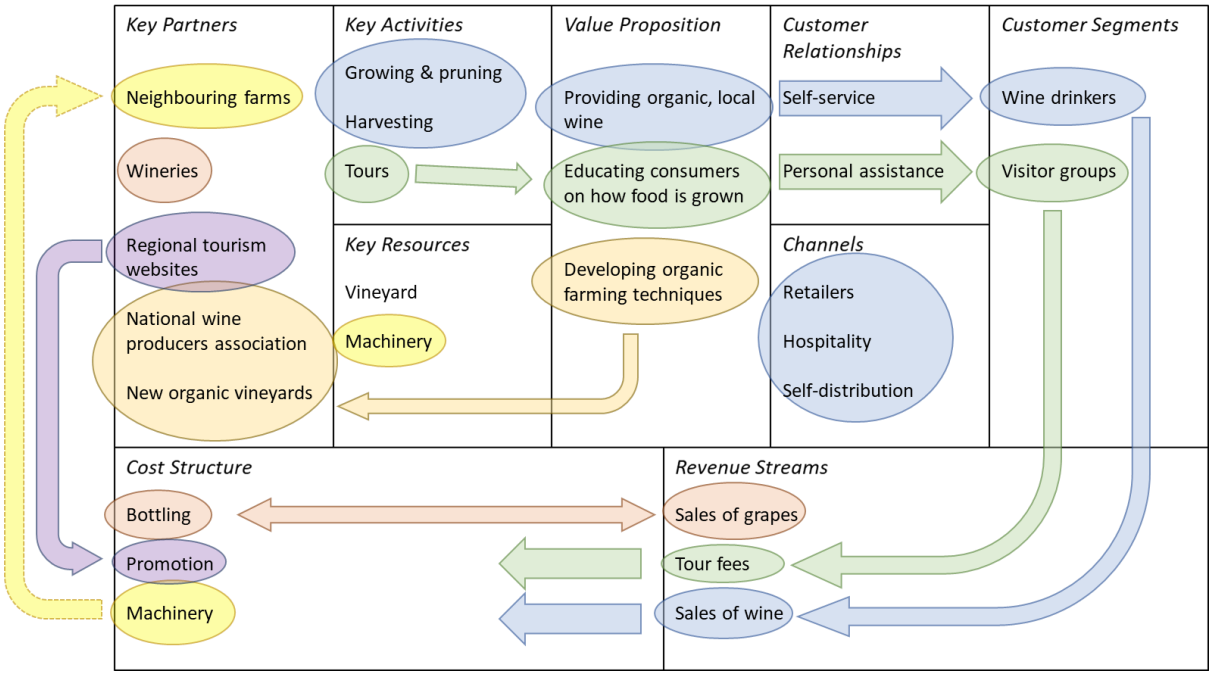


Figure 4-8: Business model canvas - case 8

4.1.9 Case 9

The organisation in case 9 has many facets. It appears to be predominantly a farm, but also acts as an importer, wholesaler and operates a vegetable delivery scheme. Its simplest value proposition is the provision of local, ethical and organic food. The organisation supplies local retailers and restaurants with produce (which it grows itself), buys from other farmers and, if unavoidable, imports from abroad. The focus lies on local food, however. Further, the organisation sells straight to the consumer through their delivery scheme. All channels generate sales that fund the operations of the farm in large parts. Since the second part of the value proposition is aimed at creating exchange with consumers and educating them about the origin of their food, the farm is open for consumers to come visit and help on the farm. Here the farm aims to build a community around growing food and works with many volunteers. A further part of the education value proposition is enabling school trips to the farm and getting children on the land to teach them about food. The first two areas of the value proposition are marked in dark and light blue in the business model canvas.

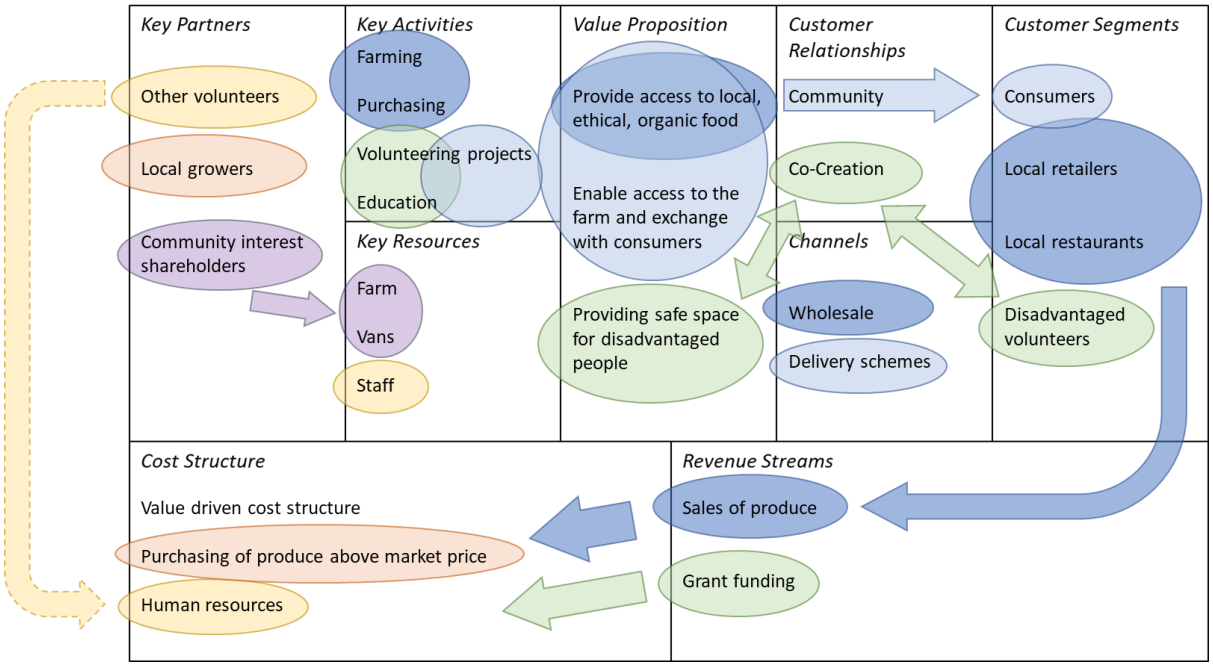


Figure 4-9: Business model canvas - case 9

In addition to the education value proposition, the organisation also aims to provide special volunteering opportunities for disadvantaged people, which is marked in green. Here the aim is to create a safe space and engagement that should help with mental health problems, addiction and loneliness. For these activities the organisation also receives grant funding. The aim of the organisation is to make the operations of the business financially viable and then subsidise the social activity with the grant money. The social outlook of the organisation is also reflected in their cost structure. The organisation consciously pays their suppliers prices above the market price to ensure their economic viability in producing organic products. Similar to case 5, the organisation relies on volunteers, which they engage with for their educational mission, but which also helps the organisation to keep the costs low, as labour is one of the biggest expenses.

The organisation was founded as a community interest company and the funds from the shareholders allowed it to buy the land and the equipment, such as delivery vans. The organisation does not pay out profits to its community interest shareholders but gives a philanthropic return by offering the social activities to the wider community.

4.1.10 Case 10

The organisation in case 10 is a café, which is attached to a city farm but has grown as a business in its own right over the years. The café offers food such as breakfast, lunch and cakes, hot and cold drinks, but also products such as jams from local producers. Most of the food is made from the produce of the city farm and the café works as a source of income for the farm to help them fund their social activities. The green part of the value proposition highlights this. The café wants to sell good food at affordable prices to engage with the surrounding community and be inclusive of all income groups. For the organisation it is important to be a welcoming space for everyone, whilst they also want to teach their customers the value of good food and create prices that reflect this. The sale of food and drink generates the lion's share of the café's revenue and this funds their operations. In addition to the sales, the café hosts events around food on the farm and collects the fees for these; however, the fees are paid to the organisers of the events. The cost structure of the café is relatively complex. The café pays the wages of their staff and the event hosts. It also pays a monthly invoice to the farm for the produce it uses in its kitchen. In addition, it pays a monthly fee for rent and utilities to the farm, who own the premises. Any produce not coming from the farm, as well as the other products, are bought from other suppliers, who are mostly community interest companies. After they have also been paid, the profits from the café are then also donated to the farm to support their work. The café runs economically viable but does not generate or pay out profits other than to the farm. In addition to the business operations that fund the farm's social activity, the café runs its own social activities in providing volunteering opportunities for people with support needs.

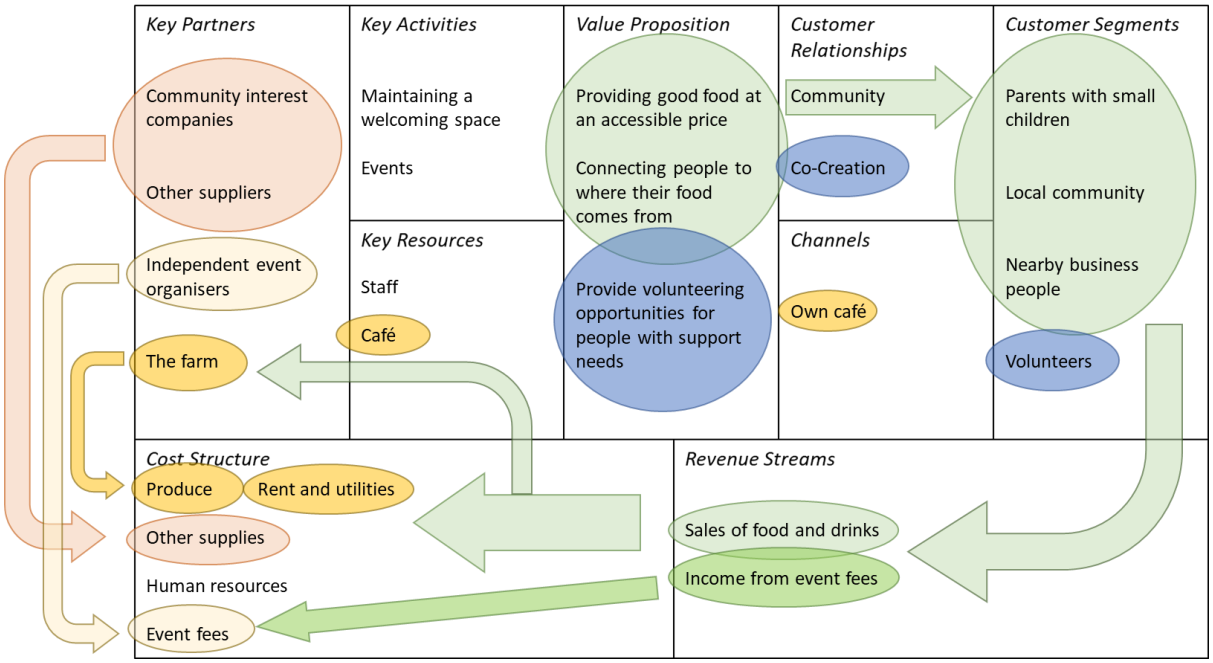


Figure 4-10: Business model canvas - case 10

4.1.11 Case 11

Case 11's organisation is an organic farm that specialises in pasture fed cattle and sheep. The organisation's aim is to produce the best possible meat and to be able to sell a product they are proud of. The founder puts great value on this because of his high level of interaction with his customers. The breeds the farm rears are indigenous and able to live outside all year around, which makes them easy to rear and eliminates the need for barns and heating. Further, the farm grows their own feed in the form of alfalfa and uses virtually no antibiotics. This makes the farm highly environmentally friendly. To deliver value to the customers, the farm uses third party delivery schemes, does its own deliveries into nearby cities, and runs an own farm shop. The customers in the cities are mostly made up of an intellectual elite, who prefer not buying from supermarkets, value the breed and have a high purchasing power. The farmer values delivering himself for the social exchange connected to it. In the store, the organisation builds a community with the local customers, who they include in major decisions such as the choice of breed of cattle. In addition to consumers, the farm also sells to food processors. The organisation sells bones for broth making now, which has turned the cost of disposing the bones into a new revenue stream. Further revenue comes from doing butchery work for other farms and selling their meat in the own store.

The store is essential, because it enables the organisation and the other farmers to sell their meat for a fair price that the supermarkets would not pay due to the breed, which does not conform with the supermarkets' sourcing grid.

The costs of the operation are low, and the cost structure is simple. Since the farm requires hardly any inputs, the major cost factors are human resources and the rent for the land. The rent, however, is reduced because the landlord receives grants for organic farming. Further, the organisation receives grant money for protecting biodiversity through their choice of breeds. These three income streams and the simple cost structure make the farm economically viable, even though it operates on a very small scale.

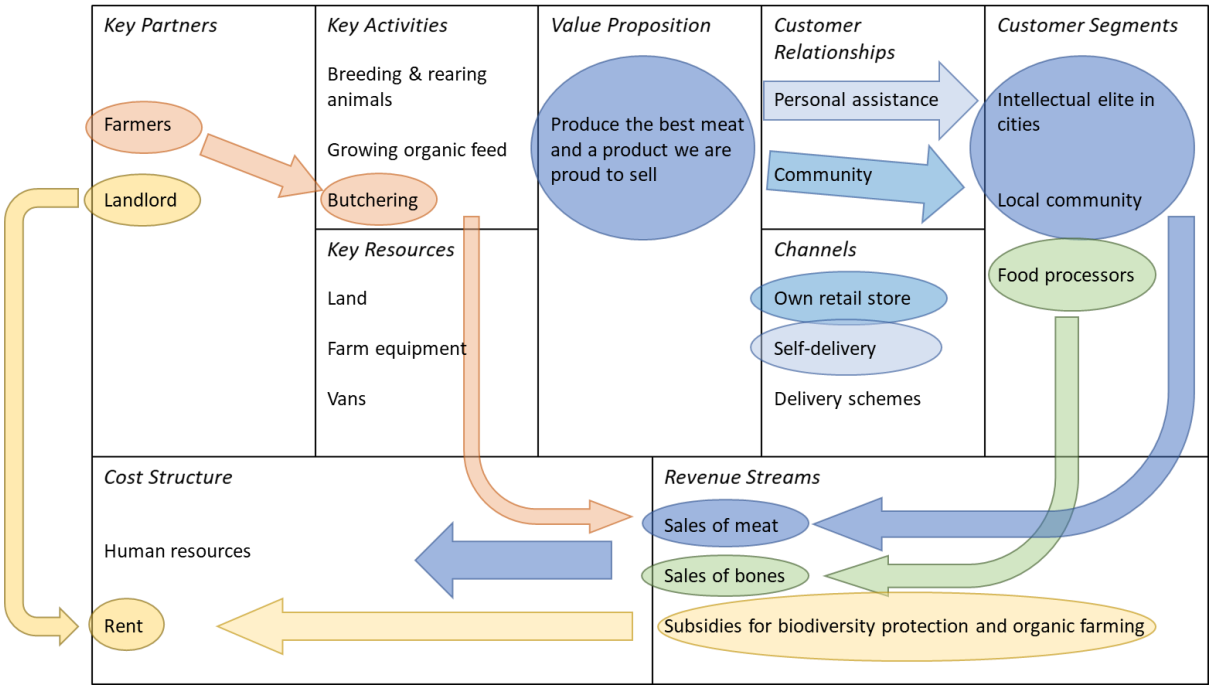


Figure 4-11: Business model canvas - case 11

The case descriptions utilising the business model canvas uncover the complexity of the organisations in this study. The variety of business models in the cases provides me with a rich data set that allows for a deep exploratory study into the business practices ecopreneurs employ to fulfil their sustainability goals. We can see that the organisations differ in their position of the supply chain, their structure and their outlets. They cater to various stakeholder groups and are defined by multiple value propositions. Despite their differences, however, all organisations are joined by their common goals

around social and economic sustainability, which I will examine in more detail in the following section.

4.2 Goals of the organisations

Following the brief overview of the organisations' business models, I start the analysis with an examination of their goals. These are taken from the interview scripts and the mission statements. Four themes arose as the most dominant across the participants. These are: to challenge the status quo; improving the ecologic environment; providing access to good products; and selling local produce. I will describe these in detail in the following section.

4.2.1 Challenging the status quo

The first goal mentioned by most organisations is the aim to challenge the status quo. This derives from a far-reaching dissatisfaction with the current system of food provisioning, which the participants perceive as being dominated by large corporations - mostly supermarkets - who pay little attention to sustainability and purely pursue their own agenda of profit maximisation. This leads to supermarkets putting smaller companies out of business, accruing disproportionate parts of value in a supply chain and misusing the organic label to increase prices, as exemplified by the following quote:

> *"I think organic in supermarkets actually is sometimes ridiculous. What they charge out for organic produce, compared to what they're paying the farmer for the produce, is disgusting." – case 9*

Further, the participants noted conflicts of interest in the quality and standardised nature of products promoted by large players in the industry, like the participant in case 5 when speaking about the nutritional value and taste of the produce:

> *"Big hydroponics farms producing salad; they want it fast and to look good and they don't really care about the rest." – case 5*

Or the participant from case 11, when describing how supermarkets evaluate the quality of meat and the price they offer to farmers:

> *"We hang the carcass for three weeks. If it hasn't got a cover of fat, it dries out. Whereas the supermarkets are cutting it up straightaway, so and they don't want fat. They just want it bright red, clean, lean meat. So, straightaway we've got a conflict in what I do and what they do." – case 11*

This leads to the adverse effects of the food industry mentioned earlier, such as soil degradation, biodiversity loss and unfair treatment of the upstream tiers in the supply chain (Conto et al., 2014). The participants notice this and aim at challenging the status quo and changing the way farming and the food industry works:

> *"There is quite a strong consensus of wanting to reimagine the economy and wanting to produce high quality food." – case 2*

They felt it was important to promote fairness and end exploitation in their supply chain:

> *"We have one of our missions, is to buy and sell everything at a fair price, so that everybody in the chain— there is no exploitation of any part of the chain"*
> *– case 3*

From the interviews and the mission statements it becomes apparent that change and approaching food differently is inherent to all participants. Their motivation stems from the dissatisfaction with the current system so they want to find ways of adverting the negative outcomes from the dominant system of food provisioning. This strive for change translates into the goals that are specific to the food industry. The participants act in accordance with Schumpeter's ideas around creative destruction as a key feature of entrepreneurship (Baumol, 1990; Bureau, 2013; Gunter, 2012). They offer alternative approaches to the food industry by introducing new production methods and promoting products with higher environmental and social sustainability. This places the participants' goals in the domain of

ecopreneurs, who run their ventures to reverse or mitigate unsustainable conditions (Cohen & Winn, 2007).

4.2.2 Improving the environment

The second most dominant theme in the participants' goals is the desire to improve the environment they operate in. Most of the participants state goals around sustainability in their mission statements and provide sustainability guidelines. In the most basic form, the participants speak about promoting environmentally friendly farming:

> *"We would avoid intensively reared animals. We would avoid intensive cropping. It's important for our customers that when they read about the producer, which they can do on the website, that they feel comfortable with the way the produce is being provided." – case 7*

Further, the participants seek to localise food for environmental benefits. The localisation of food improves the relationship of consumers with food and their views on the environment, which holds an educational value and creates knock-on effects for stakeholders' engagement with the ecologic environment. This clearly positions the participants in the domain of AFNs who re-localise and re-socialise the food industry to foster sustainable development (Sonnino & Marsden, 2006).

> *"The idea, the concept being around growing food that we distribute locally, giving people better access to local organic food, getting people reconnected with the land, so getting people onto the land, work on the land, to find out what it's like to farm, teaching about farming and difficulties of the farming industry and having a very ethical supply chain and working with other organic growers and helping them thrive and prosper as well." – case 9*

It is apparent that the participants link their social and environmental engagement closely together and see improving people's lives and the ecologic environment as inseparable. This reflects the idea of ecopreneurship as

delivering sustainability by educating consumers and shaping consumption patterns towards sustainability. As in the Kirzner (1997) approach to entrepreneurship, the participants disseminate knowledge to tackle information asymmetries and change consumption behaviour (Dean & McMullen, 2007; Pastakia, 1998). At times, however, the environmental benefits came along unforeseen:

> *"Environmental concerns are very important to me. […] I think a lot of the environmental impacts we have, have come by accident and we're only sort of just understanding, what we've done has been— how important that's been. So, I can't say that I've set out to do that, it's been a consequence of— a lucky consequence then to some extent." – case 11*

Since the proximity of production is linked to environmental and social benefits, selling local products arose as an own theme throughout the cases.

4.2.3 Selling local produce

For all participants the notion of selling local produce or selling their produce locally is paramount. Often, doing this was the motivation behind starting up the venture.

> *"You know, as a response to the Feed Bristol Report that came out in 2008, which was basically identifying that only five percent of food in Bristol would be sourced locally, […the goal was to] to challenge in some way the supermarket supremacy that currently exists in Bristol and then try to get more local food into Bristol…" – case 9*

This drive to provide local produce was also reflected in the sourcing and distribution policies of the organisations. One participant also clarified their understanding of the term local and the importance of being clear about what counts as local.

"The criteria is local production. And local means locally owned really. So… because we worked that out with [affiliated organisation] as to what local meant. Because we had various franchise operations applying for membership and things like that. And that's a bit difficult, but they have— The thing about if they are locally owned is they can control their own supply chains" – case 2

Here we can see that locality is not only reflected in the physical presence of an organisation, but also in the decision making and supply chain links. This links well with Robbins (2015) who says that local is not only bound geographically, but also through social and supply chain characteristics. Hence, the participants are not only interested in the immediate ecologic effects of shorter transportation routes, but also the broader benefits to the local economy and society that stem from localising food (Rickett Hein, Ilbery & Kneasfsey, 2006; Quaye et al., 2010).

4.2.4 Providing access to good products

As part of achieving the goals above, the participants aim at providing access to good products to consumers. This often means making these available in the first place:

"Of equal, perhaps slightly greater importance, is enabling the customers to buy things that they would find difficult finding anywhere else. Without doing a lot of driving and travelling." – case 7

In addition to making the products available, the participants also aimed at making them accessible to all members of society.

"It's a lot about food democracy actually. A lot about not providing elite food for rich people. It's much more about providing everybody with good, good food. Good food is a right!" – case 3

Through these goals, the participants refute Holloway & Kneafsey's (2000) criticism that AFNs cater only to a small, elite consumer group and are

therefore necessarily limited in their impact on the wider food system. The notion that AFNs focus on high-quality food remains, but their aim is indeed to reach as many people as possible with it. In their pursuit of providing good food, participants do not define good in much detail, but the notion of high quality is repeatedly mentioned.

> *"Essentially, I think it's fair to say that we try to, to use quality ingredients. And what we make in the kitchen is quite simple. But using sort of, you know, good produce really." – case 6*

It can be seen that the organisations in my cases fall into the domains of AFNs and ecopreneurs with their goals around changing existing systems and providing local and ecologically sustainable food (Roep & Wiskerke, 2012; Sonnino & Marsden, 2006). At the same time, the organisations also have the social impact of their actions in mind and aim be inclusive to all socio-economic groups. For cases 2, 5, 8, 9 and 10 this means actively improving the social environment is equally important to ecologic goals. The analysis above highlights common themes among the organisations' goals, which differ from conventional business organisations' goals. Therefore, in the following I want to examine how the organisations deliver what they have set out to do.

4.3 Examination of practices delivering sustainability goals

Having introduced the goals and workings of the organisations, I will provide a detailed analysis of how the organisations deliver their sustainability goals. For this I will follow the dimensions of sustainability found in the triple bottom line approach (Elkington, 1999). The triple bottom line is an approach to managing businesses with regards to their social, environmental and economic performance. It is commonly used in the literature to assess the sustainability of organisations and supply chains (Beske, Land & Seuring, 2014; Frostenson & Prenkert, 2015; Tajbakhsh & Hassini, 2015; Taticchi et al., 2015) and thus offers a good framework for my investigation of sustainable business practices.

4.3.1 Economic sustainability

The first domain of the triple bottom line is economic sustainability. I will present the revenue streams first, followed by the costs. As it is the difference between the prior two, profitability will be discussed afterwards. I will examine different attitudes to profitability and the use of profits. The section will end with an examination the organisations' approaches to economic performance monitoring.

4.3.1.1 Revenue Streams

As discussed earlier in the section on ecopreneurship, every organisation needs to create a certain amount of revenue to sustain their operations, even if their aim is not generating profits (Osterwalder & Pigneur, 2011). Therefore, revenues are integral to the economic sustainability of the firm and will be examined in the following sections.

4.3.1.1.1 Sale of products and services

All organisations in my study work as businesses or at least have a business unit as part of the organisation. Following the business approach, all organisations engage in trading activity at some stage of the supply chain. For the organisations in cases 1, 3, 6, 7 and 10, the resulting revenue from sales of products and services is the only income stream. For the other cases is it one of several, but apart from case 5, it is always the largest source of income. Case 5 is currently expanding the farm and thus not producing any goods for sale, therefore they rely on other income but plan to go back to sales once the building work is completed.

> *"The model here is that the demonstration unit, this whole facility should be self-funding through the sale of fish and plants. Which it isn't at the moment, because our system's not up and running. So, we have a phase where that won't be the case, but when that is the case, a lot of our energy will be on selling, like a normal farm" – case 5*

Their income now is mostly generated through teaching and consultancy work, as well as external funding. This allows for the demonstration unit to be developed further and keeps the organisation alive until sales pick up.

> *"We started to charge for visits, which we never used to do. But we saw someone else was doing it and then I realised that actually it costs money for us to be here, so actually we can't give that away. Especially not to people that can afford it." – case 5*

The notion of charging people who can afford it is something that is reflected in the pricing of other organisations too. They adopt an approach to setting prices in accordance with their customers' willingness and ability to pay. This approach is known as target pricing, where the price is set to reflect the perceived value the customer gains from buying the product or service (Bhimani et al., 1999).

> *"Well it's a little bit embarrassing really, because our way of farming, is very cheap. Low cost and yet we are required almost to charge a high price, because if we didn't, people wouldn't reckon it was kosher." – case 11*

This quote exemplifies an extreme case in which customers are not only willing to pay a higher price, but actually demand it, as an assurance of the product's quality. Brecard et al. (2009) suggest that consumers gain a higher utility from buying green products, but that their ability to do so can be restrained by their budget. The organisations are aware of the negative implications from setting prices too high. Often in accordance with the high-quality and niche product type of food the organisations are selling, there is a customer group with high purchasing power that allows for higher prices. However, the organisations refrain from exploiting this to stay accessible to all customer groups.

> *"Unfortunately, sourdough has been sort of a little bit taken over by the whole hipster culture thing. And it's associated with that, but, so we try and resist that and just be a place that is not exclusive. To do that, I think you can't really be too expensive. So, I'd rather sell an extra loaf you know at a reasonable price than sort of price things too high." – case 6*

This pricing approach addresses the Holloway & Kneafsey (2000) criticism of food elites and also the problem of mission drift (where financial goals outweigh social goals), faced by hybrid ventures (Doherty, Haugh & Lyon, 2014). The participants want to balance getting a good margin to fund their mission and being open to all consumer groups. The organisation in case 2 does this very consciously, by charging different prices to different customer segments across the city. The larger margins achieved in better-off places then enable the organisation to subsidise the low margins in disadvantaged areas. The distribution setup with collection points across the city enables the organisation to this, which might not be possible for organisations with a single retail outlet.

Another approach to pricing taken by the organisations goes the opposite way. Instead of looking at the prices customers are willing and able to pay, the organisations start with the price they are required to charge to run their own operations or to ensure their suppliers are able to sustain their business. This is a cost-plus approach, where the organisation starts with their cost and then adds a mark-up on top (Bhimani et al., 1999).

> *"We would start with the price that the producers wish to receive. That would be our starting point. We would require a minimum mark-up of 35% or so to cover our costs." – case 7*

Nevertheless, in this approach the considerations about purchasing power and price sensitivity cannot be neglected by the organisations.

> *"If you develop your product and then say, 'right it's cost us x, then we're going to put 25% on it', and then if that's way outside your price point, you're never going to sell it anyway" – case 4*

Therefore, the organisations need to apply a certain flexibility to their pricing and take both sides of the equation into consideration. A third approach taken by participants is a market-based pricing strategy that tries to balance the prices in relationship to other businesses (Proctor, 2012).

> *"I guess I just try and follow the people's pricelists, because who decides what veg is worth really? I don't really know how else to price it, other than looking at my direct competitors and pricing it similarly." – case 1*

> *"We are pretty competitively priced. I think for the sort the quality of the ingredients that we use other, more business led cafés, will be charging a lot more." – case 10*

In these examples it is evident the participants orientate themselves along prices in the market, but at the same time keep their goals and the first two approaches in mind. They have to be competitive to reach their target groups and need to balance the margins to cover their costs. Overall, they aim to provide high quality food in a way that is sustainable to their suppliers and inclusive of all socio-economic groups. In areas where the organisations have some leeway in their margins, they try to use the flexibility to cover for other product segments with smaller margins. This balancing act contradicts a profit maximising logic and directly affects the amount of revenue the organisations can accrue, thus affecting their profitability, which I will examine later.

In summary, it can be said that the participants apply three pricing strategies: a target pricing approach; a cost-plus approach; and a market-based pricing approach. These strategies are not mutually exclusively but provide different angles to consider when setting prices in accordance with the organisations' missions.

4.3.1.1.2 Grant funding

The cases that offer social activities distinct from the trading activity show a pattern of receiving grant money to run these, while the rest of the organisation is funded by the trading revenue.

> *"We rely on grant funding, as you may have heard earlier, to run quite a lot of stuff here. So, a lot of our projects, are grant funded. And we're constantly applying for grant funds, to run these projects." – case 9*

> *"So, basically, the business model says, the core business has to be financially sustainable; anywhere where people are getting food aid that's paid for by public funds, supporting people who need food." – case 2*

In these examples a distinction is made between the business activity and the social activity of the organisation. This corresponds with Doherty, Haugh and Lyon's (2014) assessment that social enterprises rely on earned and unearned income to sustain their activity and expands this to the social mission of the ecopreneurs too. It also links to Dohrmann, Raith and Siebold's (2015) assertion that social enterprises should consider a spectrum of options for funding. However, they state that market revenues should be generated with the social mission, which does not seem to hold true in the cases where this separation of revenue from trading and grant funding for social activity exists. Only in case 8 does the social mission of educating consumers also generate revenue streams. In all others cases the market revenue is linked to the ecological mission. This means that the organisations spend resources on the acquisition of funding, but also that the availability of funding shapes the nature of the social activity.

In addition to grant funding for social activities, organisations can also receive funding for their environmental impact.

> *"I get paid £3000 just to keep Hereford cattle, because they understand how it benefits the grass and the flowers and everything." – case 11*

This funding here can be ongoing funding for maintaining organic farming techniques and upholding biodiversity, like in case 11, but also one-off investments into more sustainable, energy efficient infrastructure. Therefore, the ecologic mission of the organisations is able to generate income from trading activity and also through grant funding. Further income, linked to the ecologic mission, is generated through the sale of waste products.

4.3.1.1.3 Sale of waste products

The organisations' waste is created in several places: as a by-product of the production process, as the result of unsold perishable products, and from packaging. With products that are created in the original production or processing, selling off the by-products creates an additional income source that makes the production more cost efficient.

> *"Every wheelie bin cost 20 quid to go away. And now we're probably selling that wheelie bin for 60 quid. You see, so it's like an 80 quid turn around" – case 11*

These by-products can also be created at the customer side whilst using the product. The organisation from case 4, for example, takes back used oil from their hospitality customers and recycles it. A similar mechanism works for the packaging waste. Instead of just throwing it away, recycling can reduce waste and at the same time generate more revenue.

> *"When anything comes in it's palletised and it's got plastic film on the outside that now, rather than being thrown away, goes into a separate container that gets compacted and that goes on to a recycling. And that adds extra revenue as well." – case 4*

In these examples it is evident the organisation's approach to waste is beneficial to the economic dimension and at the same time supports their ecologic mission. Here we can find the proposed win-win scenarios of sustainability where an activity simultaneously improved economic and ecologic performance (Ambec & Lanoie, 2008; Santos, Pache & Birkholz, 2015). Further, in the organisations engaged in hospitality the participants describe using unsold produce that was close to perishing in their kitchens

and thus, by using and cooking them, prolonging the lifetime and reducing food waste.

> *"If they've got some tomatoes that have come their turn, the café does something with tomatoes that then is sold in the three cafés so that we just keep our waste down to an absolute minimum" – case 3*

Here again the profitability of the organisation is increased while the environmental impact is decreased. This addresses Cicatiello et al.'s (2016) assessment that food is wasted at the retail stage due to unsold perishable products, which the participants avoid by creating demand for the unsold products in the hospitality outlet of their organisations.

The examination of revenue streams places ecopreneurial ventures in the domain of hybrid ventures (Santos, Pache & Birkholz, 2015). They make use of various revenue streams coming from the different goals of the organisation. Contrary to the double mission the literature proposes for purely social enterprises (Dohrmann, Raith & Siebold, 2015) or purely environmental enterprises (York, O'Neil & Sarasvathy, 2016), ecopreneurs pursue a triple mission. This makes their revenue streams more complex than those of the hybrid ventures currently known in the literature.

4.3.1.2 Costs

As the opposite side of profitability to revenue streams, costs will be examined next. The largest costs identified in the cases are the human resources and the mark-up for organic and local food. The mark-up for organic is especially interesting due to differing views along the supply chain.

4.3.1.2.1 Human resources

Human resources make up the largest fixed cost for most of the organisations and at the same time it is the hardest to manage. The human resources are mostly required directly for the creation of the products like growing produce, processing the products and for the deliveries.

> *"It's not a cheap product because of the labour that's involved. It's all handmade, it's not factory made." – case 6*

For the larger organisations, the human resources are also required for general organisation purposes and marketing, but with growing employee numbers manging the employees themselves needs more resources too. This puts a financial strain on the organisation that they approach in different ways. For organisations like cases 5, 9 and 10, a lot of work that requires human resources is done by volunteers. This is part of their social mission, as they provide work opportunities for people with special needs, provide training and create social engagement for people suffering from loneliness. While the volunteers provide labour for free, they can be challenging to manage due to their respective conditions. This is another win-win scenario deriving from sustainability, but instead of reducing the ecological impact and increasing the economic sustainability, the participants engage in simultaneous creation of economic and social value (Barrientos & Reilly, 2016). However, in this scenario organisations must be conscious not to exploit the free work force and make sure appropriate social value is provided in exchange for labour.

> *"I think it begins to bite like it does in any business, that you got to cut your costs […] and I think there's always the temptation to, as I said, use volunteers more than you should"*
> *– case 2*

The social value offered in exchange by the organisations in this study takes the shape of experience, skills training and increasing the volunteers' employability, which is especially valuable for people with support needs that are working towards re-entering the job market.

Further, with growing financial power of the organisation coming from increased trading activity, the volunteers can start feeling entitled to pay and need to be converted from volunteers to paid employees. This is a potential threat to the mission of the organisation, when financial demands clash with the demands of the mission, which requires the founders to have strong conflict management skills to align the different demands (Smith et al., 2012). Parrish (2010) found that to overcome hurdles like these in sustainability driven organisations, benefits should be distributed to the members in

accordance to their contribution to the organisation's mission. The founder in case 5 described picking the directors of her organisation by this principle, where volunteers who had put the most effort into building up the venture were offered a position. A further examination of trade-offs faced by the ecopreneurs will be given at the end of this chapter.

4.3.1.2.2 Mark-up for organic and local

The second most discussed cost is the mark-up for organic. At the downstream side of the supply chain, there appears to be a consensus that organic produce and meat is more expensive.

> *"Yes, organic produce is more expensive. That is inevitably because it's more difficult to produce." – case 9*

The higher mark-up for organic is associated with non-intensive, small scale farming that often makes little or no use of machinery and is thus less cost-efficient in the production. The participants are willing to pay the mark-up in order to enable organic production on a sustainable basis (Kirkwood & Walton, 2010b).

> *"I don't try and get any special deals from our suppliers because they've got to be sustainable, you know." – case 6*

At the same time, the participants feel the mark-up taken by supermarkets is disproportional and exploiting organic as a brand. The participants willingly pay the mark-up to their farmers, which is why they see the higher supermarket prices as critical, since they are not passed down to the farmers in the same way.

In contrast, the upstream members, especially the farmers, report that organic production is cheaper than intensive farming systems. This is because they require fewer inputs, such as antibiotics, pesticides or imported feed.

> *"There's been no fertiliser, no herbicides has been applied, and my yields are better than the average yields of UK vineyards. […] And it's a damn sight cheaper" – case 8*

The mismatch between the two perceptions, allows for good margins on the side of the producers and enables small scale production. However, the small

scale results in small output numbers, which raises questions on whether this way of producing is capable of replacing the existing systems of food production on a national scale without endangering food security (Wiskerke, 2009).

Often, for similar reasons as discussed above, there appears to be a justified mark-up for local products too. The locality of products is important to all participants due to the benefits for the local economy, social life and the lower carbon footprint resulting from shorter transportation routes.

> *"I will buy what I can and what I know is available, that's grown in and around Bristol, I will buy it. And I will always pay a little bit more. If it costs more to buy it from Bristol, that's fine, I'll pay that little bit extra." – case 1*

The participants are willing to pay these two mark-ups, because they are considered the price the participants pay for achieving their ecologic and social goals.

4.3.1.3 Profitability

As the difference of revenue and cost, this section examines the participants' attitudes towards their firms' profitability. Three interrelated themes arose, which are the importance of profits to sustaining the mission, making a living and using the excess cash to fund social activities.

4.3.1.3.1 Making a profit to sustain the mission

None of the participants mentioned profit maximisation as their organisations' goals or making profits as the motivation to start their business. Nevertheless, creating profits is of great importance to the participants. All participants state that it is essential to create profits in order to sustain the operations and with them create the intended impact from the organisations' missions. From the interviews it is evident that a common perception exists around value led organisations being not for profit, but the participants do not subscribe to it because they need their profits to fulfil their mission.

> *"What is a not for profit organisation? It has to make a profit, I think, it just means that they reinvest that profit back into the business. So, in that sense, how can you call it a not for profit basis?" – case 4*

This raises questions about the definition of organisations we can find the literature and the distinction being made between the different types of entrepreneurship that are often placed in a dichotomy between commercial and social (Williams & Nadin, 2013). As I have shown above, this dichotomy does not hold for ecopreneurs and the evidence further supports this.

What is unclear from the interviews is whether the participants speak about profit in the pure accounting sense of revenues exceeding costs (Proctor, 2012) or general commercial income. Since all of them stress the importance of profit for avoiding bankruptcy, however, it can be said that the participants at least expect the revenues to cover the costs. Further, the participants that mention profits in excess of their costs all speak about reinvesting them into their mission. Therefore, the exact definition of profit is not as important as the insight that no profits are being extracted in forms of dividends or for personal gains.

> *"The people who bought into the farm, they bought in with community shares. Now, unlike a normal share that you might get in a business, you won't expect to see a return on your investment. We don't promise like two or five percent return on your investment. […] It's a philanthropic investment" – case 9*

This leads to the next two perceptions of profitability; namely, the goal to just make a living that has been stated as a motivation to start a business in the Kirkwood and Walton (2010a) paper, and the use of profits from the business to fund separate value driven activities.

4.3.1.3.2 Making a living

The motivation of ecopreneurs to start up a business to pursue their mission, as long as they can make a living from it, can be found in the existing literature (Dixon & Clifford, 2007; Kirkwood & Walton, 2010a; Phillips, 2012)

and is also supported by the participants in my study. In practice, this is what makes the organisations viable, as they feel less pressure to create financial gains beyond the breakeven point. In the organisations that have broken even, however, it also provides a larger margin for the costs of input factors. Since no motive of profit maximising exists, there is subsequently no need for cost minimisation. Where the revenues allow it, this results in participants purposefully paying above average to their suppliers and their workforce up to a limit that just secures the economic viability.

> *"Like I say, we pay ourselves what we need to live on. And pay our staff as much as we can. So, basically the, the business ticks over. It doesn't make a lot of profit." – case 6*

This is especially evident in this quote, where the participant uses the financial leeway to increase their staff's wages as far as possible. This notion will be discussed further in the social sustainability section.

4.3.1.3.3 Cash from business unit funds organisation's value driven activities

In all cases the sales of the products aim at improving the environment and thus caters to the ecological mission. In most cases, the ways of producing, procurement and treatment of staff associated to the trading activity also caters to the social mission. In cases 2, 5, 9 and 10, however, the organisations make a distinction between their trading activity and their value led activities which, like in case 2, also results in a split of the organisation in a business venture and a community benefit society. In these cases, the business unit of the organisation creates profits exceeding the breakeven point, which then will be channelled towards the value led part of the organisation.

> *"Any food that we are part-giving or giving that element is met by public subscription, but the basic business is financially sustainable and any profits from the core business go back into charity." – case 2*

In cases 2, 9 and 10, these activities are mostly directed at the social benefit that the organisation is providing. In case 5 the funds are used for the further

development of the farming technique. This mechanism of using the funds would favour a profit maximising approach in the business unit, because more profits can push the value led activities and grow the impact. At the same time, the trading activity should not impede on sustainability either, to avoid the mission drift mentioned in the hybrid venture literature (Smith et al., 2012).

In summary, we can see that profits, in the form of shareholder returns, matter little to the organisations in the cases. The profits are only needed to sustain the organisations as vehicles for change. This is done either by sustaining and investing in the commercial activities and pursuing these in a sustainable way or by extracting the profits from commercial activity to fund value led activities that are not directly related to the trading activity of the organisation. Through this we expand Doherty, Haugh & Lyon's (2014) understanding of hybrid organisations, that they derive from social enterprises, to ecopreneurial enterprises, who do not seek profit maximisation, but prioritise social and ecological objectives.

4.3.1.4 Economic performance monitoring

The economic performance monitoring varied from no structured system to a set variety of performance indicators, with no pattern emerging from features such as age, size or supply chain tier of the organisation. The simplest performance assessment reported was merely finding out whether they would still exist in a year's time. Most organisations record and check their sales numbers on a weekly or at least monthly basis. In cases 2, 3, 4, 9, the organisations report calculating margins and gross profits. More specific measures employed are man-hours spent on selling a product (case 3), the return per hour per employee (case 8), efficiency as the ratio between inputs and outputs (case 5), and the number of new and retained customers (case 7). Overall, there was not a big emphasis on economic performance monitoring.

4.3.2 Ecologic Sustainability

The second dimension of sustainability is the ecologic dimension. This dimension is very much concerned with the nature of products that the

organisations sell and/or produce. In this dimension, three dominant themes arose, namely the promotion and creation of sustainable products, the way organisations handle waste, and creating change. These link to different aspects of ecopreneurship with regard to Schumpeterian and Kirznerian ideas, which I will show in the following paragraphs.

4.3.2.1 Creating and promoting sustainable products

The common goals between all organisations are improving the ecological environment and providing access to good products. To achieve this, the participants promote and create products with a low environmental impact.

From a production perspective, cases 5, 8, 9 and 11 engage in organic production of produce and livestock. Organic production systems avoid the use of artificial pesticides, insecticides, fertilisers, antibiotics, hormones and genetically modified organisms (Zsuzsa, 2012), which is regarded as enhancing biodiversity, soil and food quality and reduces pollution of waterways (Seyfang, 2007). Case 8 also applies a biodiversity framework, which uses a mix of microflora sprays that cultivate microorganisms that keep the soil healthy and work as pest control. Instead of using herbicides, the vintner grows a mix of legumes, green manure and clovers between the vines. This not only works as weed control, but also encourages natural insect predators and nourishes the ground by binding nitrogen. The organisation in case 11 promotes sustainability through keeping local breeds of cattle and lambs that can be reared outdoors all year around. Further, they grow their own feed in the form of alfalfa and do not need to import soy. Through a rotational grazing system, the ground is protected and takes in more carbon, which increases yields in grasses and further reduces the need for external feed. Case 5 is positioned in-between crops and livestock, as they cultivate eels and use the fish waste as phosphate fertiliser to grow lettuce. In addition to producing low impact livestock and lettuce, case 5 also decided to cultivate an endangered breed of eel and releases 70% of their fish in a conservation effort.

"What's growing in the soil, it's all the bacteria and the fungi and everything. As soon as you put a chemical on you disrupt that balance. And then you get all sorts of problems… one fungus will predominate. […] So why disrupt it? That's the, the rationale behind it all." – case 8

In these cases, the participants apply holistic approaches to agriculture and use systems that complement one another. This reduces the strain on the environment and the need for external, possibly artificial, input factors. In case 5 the practices go even further and not only minimise the environmental impact of production, but also actively improve the ecologic environment through increasing populations of endangered species. This behaviour can be interpreted as notions of sustainable entrepreneurship in accordance to Cohen and Winn's (2007) definition, as the practices employed mitigate or reverse unsustainable conditions. The definition is based on Schumpeterian ideas of innovation, directed at sustainable development. The innovation part of these practices is not definite, because many of the organic practices are not novelties, but rather approaches from a time before intensive agriculture. Nevertheless, innovation can be found in the cases too, which I will explore in a later section dedicated to eco-innovation.

From a distribution perspective, cases 1, 2, 3, 7, 9 and 10 engage in the distribution of produce from external suppliers. The organisations engage in retail and wholesale distribution as can be seen in the case descriptions. The priority for the organisation lies firstly in organic products and secondly in local products. For case 9, organic is always requirement, for the other cases a strong preference. Cases 1, 2, 3 and 7 report that the organic performance of their suppliers is not always easily assessed, because many of the suppliers are too small to afford a soil association certification. In these cases, the participants step into a close dialogue with their suppliers and examine their production methods, so they can vouch for the quality and sustainability of the produce.

> *"We would avoid intensively reared animals. We would avoid intensive cropping. It's important for our customers that when they read about the producer, which they can do on the website, that they feel comfortable with the way the produce is being provided." – case 7*

Here it is evident that the participants identified an information asymmetry as explained earlier and create entrepreneurial opportunities by correcting the market's failure to distribute information efficiently. In this respect, the ecopreneurs act according to Kirzner's (1997) perception of entrepreneurship and adhere to Dean and McMullen's (2007) definition of sustainable entrepreneurship. The organisation in case 3 goes a step further and explains they are always looking for something special and innovative in the products they list in their stores. They have a base of organic products from all sorts of categories, but always try to find novel, better products and then to shift demand towards these through their pricing policies. In that way they not only engage in the Kirznerian approach, but also help commercialise new products and resources and create demand for these, which corresponds to the Schumpeterian idea of innovation and entrepreneurship.

4.3.2.2 Waste

Recognised as a market failure (Dean & McMullen, 2007), waste is the next area of examination for our analysis. Waste is consuming resources unnecessarily and therefore creates unnecessary costs and strains for the environment. Two approaches with regards to waste have been identified, namely avoiding waste and, where that is not possible, turning waste into value.

4.3.2.2.1 Avoiding waste

Avoiding waste is one of the most obvious measures to take when approaching sustainability. Using less resources improves the environmental impact and at the same time saves cost (Ambec & Lanoie, 2008). This practice was also dominant throughout the organisations in my cases, who worked to avoid waste from packaging. For the delivery schemes in cases 1, 2 and 9, for example, this means collecting boxes upon next week's delivery and reusing

the containers. For the stores in case 3, reducing waste is achieved by reducing packaging through stocking products in large quantities, for the customers to fill in their own containers. In addition to stocking products in a way that reduces packaging, the stores also sell alternative packaging like reusable cling film made from bee's wax. In these examples the ecopreneurs act as Kirznerian entrepreneurs, correcting the market failure of waste and inefficiency (Dean & McMullen, 2007) on the one hand. On the other hand, especially in case 3, we can see that the ecopreneurs also support Schumpeterian entrepreneurs by distributing new resources (Drucker, 2007) that reduce environmental degradation (Cohen & Winn, 2007).

4.3.2.2.2 Turning waste into value

However, not all waste can be avoided, so the organisations in these cases have developed practices to turn unavoidable waste from their activities into further value. The organisation in case 4, for example, takes back the packaging of their products and together with the packaging of their incoming goods, pelletises and recycles it. Further, case 4 and case 11 describe how by-products from their production used to be thrown away, but they have now found a new use for these and can sell them off too, which reduces the waste and creates additional income as described in the revenue section. In addition to increasing the organisation's income, reducing waste also improves the ecologic footprint of the products. The resources and energy that go into the main product are utilised better and the pollution caused by the production is spread over a larger output (Mena et al., 2014).

> *"When we press the rapeseed we have a by-product, which is rape meal. So essentially that's a waste product to us. But it also has a value. So, we then have to make sure we maximise that value and that's another product that gets sold." – case 4*

Another mechanism to avoid waste is described by cases 3 and 6, who both operate cafés in addition to their retail store or bakery respectively. This allows the organisations to use food that is close to expiring and could not be sold on time through other channels on the menus of their cafés. This way food waste is effectively minimised and turned into revenue.

We can see from this that waste relates to the economic and the ecologic dimension. Reducing waste reduces the cost for organisations and is pursued by the ecopreneurs and conventional businesses equally, to achieve win-win scenarios of sustainability (Brandenburg & Rebs, 2015). What makes the organisations in this study ecopreneurial is identifying economic opportunities that mitigate environmental degradation and simultaneously generate new revenue streams (Dean & McMullen, 2007), such as creating value from waste instead of just reducing it. At the same time, we can clearly position them within the AFNs, which corresponds with Migliore et al.'s (2015) assessment that farmers in AFNs act as social entrepreneurs who create social and environmental benefits by addressing market failures. We can see that ecopreneurial approaches identify different ways of conducting businesses and thus drive change, which brings us to the next area of fostering change.

4.3.2.3 Fostering change

AFNs are considered to pursue sustainability through changes in consumption patterns and improvements in production techniques that increase the sustainability of food systems (Kulak et al., 2015; Quaye et al., 2010; Seyfang, 2007). The participants seek to bring change in two ways: pioneering new methods and shaping the ecologic-human relationship, which will be examined in the following and positions the participants as ecopreneurial change agents (Kearins, Collins & Tregidga, 2010).

4.3.2.3.1 Pioneering new methods

Pioneering new methods can be found on both small and large scales in the cases. While most stated they were open to trying new methods, the majority of cases did not actively engage in doing so. On a small scale, cases 2 and 6 pioneer new, low carbon distribution methods. For this case 2 engages with an importer, bringing olive oil from Spain via a sailboat. This method increases the delivery time and uncertainty but is a risk the organisation was willing to take in order to support low carbon transportation. The organisation in case 6 uses an electronic bicycle for their deliveries. This has been developed together with an engineer, who specialises in work-bikes, and

enables the business to run without being dependent on a motorised vehicle. These two examples can be seen as acts of process innovation (Drucker, 2007) which aim to reduce the carbon footprint in the food supply chain.

The innovation efforts for case 5 are on a larger scale. The entire setup of the organisation in case 5 is aimed at developing new production methods. For this various test runs on aquaponic production have been made and a demonstration farm was built. The organisation develops aquaponics methods as ways to add phosphate cycles to urban agriculture and reduce the need for artificial fertiliser and the energy consumption linked to its production. The organisation also runs a blog and publishes the test results and insights from their research to support other organisations to start aquaponics. By also selling the produce from the demonstration farm, the organisation engages in the development of new methods and their commercialisation simultaneously, which clearly positions them as Schumpeterian ecopreneurs.

Overall, we can see notions of process innovation through new transportation methods, new production methods (as in aquaponics), and the use of new resources by transforming waste into value, which all correspond with the Schumpeterian concept of entrepreneurship (Bureau, 2013; Drucker, 2007). These actions, however, are few among the participants of my study, which could be a result of the resource constraints the organisations face. This corresponds with Nightingale & Coad's (2013) assessment that highly innovative start-ups are atypical due to small organisations' lack of dedicated research and development activities.

4.3.2.3.2 Shaping the future ecologic-human relationship

By pioneering these new methods, the participants not only aim at transforming their own practices towards sustainability, but also aim at changing the engagement with the environment for other people. The participants in cases 2, 5, 9, 10 and 11 describe how they want to change the relationship people have with the environment and food. For them it is important to respect nature and also teach their consumers about the origin of food, the work that is related to producing it and the resources that go into

the food, to spark the same respect for nature the participants have among their consumers.

> *"I guess we've got an umbrella vision of a world with a food system that's more integrated with urban areas, that doesn't put so much pressure on our natural resources and that's resource efficient and more sustainable, as a question of human viability on the planet." – case 5*

The outlook of the organisations is highly future oriented, with an urgency for change as a necessity for a viable future. This strongly links into the concept of the visionary small enterprise that values nature and holds ambitions to shift the paradigm towards a local ecosystem of production that links consumers to the origin of their food (Kearins, Collins & Tregidga, 2010). The organisations achieve this through strong community engagement, open dialogues with their consumers and teaching courses. The development of knowledge and food skills is also mentioned in the social mission of the organisations, which I will show later.

4.3.2.4 Ecologic performance monitoring

Ecologic performance monitoring appears to be an underdeveloped area in the organisations. Most organisations do not have a formal assessment of their environmental performance, which could be due to the lack of resources or missing skills for the assessment. Case 10 describes that there is a lack of rigor and frameworks to assess the environmental performance beyond trying to keep the organisation's negative impact at a minimum. For this reason, the organisation has sought to join professional bodies that can provide frameworks for an assessment. In a similar manner, the only organisation (case 11) who report a structured performance monitoring, adheres to professional body frameworks, i.e. the agriculture & horticulture development bond (AHDB) stocktake system. Case 8, however, who are involved with a variety of professional bodies, noted that the frameworks often fail to capture the nature of small enterprises and assume the existence of large assets such as heavy machinery. I therefore propose that developing appropriate environmental performance monitoring systems for small ecopreneurial

ventures offers a great opportunity for further research in the field. To be viable, these monitoring systems should be easy to implement, require few resources and should take little time to keep up to date.

4.3.3 Social sustainability

The last dimension of the triple bottom line is the social sustainability of the organisation. The approaches to social sustainability can be separated into practices addressing internal sustainability and practices addressing the external sustainability of the organisation. The internal practices focus on the treatment of employees; the external practices address the social sustainability with regards to the society the organisation is embedded in.

4.3.3.1 Sustainable treatment of employees

Apart from cases 3, 6 and 10, the organisations in this study have no formal HR processes in place. This is mostly a result of the small size of the organisations (for example, cases 1 and 8 only had one employee each at the time of the interview). Nevertheless, the participants place great value on treating the employees sustainably, for which two themes arose.

4.3.3.1.1 Fair and enjoyable working conditions

For the organisations in cases 4 and 6, social sustainability is pursued by providing a working environment that the employees enjoy working in and by paying fair living wages.

> *"I've got a really good team around me now, so I got to make sure they're doing good […] But also, more importantly, doing what they're good at. Because if you get somebody doing what they are good at, they enjoy doing it. If you get somebody doing something that they don't enjoy doing, then they won't be very good at it." – case 4*

Here the participant describes the importance of developing the employees' skills in the area of their interest, which results in higher employee satisfaction, but also higher performance and is thus beneficial to both sides. Case 6 also recognises the hard-working conditions in the bakery, so they put much focus on making the work enjoyable and also forgo their profits in order

to pay their employees as much as they can. Here the ecopreneurs' practices stand in contrast to Doherty, Haugh and Lyon's (2014) assertion that social hybrid organisations cannot afford to pay employees the market rate and need to provide non-financial incentives to their employees. Non-financial reward systems through the benefits of volunteering opportunities were seen in the organisations in cases 2 and 9, but alternatives like in case 6 suggest that economic performance is a prerequisite to fair wages and therefore positively influences social sustainability. The degree to which an organisation shifts resources towards internal sustainability then depends on the organisation's mission and the targeted beneficiary group as well as their financial strength. This trade-off will be further investigated in the discussion.

4.3.3.1.2 Fostering employee well-being

Cases 5, 9 and 10 highlight issues around mental health and wellbeing of their employees. For case 9, these issues revolve around the chronically underfunded third sector, with staff and volunteers having to put in a lot of unpaid hours. Case 2 also recognises the danger of exploiting volunteers for their free labour and stress that one has to be conscious of providing appropriate returns in non-monetary form (Doherty, Haugh & Lyon, 2014).

> *"I think there's always the temptation to, use volunteers more than you should. But having said that, I think there's a place to have a non-cash economy in some situations." – case 2*

For cases 9 and 10, this exchange exists in providing the volunteering opportunity for disadvantaged people, which support them with mental health issues and loneliness. The loneliness aspect is also important for case 5, who want to draw everyone into a community and create a feeling of belonging. They achieve this, for example, by ensuring that no one will work alone on the farm over a long period of time. Further, they are training as a mental health employer to be able to provide better support. This links into the social enterprise literature that proposes ventures with insufficient funding need to find ways of creating value through the beneficiary groups they are catering for (Dohrmann, Raith & Siebold, 2015), which the organisations achieve by delivering their ecological mission through providing work opportunities for

people with support needs. Case 10 also has a well-being support system in place to recognise and support mental health issues within the workforce.

Overall, we can see that the organisations in the cases don't just see their employees as a resource, but also part of their sustainability mission. Developing the employees, treating them fairly and supporting their well-being is not a mere necessity, but part of delivering the social impact their aim to achieve. This shows the organisations engage in benefit stacking to achieve multiple benefits from a single activity, which is characteristic of sustainability driven entrepreneurship (Parrish, 2010).

4.3.3.2 Sharing with society

Going from the internal social sustainability to the external, I am now going to examine ways through which the participants aim at improving social sustainability outside of their organisation. The dominant theme here is the aim of sharing with the society in which the organisation is embedded (Haugh, 2006). The organisations achieve this through fostering social interaction and supporting disadvantaged members of the local community.

4.3.3.2.1 Fostering social interaction

Many of the participants want their services and the way they sell products, to foster social interaction and be inclusive of customer groups from various social backgrounds. Here food is used as a vehicle for social exchange. In cases 3, 6 and 10, the organisations run cafés, which enable them to provide a direct physical space for social interaction. In cases 9 and 10, the farms also aim at community engagement and are open to participation from all members of the local society. The farms also take on an educational role to get the community connected with the origin of their food and to teach about the effort going into providing it. It is important for the participants to keep these spaces inclusive for all members of society and to get a variety of people involved. This is challenging because the organisations want to teach about the value of food but at the same time face an upper limit on their prices to avoid alienating people from low income backgrounds. Further, "good" and organic food is often seen as only available to the middle and upper classes

(Holloway & Kneafsey, 2000; Robbins, 2015), which limits the engagement with the topic for large parts of society.

> *"Things like organic, here they see that as just posh, for others, you know. And I don't want to make food that's for others. If we're going to make it in this community, I want people here to feel like it's theirs." – case 5*

To overcome this problem, case 5 has situated itself in a disadvantaged neighbourhood and adapted a model of food co-creation in which they are producing the food together with the community it is meant for (Cembalo et al., 2015). This means the very immediate community surrounding the organisation participates on the farm and benefits from the created community cohesion, as well as, the acquisition of skills and knowledge around good food. Through these measures, the organisation changes the community's attitude towards sustainably sourced food at the same time as making the food accessible, which earlier I identified as one of the main goals. Equally, organisation 9 is open to the wider community and invites everyone to visit their farm and participate in their work. In a slightly attenuated way, the organisation in case 11 also uses methods of co-creating with the community in their retail store. Here the consumers are involved in major decisions such as choosing the breed of cattle or sheep and naming animals. The social exchange in the store is important to the founder but linked less to a social mission than in case 5. This community engagement creates community cohesion, but also holds educational value by providing knowledge and skills concerning sustainable consumption that can alter consumers' attitudes towards sustainable food and inform their consumption decisions (Voget-Kleschin, 2015). This can be seen as addressing the market failure of asymmetric information, by closing the information gap on the consumer side, which is an integral part of entrepreneurship (Kirzner, 1997).

4.3.3.2.2 Supporting disadvantaged members of the local community

In addition to generating benefits for the wider community the organisations are situated in, the organisations in cases 2, 5, 9 and 10 also provide activities that are specifically aimed at supporting disadvantaged members of society.

The beneficiaries of these activities include people from low income classes, with mental health issues, struggling with loneliness, disability and recovering addicts.

Through their community benefit society, case 2 provides food aid in disadvantaged parts of their city. This constitutes providing free or heavily discounted food for people in need. To further the impact of their work, the food aid is delivered through community food centres that aim to not only bridge crises, but also draw the people into a community and provide long-term support.

> *"If we're to create any sort of support for them, it's got to be an ongoing thing, it's got to deal with these whole people. And I think, drawing them into a community of health and well-being, which is how we see our community food centres, is the way to try and do that" – case 2*

The organisation in case 5 purposefully engages with the disadvantaged community in their whole setup. They have located themselves in a disadvantaged area of the city and create the produce with the local community. We can see that this corresponds to the assertion that AFNs re-localise and re-socialise the food system (Sonnino & Marsden, 2006). Additionally, they seek to offer their space and work with people with support needs, provided they have a qualified support person with them. One example of this is a sensory garden they are building for children on the autistic spectrum.

As part of their efforts to get more people on the farm, the organisation in case 9 also collaborates with other organisations to get people with mental health issues or drug addictions to spend time on the farm, so they can get some time away from the city. Here the organisation offers volunteering opportunities to the beneficiary groups. Similarly, the organisation in case 10 offers volunteering opportunities for people with support needs. Their focus lies in long-term unemployed and recovering addicts who need to get back into work and benefit from the routine and structure in the café and/or need to learn additional skills.

Other mentioned initiatives of giving back to the society are engagement with schools, giving to charity and paying taxes. Cases 6 and 9 engage with schools and teach children about food and nutrition as part of their social efforts. Cases 6 and 8 donate to charity. In case 8, this is a way of using by-products. For the overall climate in the vineyard, the organisation grows fruit trees around the vineyard. The crops from these trees are then given away to people in exchange for donations to charities. Further, the founder in case 8 describes that paying their taxes is of importance to them and part of their social responsibility. This shows that the ecopreneur in case 8 contradicts the corporate logic of regarding CSR initiatives as a substitute to paying taxes (Davis et al., 2016).

4.3.3.3 Social Performance Monitoring

In the literature on sustainable business practices the social dimension is less discussed than the ecological. This is mostly caused by the difficulty of measuring social performance and the resulting difficulties of evaluating socially sustainable business practices (Seuring & Müller, 2008). Interestingly, the participants in my study that engaged in external social sustainability created a breadth of performance measures to evaluate their practices. Since they also struggle with quantifying the outcomes of their actions, the organisations made a split in their performance monitoring. Instead of measuring the outcome of activities, they measure the extent to which the social activities take place. Performance indicators mentioned by my participants are: money spent on a social activity (case 10), number of volunteering hours provided (case 5, 9 & 10), number of people on the farm (case 9), number of school children coming in (case 10), and sales into disadvantaged areas (case 2). For internal social sustainability the organisation in case 5 also conducts diversity surveys. In addition to the quantifiable efforts towards social sustainability, the organisations capture the outcomes of the efforts in a qualitative way. For this the organisations go into a case by case evaluation. Case 10 examines the development of their volunteers and whether they achieve their developmental targets. Case 5 looks at the change within the beneficiaries in their attitudes towards food, for

example. The most structured approach was found in case 2, where the organisation develops a story bank to capture significant impact their social activity has had. This lets them evaluate and showcase the social performance of their activity. Through this split of performance monitoring the participants get to quantitatively assess how much they are working towards social sustainability and also what they are achieving in this area qualitatively. To date, the literature on sustainability performance monitoring in SMEs is virtually non-existent, so these insights could build the foundations of further research on this topic.

4.4 Trade-Offs

The last section of the study is going to examine the trade-offs the participants make when delivering their sustainability goals. There are three dominant trade-offs my participants mention: sustainability versus cost, size versus mission, and profit versus mission.

4.4.1 Sustainability versus cost

It appears that the fact that sustainably produced food is more expensive is common sense. From the analysis above, we can see that participants downstream of the supply chain willingly pay more for local and organic food to pursue their ecologic sustainability goals. At the same time, paying higher wages contributes to the social sustainability of the organisation. In these examples, sustainability increases the costs for the organisations. The opposite effect is achieved through the activities that reduce waste or offering volunteering opportunities. Here achieving ecological and social impact reduced the costs for the organisations. Further, the organic farmers in my cases reported they require fewer inputs from chemicals and feed they have to buy, which makes their farming cheaper than conventional intensive agriculture. This appears to be at odds with the perception of the downstream organisations, who report having to pay a mark-up for local and organic produce. The effect of sustainability on cost is thus not clear cut and appears to depend on the position in the supply chain and the nature of the venture.

The trade-offs for the organisations exist in multiple places. Reducing the cost of inputs is often not possible so as not to impede on the sustainability of the suppliers. At the same time, there is a limit to which the organisations can pass on the higher cost to the consumers through higher prices. If the product is aimed at low income groups, these will not be able to afford it. If selling the product is part of the ecological and social sustainability mission, a high price will limit its sales and thus the impact of the organisation. With a limit to prices and a higher cost, the organisations also face a threat to their economic sustainability, which is central to their survival and consequently a prerequisite for the organisations to fulfilling the other dimensions of their sustainability mission (Osterwalder & Pigneur, 2011). Further, for organisations who use their profits to fund social activities that are unrelated to their trading, lower profits will also impede on the impact the organisation can have through these (Battilana et al., 2015).

4.4.2 Size versus mission

All the organisations in my cases are micro or small businesses, with the highest number of paid employees being 24 in case 6. The small size limits the impact an organisation can deliver. The founder in case 11 describes that his farm is only able to supply about 600 households on a weekly basis at the current size of the farm. This would suggest that growing the farm would enable the organisation to provide more households with sustainably produced meat. At the same time the founder explains that growing too fast undermines their standards, as the meat would not be processed properly, and the quality would suffer. On the other side of the supply chain, case 2 aims at offering sustainability minded producers a route to market outside of the supermarket system. Here their small size limits the business they can give to each supplier and the total number of suppliers they are able to take on, which further supports a case for growth. The founder in case 7 describes growth as their main goal because it is essential to ensure competitiveness, which is needed to sustain the business, and with it, the mission. Overall, only the organisations in cases 6 and 8 made a conscious decision against growing their business. For the founder in case 6 growing further would have

meant losing touch to the employees and not being able to ensure employee well-being to the desired extent, which is integral to the organisation's mission. The founder expresses a view of "small is beautiful", which the other organisations don't subscribe to. It appears that organisations with a stronger focus on the social mission, especially with regards to their own employees, see increasing in size as at odds with their mission (Phillips, 2006; Battilana et al., 2015), but the more ecologically oriented organisations in my cases don't. Specifically, when the delivery of the ecological impact is the result of their trading activity, a larger size means more trading, which consequently means more impact. This shows there is no clear-cut way to manage this trade-off and the ecopreneurs' decisions depend on their mission and their organisational set-up.

4.4.3 Profit versus mission

As we have seen earlier, the motivation of ecopreneurs to start their businesses ranged from being value driven to being equally motivated by monetary goals. In the discussion of profitability, we have also seen that all organisations need to capture a revenue at least sufficient to cover their costs and sustain the organisation economically. From there two approaches to trading off profit for the mission exist, which depend on the method of delivering the mission. In cases where the organisation consists of a single venture that delivers its sustainability goals through the trading activity and the way it is run; the organisation sacrifices profit to be able to pay higher wages and above market prices to their suppliers. In these cases, increasing the mission delivery reduces the profits for the organisation.

In cases where the organisation is split into a business venture and a social venture, the organisation is creating profits in the business venture that can then be channelled into the social venture to fund further activities. Here increasing profits in the business venture increases the mission delivery in the social venture. This makes profits appear desirable. At the same time, however, the organisation has to be cautious not to run unsustainable business operations for the sake of profits, as this would violate the mission. In this way the trade-off between profit and mission is easier for organisations

with a simple organisational structure, where the costs can be increased to a point of just breaking even, compared to the organisations that need to maintain ecologic sustainability in the business venture, whilst also achieving positive returns to channel into the social venture. Common in both approaches to profit is that neither aims to pay out profits to shareholders, as we would see in conventional business ventures. The organisations' goal is thus not increasing shareholder value, but social and ecologic value. The profit for the ecopreneurs is a means of pursuing their sustainability mission, as opposed to using sustainability to pursue their profit mission, which is often seen as the motivation behind sustainability in conventional businesses (Tajbakhsh & Hassini, 2015).

4.5 Discussion

I started the chapter with an overview of the participants to the study. Each case was outlined using the business model canvas to highlight the specific workings of each organisations' business model. We saw that the organisations in this study are highly complex. They are characterised by multiple value propositions that they aim at a variety of beneficiary groups. These groups are found externally among customers and suppliers, as well as internally with the staff. The customers were frequently further segmented into subgroups and overlaps exist. These different value propositions and beneficiary groups are present to address different aspects of the organisations' missions. For the delivery of the different missions the organisations also had different organisational structures. Organisations 1, 3, 4, 5, 6, 7, 8 and 11 were shaped as traditional business ventures that delivered their mission through their trading activity. Organisation 2, 9 and 10 were split into a business venture and a social venture, where part of the mission was delivered through the trading activity and excess cash from the business venture was channelled into the social venture to fund further value led activities. The organisations have individual missions, but their goals show a common theme revolving around bringing change (Kearins, Collins & Tregidga, 2010). They aim to challenge the supermarket dominated system of food provisioning with an alternative system that focuses on improving the

social and ecologic environment. For this they sell organic and locally produced food and want to make this accessible to all members of society.

After introducing the organisations and outlining their goals, the main body of this study sought to examine the business practices that the organisations use to deliver their goals. Following the three dimensions of sustainability, as outlined in the triple bottom line, I examined the business practices with regards to economic, ecologic and social sustainability.

Starting with the economic dimension, I examined the revenue streams, main costs and the organisations' approaches to profitability. The organisations' revenue streams consist of the sale of products and services, grant funding and the sale of waste. When selling products, the participants applied target pricing, cost-plus and market-based pricing strategies. Their difficulty with setting the product prices stems from the challenge of capturing sufficient revenue to maintain their operations, but also keeping the products affordable to the various customer groups. The participants showed notions of cross-subsidising to keep prices low, by charging different prices according to purchasing power of their customers or using higher margins in some products to allow for lower margins in others. As an additional income stream, cases 2, 5, 9 and 11 also receive grant funding for their value led activities. This involves government funding for activities such as protecting biodiversity, delivering food aid and offering activities for people with support needs. To an extent, the social activities the organisations can offer are determined by the availability of this funding. The last income stream organisations can draw on is created through the sale of waste. Here the participants found ways to recycle waste, sell of by-products of their production, and process unsold perishable foods before they go off. These activities reduce the organisations' negative ecological impact whilst adding to the economic success.

From a cost perspective, the largest costs are human resources and the mark-up the organisations pay for local and organic produce. Human resources contribute to the costs significantly, because the organisations have strong social values and aim to avoid exploiting their employees. As part of their

social engagement we saw some organisations offering volunteering opportunities, especially to people with support needs, which furthers their social impact but also helps keep the cost down. The mark-up for organic and locally produced food increases the prices for the organisations that engage in retail and wholesale activity. They willingly pay this mark-up to distribute better food and ensure the economic sustainability of their suppliers. On the supply side, the engagement with organic production reduces the need for inputs like artificial fertilisers or GMO feed, which reduces the cost of production. Contrary to the literature (Kulak et al., 2015), the participants report no decline in yields from their organic production methods. However, the downstream side of the supply chain reported higher costs for organic produce, which highlights a mismatch of cost for organic between the two supply chain tiers. This mismatch appears to be the result of the different perspective the participants have on the cost of production. The producers only compare the resources needed in organic production to the resources needed in intensive agriculture and therefore find they incur lower costs. In this perspective, only the variable costs are compared and organic, due to fewer required input factors appears to be cheaper than intensive agriculture. The price for the downstream members, however, needs to cover the variable and fixed (i.e. rent, labour, machinery) costs of the venture. Because most organic production happens on a small scale, the fixed costs are not spread over a large output and the overall cost of organic production exceeds the cost of intensive agriculture (for a detailed examination of the cost-functions, see appendix F).

Balancing the revenues and costs is the challenge the organisations face to achieve profitability. Whilst none of the organisations follow a profit maximising logic, they all require capturing sufficient profits to sustain their operations and with them the delivery of their missions. Within this restraint the organisations are split into two approaches to profitability. The organisations structured solely as a business venture aim to achieve profitability that will let them make a living from the operations, but do not seek to pay out profits. This allows for the organisations to accept higher costs from buying better produce and paying higher wages, which will increase their

ecological and social impact. The organisations that also hold a social venture, face the challenge of achieving higher profits in their business venture to be able to fund the social activity. Here higher costs in the business venture pose a threat to the social engagement of the organisation (Battilana et al., 2015). In summary, we can see that the challenge of achieving economic sustainability in the context of ecopreneurial ventures under constraint of their values is striking a balance between setting prices that allow reaching all customer segments whilst covering the cost emerging from pursuing their ecologic and social mission.

Table 4-1 gives a summary of the practices employed by the organisations to achieve their economic sustainability. It lists the practices for each of the three areas, revenue streams, costs and profitability by naming the domain theme of each practice together with a description of the practice and the cases that engage in it. The table also summarises the existing literature on these practices. I have used the accounting literature (Bhimani et al., 1999; Proctor, 2012) to make sense of the ecopreneurs pricing strategies. This study adds to the food literature by uncovering ways through which ecopreneurs address consumers' budget constraints, highlighted by Brecard et al. (2009). In this context it also refutes the Holloway & Kneafsey (2000) criticism of food elites and presented ways ecopreneurs avoid mission drift found in hybrid ventures (Doherty, Haugh & Lyon, 2014). This study also provides examples of how ecopreneurs avoid food waste in the retail stage, which addresses Cicatiello et al.'s (2016) issues around food waste from unsold perishable products. Further, in the domain of hybrid ventures, my research provides evidence from ecopreneurs for Doherty, Haugh and Lyon's (2014) assertion that hybrid ventures rely on earned and unearned incomes. In contrast to the hybrid venture literature, my research shows that for the ecopreneurs in this study the social mission does not generate market revenues (Dohrmann, Raith & Siebold, 2015) but social activities are funded through grant funding and profits made in the organisations' business units. By combining ecopreneurship with the hybrid venture literature, this study adds to the discussion of whether entrepreneurship can be seen as dichotomous between commercial and social and present evidence in support of Williams and

Nadin's (2013) claim that this binary distinction is unjustified. This study further gives evidence of the ecopreneurship literature that suggests ecopreneurs aim not to maximise profit, but to just make a living (Dixon & Clifford, 2007; Kirkwood & Walton, 2010a; Phillips, 2012). My research expands these insights by showing the business practices in pursuit of competing goals that are the result of abolishing the profit maximising logic.

Dimension	Practice		Description	Cases	Literature
Revenue Steams	Sales of products and services	Target pricing	The organisation sets the prices in accordance to their customers purchasing power	2, 4, 5, 6, 10, 11	Bhimani et al. (1999); Bonney et al. (2013); Brecard et al. (2009); Doherty, Haugh & Lyon (2014); Holloway & Kneafsey (2000);
		Cost-plus pricing	The organisation sets the prices starting from their own cost and adding a mark-up	4, 6, 7, 9	
		Market pricing	The organisation sets the prices in accordance to their competitors	1, 6, 7, 10	
	Grant funding		The organisation receives external funding other than market revenues	2, 5, 6, 9, 11	Doherty, Haugh & Lyon (2014); Dohrmann, Raith & Siebold (2015)
	Sale of waste products		The organisation generates additional revenue through selling waste and by-products	3, 4, 8, 11	Ambec & Lanoie, (2008); Cicatiello et al. (2016); Dohrmann, Raith & Siebold (2015); Santos, Pache & Birkholz (2015); York, O'Neil & Saravathy (2016)
Costs	Human resources	Paying higher salaries	The organisation pays higher salaries to their employees in an effort of increasing social sustainability	4, 6	Barrientos & Reilly (2016); Parrish (2010); Smith et al (2012);
		Using volunteers	The organisation uses volunteers in an effort of keeping their cost down	2, 5, 9	
	Mark-Up for organic and local		The organisation pays a higher mark-up for organic and local produce	1, 3, 6, 9, 10, 11	Kirkwood & Walton (2010b); (Wiskerke, 2009)
Profitability	Sustaining mission		The organisation aims to capture sufficient profits to sustain their operations and with them the mission of the organisation	3, 4, 5, 6, 7, 9	Kirkwood & Walton (2010a); Proctor (2012); Williams & Nadin (2013)
	Making a living		The organisation aims to make enough profit so that every member can make a living of their income	1, 4, 6, 7, 8, 11	Dixon & Clifford (2007); Kirkwood & Walton (2010a); Phillips (2012)
	Channelling cash from business unit to value driven activities		The organisation aims to capture profits in their business unit in order to fund their value led activities with the access cash	2, 5, 9, 10	Doherty, Haugh & Lyon (2014); Smith et al. (2012)

Table 4-1: Achieving economic sustainability

The examination of practices in pursuit of ecologic sustainability included the creation and promotion of sustainable products, the handling of waste and fostering change. The dominant activity of all organisations to improve the ecologic environment is trading products with a low environmental impact. On the production side, this means producing crops and livestock organically, without the use of artificial fertilisers, pesticides, hormones, antibiotics and genetically modified organisms, which reduces pollution, soil degradation and the overall need for input factors that would increase the carbon footprint (Seyfang, 2007; Zsuzsa, 2012). Organisations 5 and 11 also chose their livestock from endangered breeds to protect biodiversity. On the retail side, the organisations trade products with a small ecologic footprint. Organic produce is always preferred, but not always available. Especially with small producers, the organic status can sometimes not be certified, but the organisations in my cases make an own evaluation of the production techniques and stock beneficial products, to help small sustainability minded businesses set up. Next to organic, the focus also lies on local produce, to reduce food miles and the detrimental effect of carbon emissions from transportation. To meet customers' demands, the organisations face a certain pressure to offer a variety of products with not all being fully sustainable. This may include imported produce in times when local produce is scarce. Where better alternatives exist, the organisations try and shift demand towards those through their pricing mechanisms.

The next effort for improving the ecological environment is reducing the organisations' waste. This is done by avoiding waste where possible and turning waste into value in other instances. To avoid waste the participants found ways to reduce packaging through reusing containers and offering loose products that customers can fill in their own containers. Food waste is reduced by creating demand for unsold products in the hospitality section of the organisations. These measures reduce the environmental impact of the organisation, whilst also minimising cost. The unavoidable waste includes by-products of the production and unavoidable packaging. The organisations found ways of turning the by-products into new resources to be sold. This way the input factors for production are spread over a larger output, which

leads to higher resource efficiency and lower environmental impact per unit produced. For the unavoidable packaging, the organisations found ways of recycling the products into their raw ingredients (for example, by pelletising plastic waste) that could then be sold off too. Whilst improving the environmental impact of the organisations, these measures also create additional income streams and contribute to the organisations' economic sustainability. The last area of practices, to enhance the ecologic environment, revolves around bringing change to the food sector. The organisations pursue this by pioneering new production and delivery methods as well as shaping the relationship consumers have with the environment. In terms of new methods, the organisations pioneer new low carbon transportation methods and develop farming techniques that are more resource efficient. To increase their impact, the organisations make their methods available to other firms and share their trail results online and through professional bodies. In addition to improving the ecologic impact of production and delivery, the organisations also aim at changing the consumers' behaviour towards sustainability. To achieve this, the organisations engage with the communities they are embedded in. They connect the consumers to the origin of their food through teaching initiatives, transparency and co-creating food with consumers. Through this they aim to raise awareness for the effort that goes into the food production and inspire more eco-conscious consumption. They also aim to create awareness for organic food in lower income classes, who often assume organic food to be unaffordable. Analogous to table 4-1 outlining the practices of economic sustainability, table 4-2 summarises the practices employed to achieve ecologic sustainability and the existing literature on this dimension.

This study adds to the literature on entrepreneurial discovery (Kirzner, 1997) in a sustainability context by presenting business practices that ecopreneurs use to address market failures with regards to sustainability (Dean & McMullen, 2007). It further adds to the Schumpeterian entrepreneurship literature on sustainable development by uncovering ecopreneurial practices that mitigate environmental degradation through new resources and process innovation (Drucker, 2007), which further supports Cohen and Winn's (2007)

concept of sustainability driven entrepreneurship. By showing the links between improvements of ecologic and economic performance, the study gives examples for practices that help businesses achieve win-win scenarios of sustainability (Brandenburg & Rebs, 2015). Linking the actions of ecopreneurs in the food industry to the general entrepreneurship literature, the study provides support for Migliore et al.'s (2015) assessment that participants in AFNs can be regarded as social entrepreneurs. It further contributes to the AFN literature by presenting the practices that ecopreneurs use to change consumption patterns and improve production techniques to increase sustainability, which are mentioned as the main goals of AFNs (Kulak et al., 2015; Quaye et al., 2010; Seyfang, 2007). Combining the traditional concepts of entrepreneurship with the ideas of ecopreneurship and AFNs and supporting these with business practices, this study presents the practices that enable ecopreneurs to work as change agents for sustainability (Kearins, Collins & Tregidga, 2010).

Dimension	Practice	Description	Cases	Literature
Sustainable products	Organic production	The organisation produces organic livestock and crops	5, 8, 9, 11	Cohen & Winn (2007); Dean & McMullen (2007); Kirzner (1997); Seyfang (2007) ; Zsuzsa (2012)
	Distribution of local and organic produce	The organisation distributes products with a strong focus on organically and locally produced meat and produce	1, 2, 3, 7, 9, 10	
Waste	Avoiding waste	The organisation has measures in place that reduce waste from their operations	1, 2, 3, 9, 10	Ambec & Lanoie (2008); Cohen & Winn (2007); Cicatiello et al. (2016); Dean & McMullen (2007); Drucker (2007); Mena et al. (2014); Migliore et al. (2015)
	Turning waste into value	The organisation finds value for by-products and recycled waste and sells these off	3, 4, 10, 11	
Change	Eco-Innovation	The organisation develops and pioneers new more sustainable methods	2, 5, 6	Drucker (2007); Kearins, Collins & Tregidga (2010); Pastakia (1998); Quaye et al. (2010); Seyfang (2007);
	Shaping the ecologic-human relationship	The organisation aims to alter society's relationship with nature and the resulting consumption behaviour	2, 5, 9, 10	

Table 4-2: Achieving ecologic sustainability

To examine the dimension of social sustainability, I have split it into internal and external social sustainability. The internal sustainability deals with the practices around sustainable treatment of employees. To treat their employees sustainably, the organisations aim to provide fair and enjoyable working conditions. This includes recognising the employees' strengths and developing them in the areas they are best at. Further, the organisations pay their employees the highest possible wages to make up for hard working conditions. This increases the costs of the organisations and eats into their profitability but improves their social sustainability performance. Further, the organisations foster employee well-being and are mindful of their employees' mental health through training and support systems. Overall, employees were seen more as part of the social mission than merely a resource to be managed.

The efforts of increasing the external social sustainability addresses two overlapping beneficiary groups. The organisations want to give back to the society they are embedded in by creating spaces for social interaction, teaching people food skills and making good food accessible to all social classes. Additionally, the organisations offer special support to disadvantaged members of the community. These efforts include food aid, offering space for people with various support needs and volunteering opportunities to develop skills and getting people back into work. Other social activities include engagement with schools and giving to charity. Apart from the volunteering opportunities, the social activities increase the costs for the organisations, although some activities are being supported through grant funding, depending on the beneficiary group. The grant funding further contributes to the income streams. Table 4-3 again summarises the business practices through which ecopreneurs pursue their social sustainability goals. Comparing the column on existing literature with tables 4-1 and 4-2 again highlights that social sustainability is the least developed of the three sustainability dimensions.

This study expands the hybrid venture literature by introducing the ecopreneurial venture and their approaches to the social mission. Here it presents practices through which ecopreneurs develop employees and pay fair

wages, which is in contrast to Doherty, Haugh and Lyon's (2014) finding that social ventures are not able to do so. In support of their findings, however, my research also presents non-monetary reward systems that ecopreneurs and social enterprises use equally. It further adds to the social enterprise (Haugh, 2006) and AFN literature (Cembalo et al., 2015; Robbins, 2015) by providing evidence of the practices ecopreneurs use to embed their ventures in their communities and foster social interaction. This study also shows how this addresses the market failure of information asymmetries (Kirzner, 1997) and thus adds to the general entrepreneurship literature.

Dimension	Practice	Description	Cases	Literature
Treatment of employees	Fair and enjoyable working conditions	The organisation aims at creating enjoyable working conditions that develop employee skills and pay fair wages	4, 6	Doherty, Haugh & Lyon (2014)
	Fostering employee well-being	The organisation puts measures in place that monitor mental health, reduce stress and foster well-being	5, 9, 10	Doherty, Haugh & Lyon (2014), Dohrmann, Raith & Siebold, 2015)
Giving back to society	Fostering social interaction	The organisation creates space for social exchange and drawing their local community closer together	3, 5, 6, 9, 10, 11	Cembalo et al. (2015); Davis et al. (2016); Haugh (2006)
	Supporting disadvantaged members of the local community	The organisation creates a community for disadvantaged people that offers support beyond the immediate help from their social activities	2, 5, 9, 10	

Table 4-3: Achieving social sustainability

From this examination of business practices, we can see that the organisations are facing a multitude of considerations about how to reach their multiple organisational goals, with some practices simultaneously contributing to several dimensions of sustainability, whilst others contribute to one dimension, but impede on another. I have summarised the different effects in figure 4-12, to visualise the complexity of managing different domains of the organisation and their effects on the three sustainability dimensions.

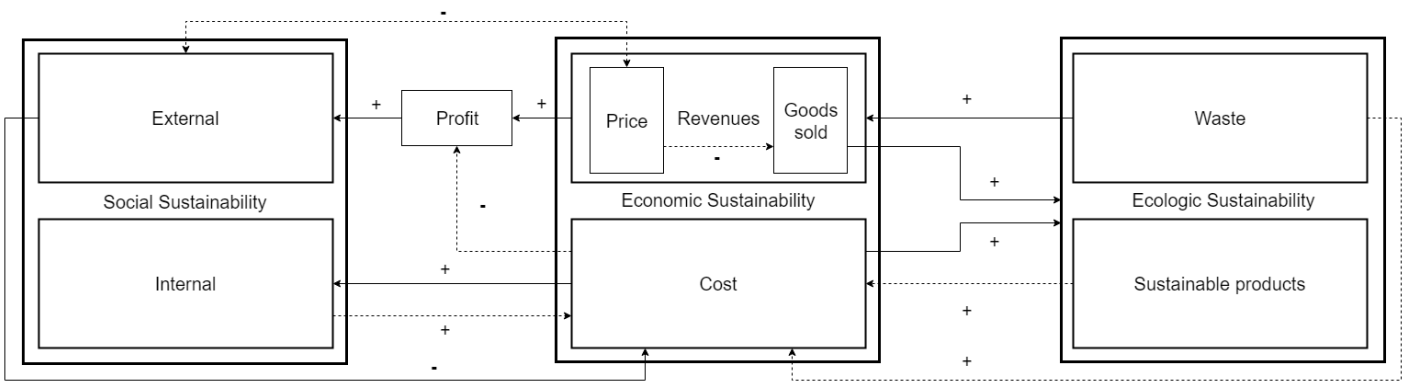


Figure 4-12: The complexity of ecopreneurial ventures

The figure is separated into the three domains of sustainability and the factors contributing to each of them. The arrows display the relationship between the different domains and are annotated with a symbol signalling the direction of the relationship. A plus signals a positive association between domains, meaning an increase in the effecting domain leads to an increase in the effected domain and vice versa. A minus signals a negative association, meaning an increase in the effecting domain leads to a decrease in the effected domain and vice versa. The dashing of the arrows indicates the impact a relationship has on achieving the sustainability goals. A solid arrow indicates a relationship that contributes to fulfilling the organisations' goals. A dashed arrow indicates a relationship that impedes on the goal fulfilment.

Starting with the trading activity, we can see that price has a negative relationship with the goods sold, as a higher price leads to fewer sales. Since the organisations aim to increase ecologic sustainability through their sale of goods, we have a positive relationship between goods sold and ecologic sustainability, which means the negative relationship between price and

goods sold is impeding on the goal fulfilment of the organisations, as indicated by the dashed arrow. Further, the price has a negative relationship with external social sustainability, because the organisations aim to provide good food to low income customer groups. Increasing the price will thus hinder the organisations from fulfilling this goal. At the same time wanting to increase the external sustainability means reducing the price, which is indicated through the double-sided dashed arrow. Overall, higher prices and goods sold both increase the revenue, which positively influences the profit of the organisation. This relationship supports fulfilling the organisations goals, because it sustains the organisation economically and profits are being used to increase social activity, as indicated by the solid positive arrow between social sustainability and profit.

Looking at the cost side of economic sustainability, we can see that the costs are increased by both the internal social sustainability as a result of higher wages, and the sustainable products through the mark-up for organic and local produce. These relationships are indicated by the dashed arrows, as they impede on the economic sustainability of the organisation. Further, the increased costs diminish the profits which can be invested into social activity, thus further hindering the organisations' goal fulfilment. The profit, as the result of economic sustainability, is located between the two dimensions to signal that it is channelled into external social sustainability. Whilst lowering the profit that can be invested, an increase in costs increases social and ecological sustainability by increasing employee well-being and creating demand for sustainably produced goods. As part of the organisations' efforts to increase social sustainability, the volunteering opportunities also decrease the cost for the organisation, which is indicated through the solid negative arrow. Here an increase in social sustainability aids the fulfilment of goals, because it reduces the costs and with them the negative impact on the profit and economic sustainability. Similarly, the avoidance and sale of waste is beneficial for achieving the organisations' goals, because it reduces the organisations' costs and adds to the revenue, both of which positively impact the profit and thus increase economic sustainability and the capability of the organisations to increase their social activity. This shows us the complexity

of considerations ecopreneurs face, when choosing their business practices to simultaneously fulfil their multiple sustainability goals.

Starting with the premise that ecopreneurs create ventures to drive sustainable development through exploiting economic opportunities that correct the market's failure to achieve sustainability (Dean & McMullen, 2007) and creating innovation that mitigates environmental degradation (Dixon & Clifford, 2007), I conducted this study to investigate how ecopreneurs achieve their sustainability goals through their business practices. I located this study within the food industry, where ecopreneurship is believed to solve current issues around environmental degradation and social exploitation (Bonney, Collins & Miles, 2013; Pastakia, 1998). For this I investigated a sample of AFNs that are believed to be ecopreneurial in their actions (Filippi, 2014; Follett, 2009; Migliore et al., 2015; Wiskerke, 2009) and examined their business practices with regards to the three dimensions of sustainability. For an understanding of the organisations' goals and workings, I drew from the literature on AFNs and hybrid organisations, which are organisations that span multiple organisational forms (Battilana et al., 2015) and hold multiple, often contradictory goals (Smith et al., 2012). The ecopreneurship literature tells us that ecopreneurs pursue economic, ecologic and social goals simultaneously (Dixon & Clifford, 2007). Parrish (2010) asserted that in contrast to commercially driven entrepreneurs, ecopreneurs use their ventures and the resulting profits as a means to pursuing sustainability rather than seeing sustainability as a means to pursue profits. This study has contributed to the literature by showing how the ecopreneurs do this. We saw that ecopreneurs distribute products with a higher sustainability even if that means sacrificing profits through higher costs or lower prices. The ecopreneurs also find ways of turning waste and by-products into value and thus increasing the resource utilisation, which distributes the environmental impact of the products over a larger output, thus reducing the required inputs for each unit. While this might not be unique to the organisations in this study, it is a feature of ecopreneurship that I will elaborate further on in the discussion chapter. Further, the ecopreneurs approach their production in holistic ways that respect the ecosystem within their farms, but also their

social context where they co-create products with the beneficiaries of their actions and include the local community into the production process. These insights deepen our understanding of ecopreneurship by adding to the literature the business practices that deliver an aligned logic (DiVito & Bohnsack, 2017) of pursuing all three dimensions of sustainability simultaneously.

The AFN literature proposes goals of AFNs to also address social and ecological problems (Conto et al., 2014; Fleischman & Craig, 2015). These are proposed to be tackled by shifting the food system away from industrial production to re-localised food systems (Quaye et al., 2010) that pursue environmental protection and connect consumers and producers locally (Migliore et al., 2015). This study contributes to this field by showing examples of organic production, creating demand for sustainable products, ways of fostering consumer engagement with food, educating consumers and making sustainable food accessible to all members of society. Further, the study has uncovered business models of AFNs and the organisational structures they employ to fulfil their goals. These insights thus enrich the AFN literature, which has looked at the changes AFNs bring from a macro level perspective through an understanding of how the changes are pursued on a firm level.

The hybrid venture literature gives some indication of how organisations in pursuit of contradicting goals are managed, but it makes a distinction between social enterprises (Barrientos & Reilly, 2016; Battilana et al., 2015; Doherty, Haugh & Lyon, 2014; Dohrmann, Raith & Siebold, 2015; Santos, Pache & Birkholz, 2015; Smith et al., 2012) and environmental enterprises (York, O'Neil & Sarasvathy, 2016), with the latter far less developed in the literature. This study contributes to the field of hybrid organisations by introducing the ecopreneurial venture that bridges the distinction between social and environmental enterprises. In this area it shows the similarities and dissimilarities of ecopreneurial business practices to the known practices of social and environmental hybrid ventures. In addition to the description of business practices, this study also highlights the tensions and trade-offs between the different practices in the three domains of sustainability, which

highlight some of the challenges ecopreneurs face when pursuing the sustainability goals. These trade-offs add to the literature that already knows the ecologic-economic (York, O'Neil & Sarasvathy, 2016) and social-economic trade-offs (Battilana et al., 2015) by linking the social and ecologic sustainability through the economic dimension in the conceptual model in figure 4-12. Due to the complexity of the sustainability issues, there is no single answer of how to manage these challenges and the presented practices offer a variety of approaches that each venture will have to combine in a way that fits their specific requirements.

This study has given us a deep understanding of the workings of ecopreneurial ventures on a firm level, but some questions remain open. As I have shown earlier, the sustainability of a firm cannot be fully understood without considering the supply chain it is embedded in. In this examination there are some indications of how the participants try to pursue their mission over several tiers of their supply chains through collaboration and creating routes to market for similarly minded producers. We also have seen that there appears to be a mismatch between the cost of organic products along the different tiers of the supply chain, which raises the question how the value is distributed throughout supply chains. For an understanding of how ecopreneurs deliver their sustainability mission through the supply chain, we thus need an investigation of their practices on a supply chain level, which will be examined in the next chapter. Building on the insights from both studies, in the discussion chapter I will revisit the trade-offs faced by the ecopreneurs on a firm and supply chain level. I will show the interconnectedness of the trade-offs within and across organisations and discuss of how this impacts the management of sustainability tensions.

Chapter 5: An examination of ecopreneurial practices in a supply network context

As discussed in the literature review, sustainability is an issue that exceeds the impact of any single firm (Ahi & Searcy, 2015; Genovese et al., 2013) and needs to be addressed with a holistic view beyond organisational bounds and towards the entire supply chain (Isaksson, Johansson & Fischer, 2010; Mena et al., 2014). Therefore, my second study applies a nested case study approach (Patton, 2002) that examines the business practices of the food organisations who participated in my research, through a supply chain lens in order to answer the second research question:

"How do ecopreneurs' supply chain practices impact the fulfilment of their sustainability goals?"

Speaking of supply chains in the context of this sample, however, is inaccurate. The participants in my study are a set of small companies that often use multiple supply and distribution channels and individually span across multiple supply chain tiers. This results in a complex structure of value creation which is more accurately described as a supply network (Malindretos, Tsiboukas & Argyropoulou-Konstantaki, 2016; Isaksson, Johansson & Fischer, 2010). However, the complexity of the network structure poses several challenges to the analysis, which determines the approach I take to analysing the supply network. In the following section I will therefore highlight these challenges and show how they impact my approach.

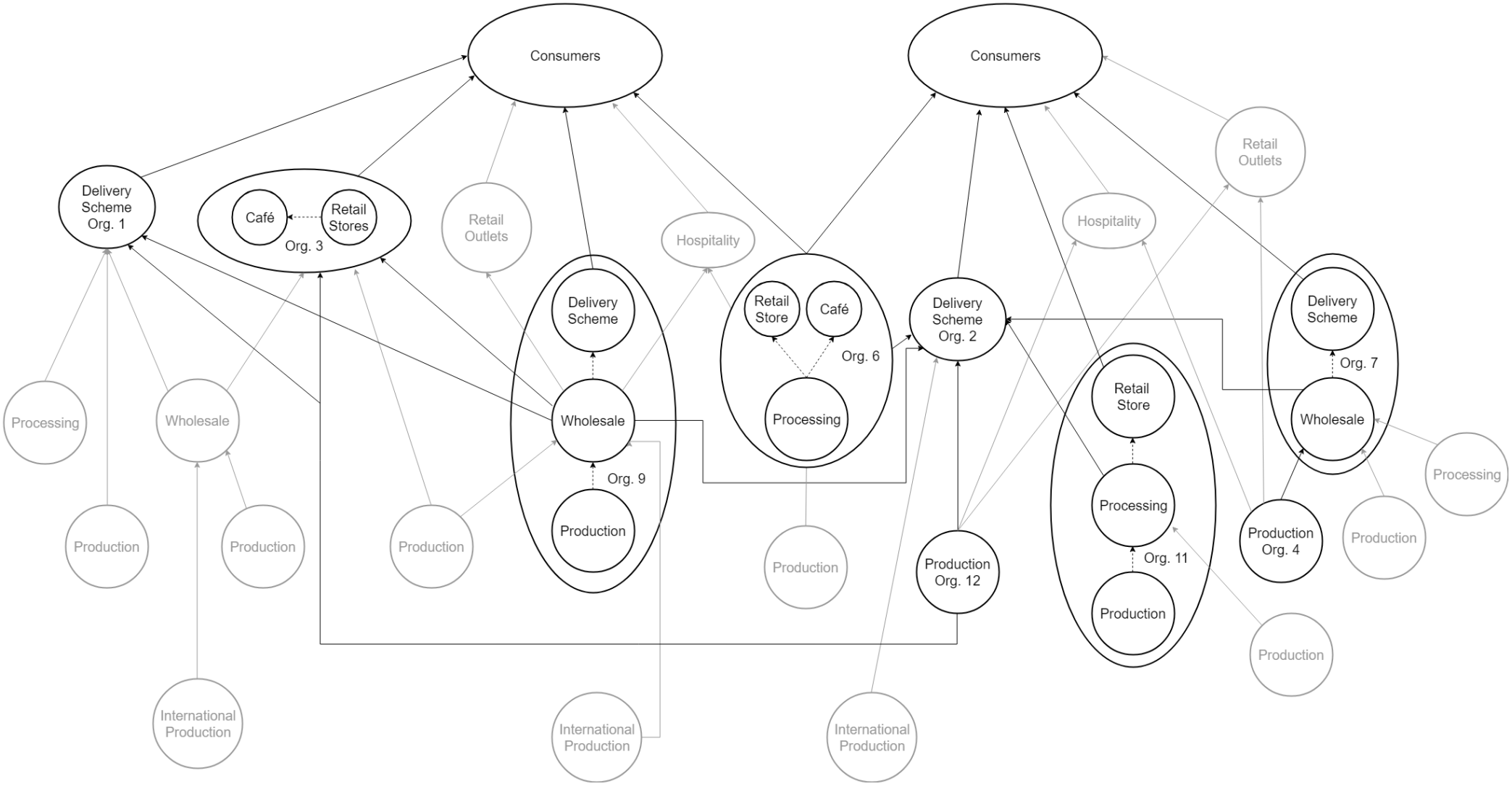


Figure 5-1: Food supply network structure

The participants in my research can be portrayed through the supply network shown in figure 5-1. The black elements in the network map are organisations who participated in my research and from whom primary data has been collected. The grey elements are other members of the supply network on whom no primary data has been collected, but whose existence and position in the network emerged from the data on the participants. For a simplification of the map, the grey elements have been abstracted and, where possible, clustered into single nodes that represent multiple players with a similar setup. The retail outlets, for example, constitute a multitude of farm shops, greengrocers and delivery schemes who are supplied by the organisations, but who did not participate in the research. The relationships to these types of organisations can be exemplified through the relationship of organisation 9 with organisations 1 and 3, who represent these types of supply network members. The same holds for the other grey nodes in the network.

The theoretical sampling approach has resulted in a network that contains at least one example organisation from each type of supply network member, apart from the international production. No producer from abroad was sampled, because the study was geographically bound to the South West of the UK. We can see that a multitude of organisations span several supply chain tiers, as well as running dual operations on the same tier, which means the products flow through multiple channels downstream to reach the consumer. In organisation 11 for example, the farmer rears their own animals and does the butchery of these. Additionally, they also offer this service to other farms and sell their own and the third-party meat in their own retail store. The organisation therefore spans the production, processing and retail tiers of the supply chain. Parallel to selling through the retail store, organisation 11 also sells their meat through delivery schemes (as in organisation 2), which constitutes a second route to the customer. We can thus see that several parallel supply chains exist, which are interconnected on various tiers of the chain. This links them up into a network.

Another striking feature of this supply network compared to traditional supply chains, is the lack of a focal firm. Many studies within the supply chain

management literature recognise the existence of a focal firm that takes on a supply chain leadership position (Defee, Esper & Mollenkopf, 2009; Marshall et al., 2015b). The focal firm is characterised by a size and power advantage (Lee, 2016), which enables it to exert considerable influence over the design and features of products and services as well as the supply chain setup (Frostenson & Prenkert, 2015). Further, the focal firm is considered to be a driving force of sustainable development within supply chains for its ability to monitor, govern and influence its suppliers (Hall, Matos & Silvestre, 2012; Marshall et al., 2015b; Seuring & Müller, 2008). The flow of power from the focal firm towards its suppliers stems from the purchasing power of the focal firm and the importance of the focal firm's business for their comparatively small suppliers. Therefore, the focal firm is often assumed to be at the downstream end of the supply chain (Frostenson & Prenkert, 2015).

We can see that this is not the case in our networks for several reasons. For one, there is no clear end to the supply chain, as each member sources from a variety of suppliers and distributes through a multitude of channels. The small size of the organisations and the network structure further mean that most ventures do not have a significant power advantage over their suppliers or distributors (Cholette et al., 2014; Kirkwood & Walton, 2010b). Organisations 3, 7 and 9 are slightly larger than other players in the network. However, they sit at different positions of the supply "chain", which refutes the idea of an end of chain entity as focal firm. The lack of a focal firm then means there is no single driving force for sustainable development within the supply network, but rather all members will have to work towards sustainability through joint and collaborative approaches (Defee, Esper & Mollenkopf, 2009). Consequently, to understand this setup I will have to look at the interaction of different supply network members throughout the network.

Another challenge brought on by the network structure is that the supply network looks different for each member, since each organisation can only relate and interact with organisations within its own network horizon (Frostenson & Prenkert, 2015). That means the shape of the network and the

results of my analysis differ with whichever firm is currently the focus of my analysis. Here, the distinction between having a firm as the analytical focus and the focal firm as a dominant player within a supply chain has to be noted because, in contrast to other SCM studies, the two are not the same in this piece of research. The firm in the analytical focus for this analysis merely determines the direction we are looking at the supply chain from (up- or downstream) and the relationships to other members that we investigate. This differentiation becomes evident when we look at the following two figures exemplifying the up- and downstream perspectives of the supply chain.

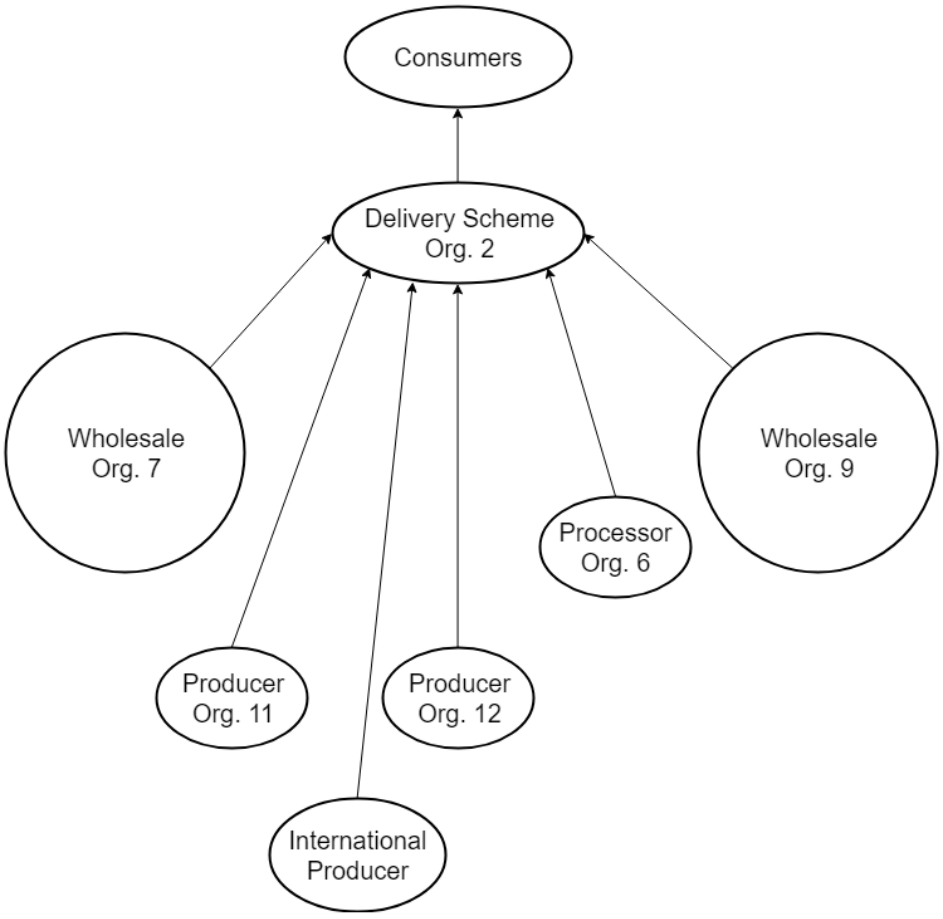


Figure 5-2: Upstream view of supply network

If we take organisation 2 as an example of a retail side organisation and make it the focal point of our analysis, mapping their supply chain upstream results in the funnel shaped picture seen in figure 5-2. The organisation sources large parts of their products from two wholesalers (organisations 7 and 9) and complements these with products from a select few local producers (organisations 6, 11 and 12), as well as an international producer. This

broadly reflects the supply chain setup found in mainstream food chains (Yakovleva, 2007). The producers that organisation 7 sources from, the retail outlets of organisations 6 and 9, and the producers organisation 11 sources from, however, remain hidden, as they are not within the horizon of the organisation's supply network. Also, other retailers engaging with the suppliers of organisation 2 are not visible. Further, from the interviews it became evident that organisation 2 does not provide sufficient business to any of the suppliers to gain influence over them as a result of their purchasing power. Organisation 2 can thus not be regarded as a focal firm in the supply chain. From this perspective, we have an incomplete picture of the supply network and cannot identify all drivers of sustainability as power is not aggregated in a focal firm and we cannot see the remaining supply network partners.

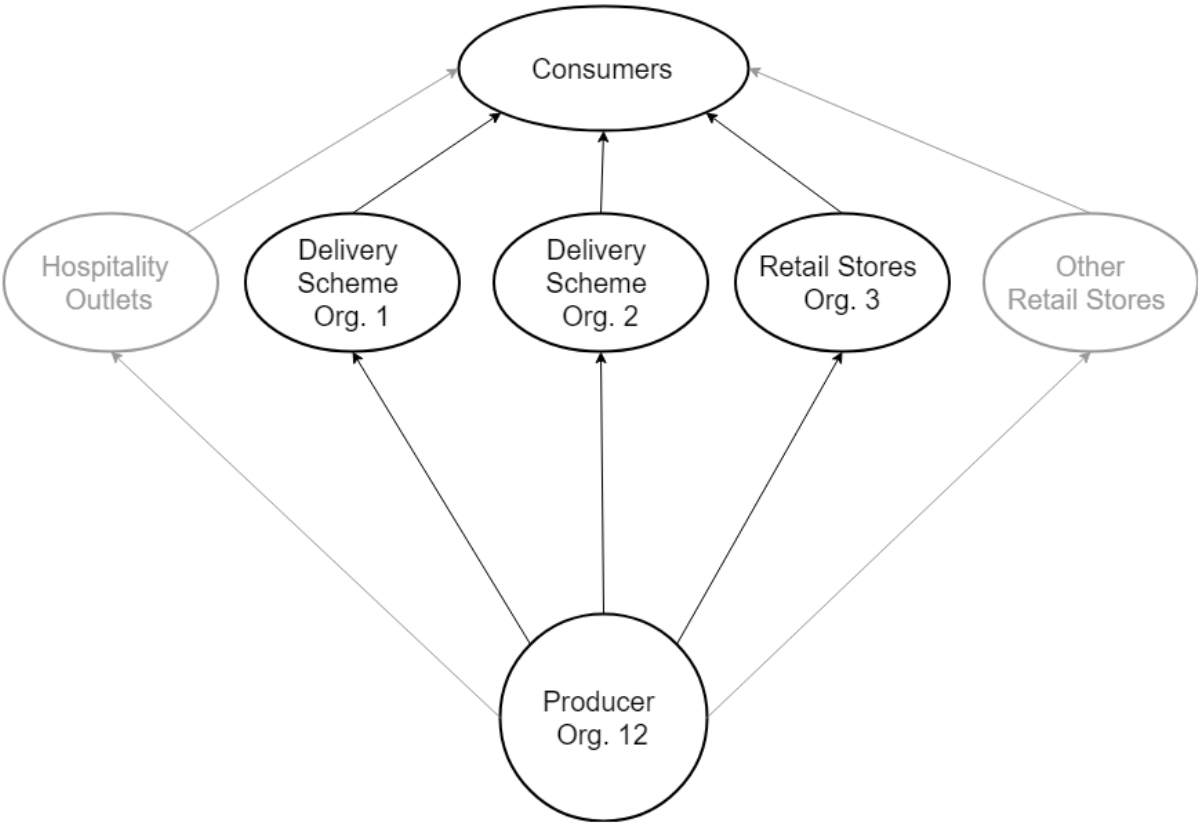


Figure 5-3: Downstream view of supply network

In contrast, if we go to the producer side of the supply network and use organisation 12 as the focal point of our analysis, we can map the network looking downstream resulting in the map shown in figure 5-3. This gives us a

different perspective that complements the picture with the other retail outlets next to organisation 2, which remain hidden in figure 5-2. Again, this draws an incomplete picture of the supply network. The other producers, as well as the wholesale and processing stage of the network, remain invisible from this perspective. Further, organisation 12 also has no size advantage over the other players that would support a focal firm assumption, justifying analysing organisation 12 as the sole driving force behind sustainable development within the food supply network. If we were to overlap figure 5-2 and 5-3, we would create an image close to the network map shown in figure 5-1, which would give us a more comprehensive picture of the supply network, but also confronts us with a complexity that hinders us from conducting a meaningful analysis. Considering that a model portraying every element of reality simultaneously is as useful as a map in the scale 1:1 (Manson et al., 2017), I will break down the supply network into smaller components to create an understanding of how ecopreneurs drive sustainability within their supply chains. To account for the different organisational shapes, sizes, and power relations, the analytical focus will move between the different actors in the supply network and examine their decision making with regards to their supply chain practices. The insights will be highlighted by exemplifying quotes from the individual organisations.

Given that the direction from which we look at the supply network determines the visibility of actors and thus the insights we can gain from the analysis, this study takes the following structure. I start with a downstream examination of distribution channels in the network. This examines the types of distribution channels and the selection criteria ecopreneurs apply when choosing these. Following the downstream examination, I apply an upstream perspective of the suppliers in the network and the selection criteria ecopreneurs employ when sourcing products. The examinations from these two perspectives give us an overview of the relationships between the different members of the supply network and an understanding of how they come into play. This builds the necessary foundation for the third section of this study, in which I examine how ecopreneurs drive sustainability in their supply

network. This stepwise analysis creates a deep understanding of the setup and decision making within ecopreneurial supply networks.

5.1 Distribution

This section examines the distribution channels ecopreneurs employ to move their products downstream through the supply network. First, I provide an overview of the different types of distribution channels found in the ecopreneurial supply network, followed by an examination of selection criteria that ecopreneurs apply when choosing their distribution channels.

5.1.1 Types of distribution channels

The distribution channels found in the ecopreneurial supply network can be clustered into: delivery schemes/self-distribution; online ordering; retailers; hospitality; and wholesaler, which, apart from the latter, build a direct connection to the consumer.

5.1.1.1 Delivery schemes

Delivery schemes are a common part of AFNs (Robbins, 2015; Seyfang, 2007). They all follow a principle where the customers place their orders for standardised and customised food boxes online before a deadline every week (typically Monday or Tuesday). The products are then delivered to them later the same week. With the exception of organisation 2, the delivery schemes bring the products to the consumers' houses. Organisation 2, which aims to bring good food into disadvantaged areas of the city, instead delivers the products to collection points throughout Bristol, where the consumers pick up their orders. Through this setup, organisation 2 does not reduce the number of individual household trips to the point of sale, which Wiskere (2009) highlights as an important step in reducing carbon emissions in the food sector. Unless the consumers avoid travelling to the collection points by car, delivery to the consumers' houses will lead to a reduced carbon footprint per unit of food acquired by the consumer. This is due to the higher fill rates of delivery vehicles compared to private cars, which results in higher utilisation and therefore greater fuel efficiency (Danloup et al., 2015).

Organisations 1 and 2 act exclusively as delivery schemes and sell straight to the consumer. Organisation 7 spans two supply chain tiers. They act mainly as a delivery scheme, but also sell to wholesale customers. The latter, however, only make up 2% of their overall sales and are of minor importance to the organisation. These three organisations have no own production and thus work exclusively as distribution channels for other members of the supply network. In contrast, organisation 9 operates a delivery scheme which sells their own and third-party produce. This will be further investigated in the upstream examination of the supply network.

For organisation 11, whose production is located in the countryside, delivery schemes are an effective way of bringing the products into the city, but they note the limitations of these schemes which arise from a lack of control over the demand.

> *"So, we have started to use [delivery scheme A], but they haven't been brilliant. There's a lot of potential in [delivery scheme A] and [delivery scheme B] and these sort of things. Em, but it— the trouble is, you have no control, do you? You just have to wait for them…" – Organisation 11*

Similarly, organisation 12 have tried three different delivery schemes, but stopped their cooperation with two of them because they were not perceived as practical by the organisation. While the organisations who work as delivery schemes felt they were helping new food businesses start-up and provide a route to market, the proportion of revenue they deliver appears to be minor to the producers within the supply network.

> *"The first two we stopped, for practicality reasons or quantity reasons. We continue to sell through [delivery scheme B] … We're listed, but we sell less than 1% of our produce through them." – Organisation 12*

This might change in the future, as organisation 6 reported growing engagement with delivery schemes. They see delivery schemes as a growing phenomenon in the market that is driven by increased online food shopping.

5.1.1.2 Online ordering

As another online-based distribution channel, organisations 4, 8 and 11 report selling directly through their online shops. This differs from the delivery schemes, as the ordering process does not follow a weekly cycle, but customers can place the orders anytime and deliveries will be made on demand. To date, this form of delivery has not been mentioned in the AFN literature, but plays into the goals of AFNs, as the direct distribution to the consumer shortens the supply chain with regard to the number of intermediaries (Robbins, 2015). Organisation 4 delivers the online orders through a third-party shipping company, which is also the case for non-local orders of organisation 8. For local orders, organisations 8 and 11 deliver themselves within a restricted order radius, which geographically shortens the supply chain (Sini, 2014). As mentioned in the supply chain management literature, the shorter transportation distances are associated with reduced carbon footprints and thus are seen as mitigating environmental degradation (Curtis, 2003; Frankova & Johanisova, 2012). However, some studies find that transportation makes only a small proportion of the greenhouse gas emission and the means of production are more influential to the carbon footprint of food (Theurl, Haberl & Lindenthal, 2014). Thus, for a meaningful evaluation of sustainability, we will have to consider the sourcing applied by the ecopreneurs, which I examine in the second half of this study. In contrast to the environmental impact, the following quote highlights the social impact of the deliveries.

> *"And I wouldn't really want to be without that either. You know it is a— I could easily pay somebody else to do [the delivery], but I would sort of miss it, you know, somehow." – Organisation 11*

The participant describes valuing the deliveries for the social exchange and the connection to the consumer, a notion also reported by the founder of organisation 1. For local orders, this very much corresponds to the work of AFNs that re-socialise food (Sonnino & Marsden, 2006; Watts, Ilbery & Maye,

2005) and strengthen the connection between producers and consumers (Seyfang, 2007).

5.1.1.3 Retailers

The AFN literature mostly mentions farm shops as types of retail stores within AFNs (Rickett Hein, Ilbery & Kneasfsey, 2006). Organisation 3 exemplifies an organisation, operating three retail stores with a mission to distribute organic and local products. Their size and setup are closer to an ethical supermarket than a farm shop, but their mission places them within the domain of AFNs. For organisation 9 and a handful of other small producers, the retail stores of organisation 3 provide an opportunity to distribute their produce in Bristol. Their age and size make them a reliable trading partner who provide a stable income source for small and new food ventures. The importance of a stable income source from large retail partners is also reported by organisations 4 and 8, who in addition to selling through a number of greengrocers and farm shops, are each listed with one of the big four supermarket chains.

> *"One of the big breakthroughs was one of the trade shows. The [supermarket chain] buyers came through and they signed up and I've been supplying them since 2000" – Organisation 8*

In addition to the revenue stream, the participants also stated that supplying a large supermarket chain gives their brand an increased credibility that is beneficial for further trade deals. This is a somewhat surprising finding, as the ecopreneurs cross the boundary into the mainstream system of food provision by trading with businesses that do not reflect their own values. It could be argued that the participants are sacrificing their ecologic and social sustainability goals for financial sustainability, which is an indication of mission drift within these organisations (Doherty, Haugh & Lyon, 2014). However, seeing that the participants sell directly through the supermarkets without intermediaries, they fulfil the AFN goals of shortening the supply chain and manage to accrue a fairer share of the profits, which stabilises farm income, as I have discussed in the literature review (Seyfang, 2007; Sonnino & Marsden, 2006). In this regard, the participants still work towards the goals of AFNs and could simultaneously be seen as influencing the mainstream food

system by increasing the sustainability of its products, which constitutes an inherently Schumpeterian act of ecopreneurship (Hansen & Schaltegger, 2013).

A different approach is found in organisations who span multiple tiers of the supply network. Organisations 6 and 11 operate own retail stores in addition to their production and processing operations. At the time of data collection, opening a farm shop was also planned by organisation 9 and, according to their website, this has now been realised. As discussed in the firm level analysis, for organisation 11, the operation of an own retail store means independence from supermarkets, who rate the quality of indigenous breed's meat lower due to higher fat levels. This breed, however, is reared by organisation 11 to sustain biodiversity. Through their own retail operations, the organisations can thus sell their meat at a fair price, whilst also offering other organic meat producers a route to market. The operation of an own retail store therefore contributes to the economic sustainability that would otherwise suffer from the ecological sustainability choices made by organisation 11. Additionally, the store, as a physical point in the community, offers engagement with the local community. Organisation 11 values this interaction and for organisation 6 this was integral to the decision of opening a retail store.

> *"I wanted, or I want to basically provide a service in the community. […] It was doing something that I would enjoy that was fulfilling and that I felt as though I was kind of contributing. So, I live in this area and I wanted to be local to where I live." – Organisation 6*

As we have seen earlier, both organisations sell through delivery schemes, but their retail stores are of great importance to them as a means of embedding their organisation within their local community. The embeddedness of the organisations' retail operations plays into achieving AFNs' goals, by creating local jobs, fostering producer and consumer communication and improving social wellbeing in the area (Conto et al., 2014; Migliore et al., 2015; Roep & Wiskerke, 2012).

5.1.1.4 Hospitality

The regional social and economic benefits from operating a retail store in an AFN also hold for the operations of a hospitality outlet. Organisations 3 and 6 represent organisations who run cafés in addition to their other operations. In their cafés, own products as well as third-party products are sold. In addition to the community aspects and the additional income stream, the cafés also help minimise food waste from other areas of the organisation, as I discussed in the firm level analysis. Along with the sales through their own café, organisation 6 also sells their produce through third-party cafés and restaurants, which differs to their retail distribution that is exclusively achieved through their own store. Third-party hospitality outlets also play an important role for organisations where no own retail or hospitality outlet is run.

> *"About half of [the produce] goes through retail channel or channels, different customers; and the other half we sell directly to restaurants." – Organisation 12*

This quote reflects the importance of retail and hospitality outlets in the distribution channels of all organisations that don't operate as delivery schemes. For producers, hospitality makes up large parts of their revenue and when the producer is named on the menu, it also creates marketing value, which I will discuss further in the collaborative supply chain approaches. The participants usually deliver to the hospitality partners themselves by electric bikes (in organisations 6 and 12), to keep the carbon emissions low. Considering the importance of hospitality to the producers in the supply networks, it is interesting to find that hospitality has received little to no recognition in the current literature on AFNs.

5.1.1.5 Wholesalers

Organisations 6, 7, 9, 11 and 12 sell to retail and hospitality buyers who buy the organisations' products in bulk and then sell them on to the consumer in smaller quantities. In this way the organisations 6, 7, 9, 11 and 12 replace the role of wholesalers. Thus organisations 6, 7, 9, 11 and 12 do not employ wholesalers as a distribution channel but aim their actions directly at the

retail stage of the supply network. In the cases where organisations sell third-party products in addition to their own (organisations 7 and 9), the organisations act as wholesalers and have been marked as such in the supply network maps. Only organisation 4 reported selling to a third-party wholesaler by delivering to a wholesale hub from where the wholesaler organises the distribution accordingly. On the one hand, with respect to AFNs' goals of shortening the supply chain by cutting out intermediaries (Robbins, 2015), this finding is not entirely surprising. On the other hand, seeing that some organisations chose to complement their distribution to small independent stores with larger supermarkets for a steadier income, one could have suspected wholesalers to play a greater role as a distribution channel. One reason for the lack of engagement with wholesalers could be that businesses tend to choose them to reduce the number of buyers and the resulting transaction cost (Sanders, 2012). With the participants' small size, their output volume might already limit the number of buyers to a manageable level which eliminates the need for engaging with wholesale distributors.

Following this examination of the types of distribution channels, I explore the selection criteria ecopreneurs apply when choosing their distributors.

5.1.2 Distributor selection criteria

Although little rigor was applied when the participants selected their distributions channels, three general themes emerged from the content analysis of their distributor selection criteria: locality, self-selection, and shared values. The self-selection and shared values will be discussed together, due to their interconnected nature.

5.1.2.1 Locality

Locality is central to the AFN and food supply chain management literature for social benefits such as improved community wellbeing (Migliore et al., 2015), ecological benefits such as reduced carbon emissions from shorter transportation routes (Seyfang, 2007), and the benefits for the local economy through enhanced regional economic activity, job creation and improved farm income (Galli, Bartolini & Brunori, 2016; Pullman & Wu, 2012; Wiskerke, 2009). When discussing the selection criteria for their third-party

distributors, the ecopreneurs did not mention these aspects specifically. Locality is of importance to the ecopreneurs, especially to the ones in direct contact with the consumer, as they aim to bring good food to their local community. Their actions imply considerations of the benefits attributed to AFNs, but the ecopreneurs don't state these explicitly. To keep their carbon footprint to a minimum, organisations 6 and 12 deliver by bike. This enforces locality as a selection criterion, purely for feasibility reasons.

"One of the criteria for wholesale customers is that basically they have to collect or it has to be within range for our bicycle."
– Organisation 6

Similarly, organisations 8 and 11 make regional deliveries of their products in their own delivery vehicles and state that the delivery area is constrained by the economic viability of the distance. Here we can see that even though sustainability values implicitly seem to flow into the decision making, the ecopreneurs are rather pragmatic than value driven about their distribution decisions. Organisation 8, for example, complements the self-delivered distribution with mail orders from their own and third-party online shops that they deliver nationwide and thus drop the local criterion in these instances. We can see that locality in distribution is important for ecologic and practicability reasons but can be dropped when it impedes on economic sustainability.

The founder of organisation 5 states that their distributors will be selected by how well they cater to the local community, stressing the social aspect of food in their decision making. Overall, however, little weight seems to have been placed on the local criterion for choosing distribution channels, which leads to the next theme.

5.1.2.2 Self-selection/shared values

Apart from organisations 6 and 9, the participants displayed little rigor in selecting their distribution channels. The organisations instead reported that the distribution channels chose them, which makes sense when we see the distributors as the organisations' customers rather than as distribution channels to be selected.

"They choose me more than anything else I think." – Organisation 8

Due to their size, most of the organisations did not feel they could be selective about who they sell to. However, the participants state that the interest their customers show in the products signals an appreciation of their sustainable business practices, as buying their products often goes along with paying a premium for sustainability. The distribution channels thus appear to select the producers based on their shared set of sustainability values.

"If a new wholesale customer gets in touch with us, the first thing we'd always say to them is, 'look, you have to understand the organisation you work with, as a consequence it's going to cost you more to come here than it is to go to a wholesaler in Bristol'. […] But we are values driven, we're, you know, we're an ethical organisation, and as a consequence we will demand the right price." – Organisation 9

The distribution channels appear to be self-selecting in their capacity as customers, which supports the idea that a focal firm should exist at the downstream end of the supply network (Frostenson & Prenkert, 2015) as the influence in the network stems from a member's purchasing power (Lee, 2016). As I have shown earlier, a focal firm does not exist in the supply networks. From the examination of distribution channels, it seems that, due to their size constraints, only few distributors derive power from the business they provide to the producers. Nevertheless, the producers equally lacked the size to be selective about their distributors. The distributors therefore chose to form relationships with producers who reflect their values. The lack of a clear focus of power in the network suggests sustainability cannot be initiated by a single firm and therefore needs to be achieved through collaborative actions (Defee, Esper & Mollenkopf, 2009), which I examine in the last section of the study. With this in mind, the mark-up for sustainably produced food appears to be a way producers can influence the self-selection process towards customers who share their sustainability values and display a higher willingness to pay.

5.1.3 Summary of distribution activities

We can see that ecopreneurs in AFNs employ a multichannel approach to distribute their products through the supply network. The different channels include delivery schemes, on demand deliveries, retail stores, and hospitality outlets and are used in parallel with each other. Two structures of distribution setups emerged from the examination.

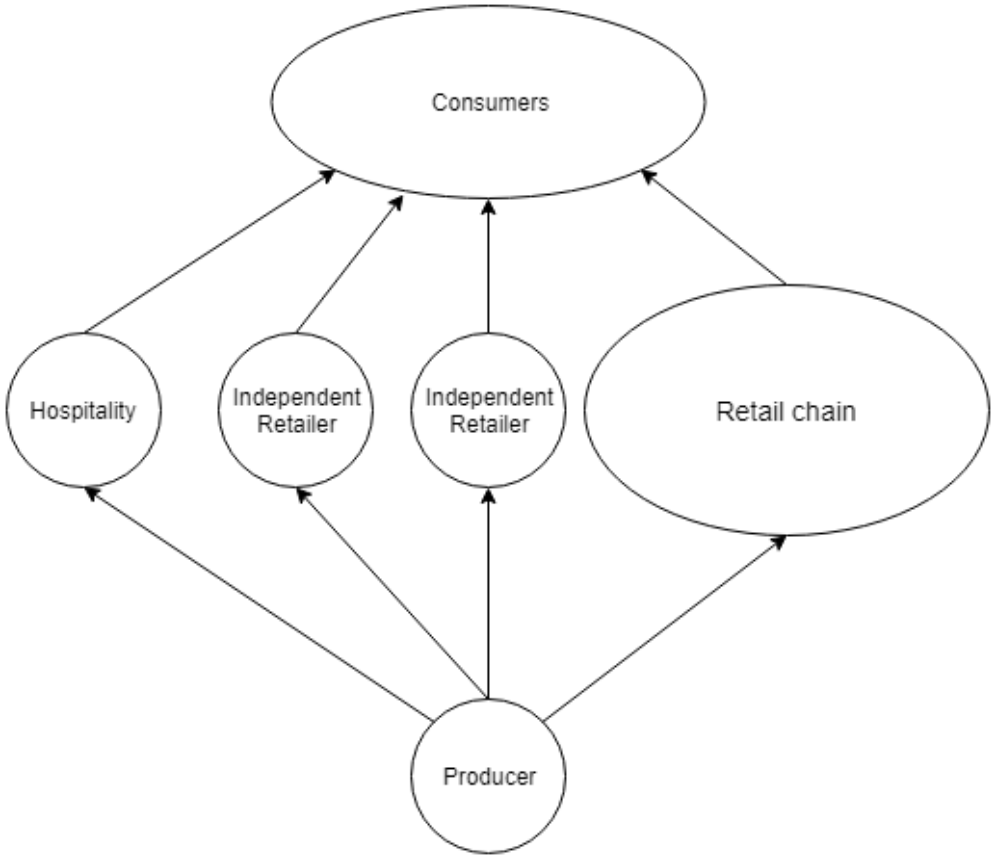


Figure 5-4: Distribution structure A

The first appears to be mostly applied by organisations with no direct contact to the consumer. Here the organisations sell the lion's share of their products to a large retail organisation to secure a stable income source that supports their business. The large retailer is then complemented with smaller, local retail and hospitality outlets. As we have seen, the large retailer does not have to share the organisation's values - like organisations 4 and 8, who supply to large supermarket chains. Organisation 3, however, gives an example of a local value driven retail chain that enables small food businesses like organisations 9 and 12 to find a stable route to market. This distribution structure can be abstracted to the network map in figure 5-4.

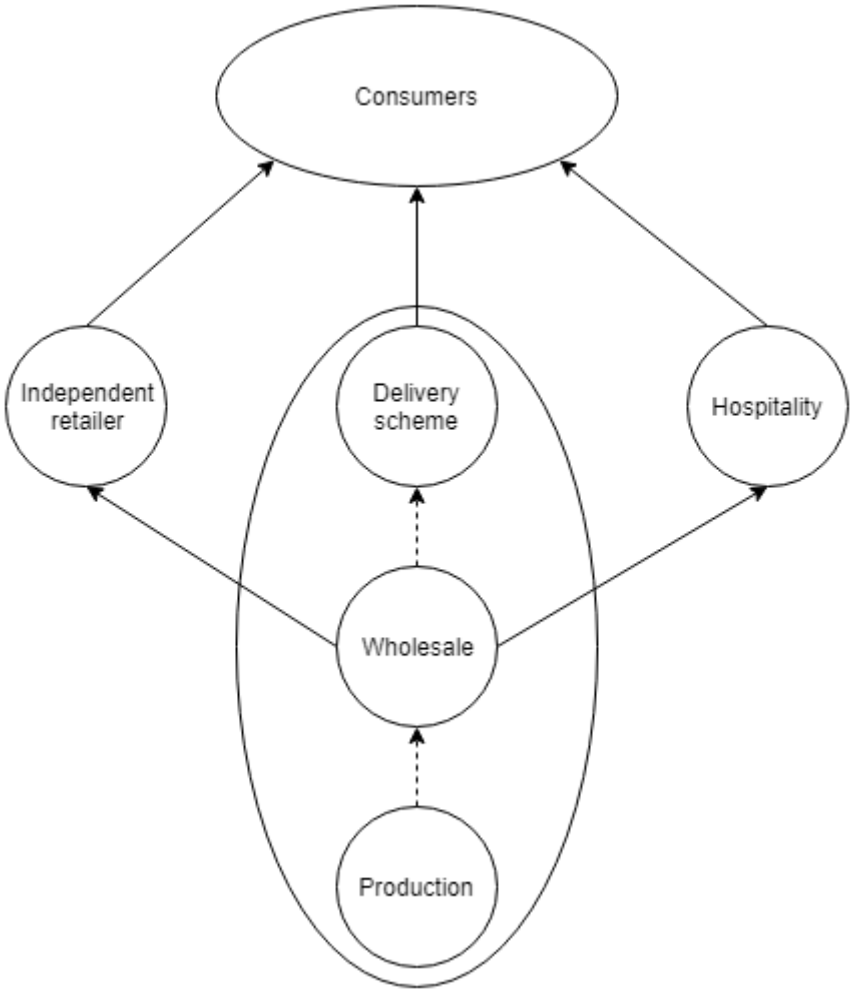


Figure 5-5: Distribution structure B

The second approach is found mostly in organisations who span multiple tiers of the supply network and sell directly to the consumer through their own retail stores, cafés or delivery schemes. Here a large share of the organisations' products are sold to the consumer through their own operations, which can entail any combination of the three aforementioned routes. This is then complemented through local third-party distributors such as restaurants, cafés, retail stores or delivery schemes. The choice to avoid mainstream distribution channels appears to be mostly influenced by whether the organisation can get a fair price for their products. An example of this distribution structure based on the setup of the organisation 9 is shown in figure 5-5. However, in this structure one could replace the wholesale operation with processing and the delivery scheme with a retail store or café, which would correspond to organisation 6. Also, any other combination of distribution channels would be possible.

From this examination it also emerged that retail stores and hospitality outlets are the preferred distribution channels of ecopreneurs in AFNs. While delivery schemes appear to be on the rise, they currently only make up a small and volatile proportion of the ecopreneurs' revenues, which makes them less favourable as distribution channels. From an environmental performance perspective, the greater utilisation of delivery vehicles could make delivery schemes more relevant for the future (Danloup et al., 2015).

When asked about their selection criteria for the distribution channels the ecopreneurs mostly stated that they do not apply any formal criteria. Due to their small size, the majority did not feel they were able to be selective about their distribution channels. In accordance with their mission however the participants sought to sell through channels that are local to them and represent their values. Nevertheless, any decision along these two criteria was influenced by concerns about practicability and economic viability of the delivery method. This is evident in the self-deliveries that are geographically constrained by their economic viability for car deliveries and by their practical viability for bike deliveries, for example. However, when the delivery was carried out by a third-party, such as mail order, the local requirement was found to be dropped by the participants in exchange for the economic return. As discussed above, this could be a sign of mission drift in ecopreneurial ventures (Doherty, Haugh & Lyon, 2014), but equally a case can be made for the benefits of greater dissemination of their product. Seeing that the sale of environmentally sustainable products is a means of fulfilling the ecopreneurs' missions, a farther reach of the product would increase the reach of the mission. An assessment of whether this approach fosters or hinders sustainable development would require a life-cycle analysis of the ecopreneurs' products and the available alternatives in the market. This could be an avenue for future research into the impact of ecopreneurial supply chain activities.

5.2 Sourcing

Following the downstream exploration of the supply network, this section now takes on the upstream perspective. I examine the participants' sourcing

practices analogous to the distribution channels by examining the supplier types first followed by the supplier selection criteria.

5.2.1 Supplier types

The supplier types can be categorised as importers, producers, processors, and wholesalers. This ordering of suppliers represents a decreasing distance to the consumer and is the structure of the examination.

5.2.1.1 Importer

Considering the AFN literature's strong focus on locality (Cembalo et al., 2015; Filippi, 2014), importers appear as a surprising sourcing option for the ecopreneurs as local production should be favoured for the positive social and environmental effects and the strengthening of the local economy (Follett, 2009). Quaye et al. (2010), however, propose that localisation should be understood as locally producing only what can reasonably be produced locally. This is supported by the findings of several studies that local production only provides ecological benefits for in-season, indigenous produce that can be grown non-artificially in the local climate (Blanke & Burdick, 2005; Theurl, Haberl & Lindenthal, 2014). Organisations 1, 2, 3, 6 and 10 all import produce through third-party importers, one of them being organisation 9, who does a lot of the importing for organisation 3 and their own wholesale and retail operations. They only import products that are not available in the UK, which varies seasonally. Even though the organisations put a focus on selling seasonal produce, during the hungry gap (the months between March and June) very little UK produce is available and the organisations feel the need to import food.

> *"When it comes to importing, you can't run a business like this selling vegetables and have everything come from the UK, it's just absolutely impossible… Unless you're only having four items every week, like swede, turnips, cabbages and parsnips"*
> *– Organisation 1*

Exemplified in this quote, one of the main reasons for importing produce is the commercial pressure to offer a sufficient variety of produce to customers

all year round. Another stated reason was the lack of available ingredients needed for products in the processing stage. Sourcing from importers can thus be seen as a necessity to maintaining the economic sustainability of these ventures, as it is necessary to fulfil the demands of customers, who might choose to move their business elsewhere otherwise. However, most participants are conscious of the other areas of sustainability and seek to import organic food from worker cooperatives to ensure ecological and social sustainability, for example. As we have seen in the firm level analysis on pioneering new methods, organisation 2 also takes ecologic sustainability a step further and imports through a company who transport olive oil on a sailboat to minimise the carbon footprint. From this we can see that the ecopreneurs are very conscious of the impact of their sourcing. They only import when no sustainable alternatives exist locally and take the sustainability of the international producers and the transportation methods into consideration. This replicates Kirkwood and Walton's (2010b) finding on how ecopreneurs' supply chain decisions are led by their sustainability values.

5.2.1.2 Producer

The producers in this study constitute traditional agriculture in the form of a vineyard, produce and cattle farmers, as well as modern approaches in the form of a vertical urban farm and an aquaponic fish and lettuce farm. They play a special role in the supply network for a multitude of reasons. First of all, they create the foundation for everything that is being sold through the network. Further, as we have seen in the literature review, the environmental footprint of some products relies more on the method of production than the food miles they have travelled (Konieczny, Dobrucka & Mroczek, 2013; Theurl, Haberl & Lindenthal, 2014). Seeing that the participants place great focus on local products and reducing food miles, the importance of production methods for the products' sustainability becomes even greater. As we have seen in the firm level analysis, distributing organic and good, local food is a major part of the sustainability mission for all downstream members of the supply network. Consequently, interaction with producers of this kind of food is a key activity

for the ecopreneurs. The importance of this is noticeable in the fact that all downstream organisations state suppliers as one of their main stakeholder groups and find them to be of equal importance to their customers. Further, the interconnected nature of the participants' and the producers' sustainability affects the selection criteria, which I will examine later, as well as the relationship and number of producers that the participants choose to source from. As mentioned in the firm level analysis, ecologic sustainability goals mean that the ecopreneurs prefer organic produce and avoid intensive agriculture. Since many of the producers lack the size and financial capacity to get their production certified, the ecopreneurs often examine the production themselves and vouch for their producers' sustainability.

> *"Say a company of my sort of size, who is just starting out and they're growing salad boxes, for example, they may not have organic certification, but they are local, and they are doing things organically. So, I am up for putting a little bit of trust out there." – Organisation 1*

In addition to the producers' ecologic sustainability that has a direct positive influence on their own ecologic sustainability, ecopreneurs also consider the producers' economic sustainability. When buying local and organic products means paying above market price, this negatively impacts the participants' economic sustainability. It does, however, positively impact the regional economy by enabling the producers to hire staff and pay fair wages and allows for small scale non-intensive agriculture (Migliore et al., 2015; Robbins, 2015). This improves the producers' sustainability in all three domains, which indirectly improves the participants' social and ecologic sustainability. In an additional effort to protect the producers' economic sustainability, the ecopreneurs limit the number of producers within one product category to avoid their sales cannibalising each other. Only for products that complement one another through seasonality, like different types of vegetables that can be grown in summer and winter, the ecopreneurs would consider higher overlaps of producers in the same category. In order to provide sufficient sales to the producers, the participants reported limiting the overall number of producers

they engage with so that each producer receives a reasonable amount of business from them. While this can improve the buyer-supplier relationship, it can also reduce supply chain reliability, which I will touch on more when examining wholesalers as suppliers.

Additionally, the number of producers the ecopreneurs engage with was limited by internal economic and practicability constraints. With higher numbers of producers to source from, the transaction cost for the ecopreneurs rise because they face greater efforts of coordinating and communicating with the different parties.

> *"We do try and limit the amount of things we get directly from suppliers, because it just creates paperwork. And paperwork creation is expensive." – Organisation 3*

From this we can see that limiting the number of producers to source from benefits the producers' as well as the ecopreneurs' economic sustainability.
When considering alternatives to stocked products, the participants require these to offer something new or better in terms of social and environmental impact rather than a mere price advantage. This links into the Schumpeterian ecopreneurial activities of disseminating new products with a better sustainability impact (Cohen & Winn, 2007; Drucker, 2007).

5.2.1.3 Processor

The processors in the supply network cover a large range of products such as butter, cheese, yogurts, bread, jams, bakery products and beverages. Similar to the producers, the ecopreneurs source from a selection of local processors directly. The locality criterium here, however, is restricted to the local processing of the goods. The participants state that it is not always possible to have all ingredients produced locally because not all ingredients can be grown locally.

> *"If we're imagining a fruit cake or something— then most of the pro— ingredients will probably not be Somerset based. But the fruit cake is produced in Somerset. On the other hand, we wouldn't be selling a lettuce that came from Holland if there is preferably good supply for lettuces from Somerset." – Organisation 7*

In this quote the difference to sourcing from the producers becomes evident, where participants have little influence on the origin of the ingredients in processed goods but can freely choose provenance for the produce they are buying straight from the producer. This links back to the assertion that supply network members can only influence organisations within their reach (Frostenson & Prenkert, 2015) and have little influence over the suppliers beyond the first tier (Wilhelm et al., 2016). However, conversations about the ingredients do take place and organisation 3 reports stepping into dialogue with their processed goods suppliers. They try to work out alternatives and actively encourage their suppliers to use better ingredients. Where that fails, they look for more sustainable alternatives to replace the unfavourable products and slowly phase them out. The participants don't mention means of directly influencing their second-tier suppliers' sustainability. Given that the producers report that most downstream members of the supply network contribute little to their revenue individually, the downstream members' contribution to their second-tier suppliers' revenue will be even smaller. It is therefore reasonable to assume that the ecopreneurs have a negligible direct influence over their second-tier suppliers due to their size and limited purchasing power. I will go into a deeper examination of how the ecopreneurs drive sustainability under these conditions in the last section of this chapter.

5.2.1.4 Wholesaler

As a distribution channel, wholesalers were found to be of little importance to the ecopreneurs because of their aim of cutting intermediaries out of the supply chain, but also due to their small output size that did not require a wholesaler to break down bulk for the retail stage. The opposite holds true for wholesalers in the ecopreneurs' sourcing. In addition to their carefully

selected producers and processors, organisations 1, 2, 3, 6 and 10 source the majority of their products from two or three wholesalers. As mentioned before, fewer trading partners result in lower transaction costs and strengthen the ecopreneurial venture's economic sustainability. Organisation 2, for example, has access to 30-50 local suppliers through organisation 7 but need to only deal with a single point of contact, which saves considerable administrative effort. A further cost benefit from dealing with wholesalers comes from their function of breaking down bulk and selling smaller quantities than producers would. Organisation 3 describes that one of their wholesalers sells in small quantities and delivers in short regular intervals, which helps them keep their stock levels low. Through this setup, they have virtually no need for a stock room and keep most their inventory on the store shelves, which consequently reduces their holding cost. For the delivery schemes, the holding cost is of less concern as they order in weekly cycles and then quickly move the product on to the consumer. The administrative cost, however, works in their favour too. Additionally, the participants state that wholesalers are more reliable than small producers. By aggregating several suppliers, the wholesaler hedges against supply fluctuation from the upstream members and offers a steady source of produce to the downstream members, which is easier to plan with.

"It's good to have that solid supplier that does get stuff in every single week, no matter what… to always fall back on." – Organisation 1

While the participants put great weight on shared values and locality with their producers, this criterion appears to be weaker for the wholesalers. Organisations 7 and 9, who act as wholesalers for some of the downstream members, share the downstream members' values because they themselves are ecopreneurial. In parallel with organisations 7 and 9, the participants also use other wholesalers who might offer organic and local produce but don't necessarily subscribe to the ecopreneurs' missions.

"I'm just going to be honest, I am not… again, I'm not bad mouthing anyone, but my suppliers, they're not interested in organic food. As far as they go, it's a business and that's where it ends." – Organisation 1

From investigating the participants' and wholesalers' websites, it emerged that often eco-friendly products are offered alongside unsustainable equivalents. Further, the stated mission of the downstream ecopreneurs was not always found in the wholesalers. They did, however, re-emerge in the producers. Interestingly, where this was the case, the ecopreneurs did not list the wholesaler as the supplier but, instead, the producers of the products they source from the wholesaler on their website. We can see that the ecopreneurs strike a trade-off between the sustainability of their trading partners and the feasibility of running their operations. It appears the application of sustainability sourcing criteria is sometimes omitted on the wholesalers' supply chain tier whilst being present in the production and retail stage. This is in line with the findings from the distributor analysis. The participants do not require their distributors to share their values, which enables a wholesaler to source from value driven producers and sell to value driven retailers without supporting their missions. It does not mean, however, that value driven wholesalers don't exist and apart from organisations 7 and 9, the participants also source from at least one other value led wholesaler. Marshall et al. (2015b) proposes that in order to achieve sustainability, an organisation's supply network needs to share a sustainability focused philosophy. This appears to be at odds with the finding that not all wholesalers in the network support a sustainability mission but disseminate sustainable products regardless. To fully assess the role of wholesalers in driving sustainability, future research would need to assess the environmental and social impact of value driven and conventional wholesalers' internal operations.

5.2.2 Supplier selection criteria

Having examined the different types of suppliers that ecopreneurs engage with for their sourcing, I now investigate the selection criteria by which the

suppliers are evaluated. The first three criteria of locality, organic, and shared values revolve around the ecopreneurs' sustainability mission. The last two - practicability and cost - appear to be more pragmatic. Even though one selection criterion is cost, we will see that economic concerns play a subordinate role throughout the sourcing decisions.

5.2.2.1 Locality

Locality is the most stated criterium in the ecopreneurs' supplier selection criteria and is found in all organisations with varying degrees of importance. For organisations 1, 2 and 7, being local is the most important feature for sourcing products. In other organisations, local production is subordinated to organic production but remains the second most important selection criterion. In organisation 3, while organic is the most important feature, locality can sometimes offset missing organic production as long as the production techniques are non-intensive.

> *"Before we stock anything— if it's not organic, why— […] Why would we consider stocking? What's it got that's special? That even gets it to the next stage. So that would be things like it being local or it being made using particularly innovative methods" – Organisation 3*

We can see that this selection criterion reflects the ecopreneurs' goals of selling good, local produce and links into the AFN and food supply chain literature, which propose ecological benefits from shortening transportation routes to reduce the carbon foot print and social benefits of reconnecting the consumer to the producers, as well as strengthening the local economy (Conto et al., 2014; Galli, Bartolini & Brunori, 2016; Robbins, 2015; Seyfang, 2007; Sini, 2014). In the supply chain literature local production is generally described as growing and processing the food close to the area of consumption (Pullman & Wu, 2012). The participants have differing understandings of local with varying degrees of rigor. Organisation 10, for example, does not specify the local criterion further than in the definition of the literature. For organisation 9, local means producers in the West Country. Organisation 7 limits local to food produced or processed in Somerset. Organisations 1 and

3 focus on food produced in and around Bristol, with organisation 3 differentiating between local Bristol products and local regional products, of which the former must be produced in Bristol and the latter within a 50-mile radius of Bristol (for a map of the West Country and the different categories, please see appendix G). Locality for all these organisations is determined solely by the place of production. Organisations 3 and 7, for example, stock products from a large, organic, Somerset based dairy that sells on a national level. Their size and national sales, however, are not of concern because the company is organic and situated in Somerset, which qualifies them as regional local. In contrast, Organisation 2 extends the local criterion from local production to local ownership.

> *"The criteria is local production. And local means locally owned really. […] The thing about if they are locally owned is they can control their own supply chains" – Organisation 2*

The local criterion, with its varying degrees of rigor, however, only applies to the producers and processors that the participants source from directly. As seen in the examination of supplier types, the ecopreneurs do also sell international products from importers to complement the local products where local supply is not sufficient throughout the year or local supply of a product type does not exist. With the imported products, however, the organic criterion is of great importance, which I will examine in the following section.

5.2.2.2 Organic

The organic production of food plays an important part in the ecopreneurs' sustainability mission. As seen earlier, the impact of food miles varies with product type and the region of production (Blanke & Burdick, 2005; Theurl, Haberl & Lindenthal, 2014). So, in order to achieve the environmental benefits from local production, the ecopreneurs need to make sure the production methods are sustainable too. Organic production contributes to environmental sustainability as it avoids the use of artificial fertilisers, additives, pesticides, hormones, antibiotics and genetically modified organisms (Zsuzsa, 2012). Through these measures, organic production protects the soil quality, reduces water pollution, and upholds biodiversity

(Voget-Kleschin, 2015). One of the criticisms of organic production is the reduced crop yield and lower machine efficiency which will lead to a higher per unit carbon output (Galli, Bartolini & Brunori, 2016; Kulak et al., 2015). This claim was not supported by the organic producers in these cases, who report to have higher yields at lower cost than conventional agriculture as a result of relying on fewer input factors such as fertilisers or pesticides.

When it comes to organic as a selection criterion, the participants again vary with how much weight they place on it. For organisation 9, organic is non-negotiable. Even though they import food, they aim to be as local as possible and treat their suppliers fairly but they always have to be organic.

> *"[Organic] is the main, you know, focus of our supply chain. But we do very much put the emphasis on local food. Always organic. 100% organic all the time. And we make sure the local suppliers are well looked after." – Organisation 9*

Similarly, organisation 11, who process meat for other farmers and sell it in their own retail store, only do so for organic farmers of indigenous breeds to protect the biodiversity in the area. Organisations 1 and 3 very much focus on organic too, but, as we saw in the local criterion, these two selection criteria can substitute each other as long as the local production is non-intensive. Similarly, organisation 7 avoids intensive agriculture but does not see organic as a requirement for their suppliers. They choose to offer an organic and a non-organic version of each product so their consumers can decide which to buy. However, all products are locally sourced. From the discussion of local and organic selection criteria, it is evident that these are at the heart of the ecopreneurs' sourcing decisions, but neither of them are hard criteria as they need to be aligned with the availability of food and the commercial pressures the ventures face. They do, however, uncover an underlying theme to the sourcing decision, namely the positive impact of products and shared values among the organisations, which is discussed further in the next section.

5.2.2.3 Positive impact/shared values

From the examination of the local and organic sourcing criteria, we have seen that issues arise around the availability of products with respect to

seasonality and organic certifications that mean the ecopreneurs cannot apply locality and organic as discriminatory sourcing criteria. Instead, the ecopreneurs see them as preferable conditions for their suppliers that require a certain leeway in their application as selection criteria. This corresponds with Kirkwood & Walton's (2010b) findings that ecopreneurs often struggle to find producers of goods that meet all their sustainability considerations. To circumvent these issues, the ecopreneurs speak about applying softer general sourcing criteria and look for organisations which represent their own values and who offer a product that aims to have a positive impact.

> *"But most of all we want them to have some really positive story about how they are producing their food" – Organisation 2*

Applying this softer approach to sourcing confronts the ecopreneurs with a set of challenges that require more effort than stricter criteria because the sourcing decisions are not binary anymore. Instead of ticking the boxes in a set of requirements, the ecopreneurs report engaging in dialogue with their suppliers, investigating their production methods and finding out whether the suppliers share their ethos around sustainability. The upside of the softer sourcing approach is that smaller businesses without organic accreditation and/or especially innovative products that would slip through a more rigid grid of sourcing criteria have a chance to get to market through the ecopreneurs. As organisation 3 describes, they always check for the organic and local criteria first, but if these are not met they always consider other features that make the products worth stocking. In this way they are again being entrepreneurial by disseminating new products that contribute to sustainable development (Cohen & Winn, 2007).

Although the shared values approach can be used to make up for missing local and organic criteria, it can lead to problems when the supplier happens to display mission drift. In two instances participants reported of having stocked products from suppliers who are local and organic and were fully aligned with their values when they started up but appear to be abandoning these values as they grow. In one of these examples the supplier was sold on

to a big multinational corporation. And while they still produce organically, the participants are not convinced that their set of values have remained the same. They felt the supplier's founders had 'sold out' and put profit over values, which motivated them to look for alternative sourcing options. From this it appears that a reflection of the ecopreneurs' values are a complement rather than a substitute to the organic and local criteria when it comes to the producers, which is surprising seeing that it is of little importance in the wholesalers and distribution channels. The wholesalers appear to be assessed by non-value led criteria, which I will examine in the next section.

5.2.2.4 Practicability

As we have seen in the types of suppliers, next to their values, ecopreneurs also need to consider the economic viability and practicability of their sourcing decisions, which became apparent in their choice to work with wholesalers who did not fully support their mission. Practicability is the most stated non-value led feature that the participants are looking for in their suppliers. Practicability of working with suppliers here includes issues around reliability, lead times, order cycles and order size, which are also the most important selection criteria in conventional businesses (Genovese et al., 2013). The ecopreneurs' understanding of reliable suppliers holds those that can deliver the promised quantities on time and in a consistent quality. The ecopreneurs do not expect the producers to have all products in all quantities available at all times, but they need to be able to rely on their producers to deliver the products they promised to.

> *"The supplier has to be 100% reliable. If they say they can supply French beans this week, then they must be able to supply French beans this week. If they prove unreliable then we would drop them. And they obviously must be consistent on quality." – Organisation 7*

Since the producers' quantities of products they can offer vary over time, the ecopreneurs complement their sourcing with wholesalers who can provide a steady stream of products.

The lead times and order cycles are crucial to the functioning of the ecopreneurs' business models. Since the delivery schemes work on a weekly ordering basis where consumers place their orders at the beginning of the week and receive the product in the second half of the week, the ecopreneurs require a lead time of less than two days from their suppliers. This gives them two days to receive, screen and pack the products into the individual orders before delivering them to the consumer in the second half of the week. This also requires the ecopreneurs to have weekly order cycles. In the retail and hospitality outlets the ecopreneurs need short lead times and order cycles to keep their stock levels and subsequent cost low. Further, lower stock levels contribute to eliminating food waste, which contributes to the ecologic sustainability of the ventures. Similarly, the order size supports these goals. The ecopreneurs report that they require suppliers with a small minimum order quantity to meet their demands, which again supports reducing food waste and minimising stock levels.

> *"Factors like convenience come into it as well. You know, do they deliver on the days we want it delivered? Is their minimum order, you know, not massive? Will they deliver to us just what we need each week?" – Organisation 10*

As we can see from this examination, the practicability criteria are a requirement for the ecopreneurial ventures' operational feasibility whilst also contributing to their ecological goals of reducing waste. However, the practicability criteria were not found in any of the ecopreneurs' sourcing policies, which focused solely on the social and ecologic sustainability of the suppliers. It therefore appears that the ecopreneurs actively pursue the social and ecologic sustainability of the products they sell while the practicability is also a viability requirement. This explains why wholesalers, who do not share the ecopreneurs values but offer sustainable products and meet the practicability requirements, are part of the sourcing network of ecopreneurs. In contrast, the sourcing policies of mainstream organisations place greater focus on cost, time, flexibility, quality and innovation and see the green features of their suppliers as a bonus (Genovese et al., 2013).

5.2.2.5 Cost/the irrelevance of cost

Cost is an important issue for the participants as it touches on all areas of sustainability. As we have seen, the cost of goods sold directly impacts economic sustainability and the ecopreneurs have limited abilities of passing the cost on to the consumers. Where the mission is clearly directed at making local and organic products available to disadvantaged members of society, the ecopreneurs also display an unwillingness to pass the cost on. At the same time the ecopreneurs' cost of goods sold is the income that enables suppliers to pursue their sustainable production methods, hire staff, and pay fair wages. The cost of products thus indirectly impacts the ecologic and social sustainability of the ecopreneurs' businesses so that squeezing the suppliers on prices would hinder the AFNs' goals of improving the environment that the ecopreneurial ventures are embedded in.

From the firm level analysis, it emerged that the mark-up for local and organic food was one of the main cost drivers in the ecopreneurial ventures. The downstream members of the supply network all reported that they have to pay more for local and organic products but that this is a price they are willing to pay for the increased sustainability of the products they offer.

> *"If it costs more to buy it from Bristol, that's fine, I'll pay that little bit extra, as long as it's not a ridiculous gap, which it never usually is. It's usually about 10p difference" – Organisation 1*

The participants are aware that by paying the mark-up to their suppliers, they are contributing to the suppliers' sustainability. This has led to a variety of responses when it comes to price negotiations. Organisations 2, 3, 6 and 7, for example, simply accept the suppliers' prices without trying to get special offers, while organisation 9 consciously pays their suppliers above market price. In these organisations, we can see that suppliers are selected due to their sustainability criteria regardless of cost. Organisation 4 also states that they build very close relationships to their suppliers, which they value more than their profit-margin and wouldn't be inclined to switch suppliers purely for a price difference. Organisations 10 and 12, however, explain that while

the sustainability is the main factor in their sourcing decisions, the cost can limit the extent to which they are able to switch between suppliers.

> *"We're looking for another tea supplier, whether we change or not depends on what else we find, because we'll have to balance price." – Organisation 10*

From this we can see that cost has a subordinate role in the supplier selection criteria, which contradicts a profit-maximising logic we would expect to find in conventional businesses, who seek to minimise their cost. It instead supports the notion that ecopreneurs do not seek to maximise profits but pursue their ecologic and social sustainability mission, as long as they can make a living and remain financially viable (Kearins, Collins & Tregidga, 2010; Parrish, 2010). Cost therefore is not a selection criterion per se, but a viability constraint that must be considered alongside local, organic and practicability sourcing criteria. This supports the proposition that to achieve sustainability in supply chains, the members need to find Pareto optimal solutions which maximise the impact of each one of the dimensions without compromising on the sustainability of the other two (Devika, Jafarian & Nourbakhsh, 2014; Hall, Matos & Silvestre, 2012 or Govindan, Jha & Garg, 2016).

5.2.3 Summary of sourcing activities

From the examination of suppliers, we can see that ecopreneurs predominantly source their products with sustainability criteria in mind but have to consider the practicability and economic pressures that keep their ventures viable as constraints in their decision making. This results in a supplier structure that can be abstracted to the network in figure 5-6.

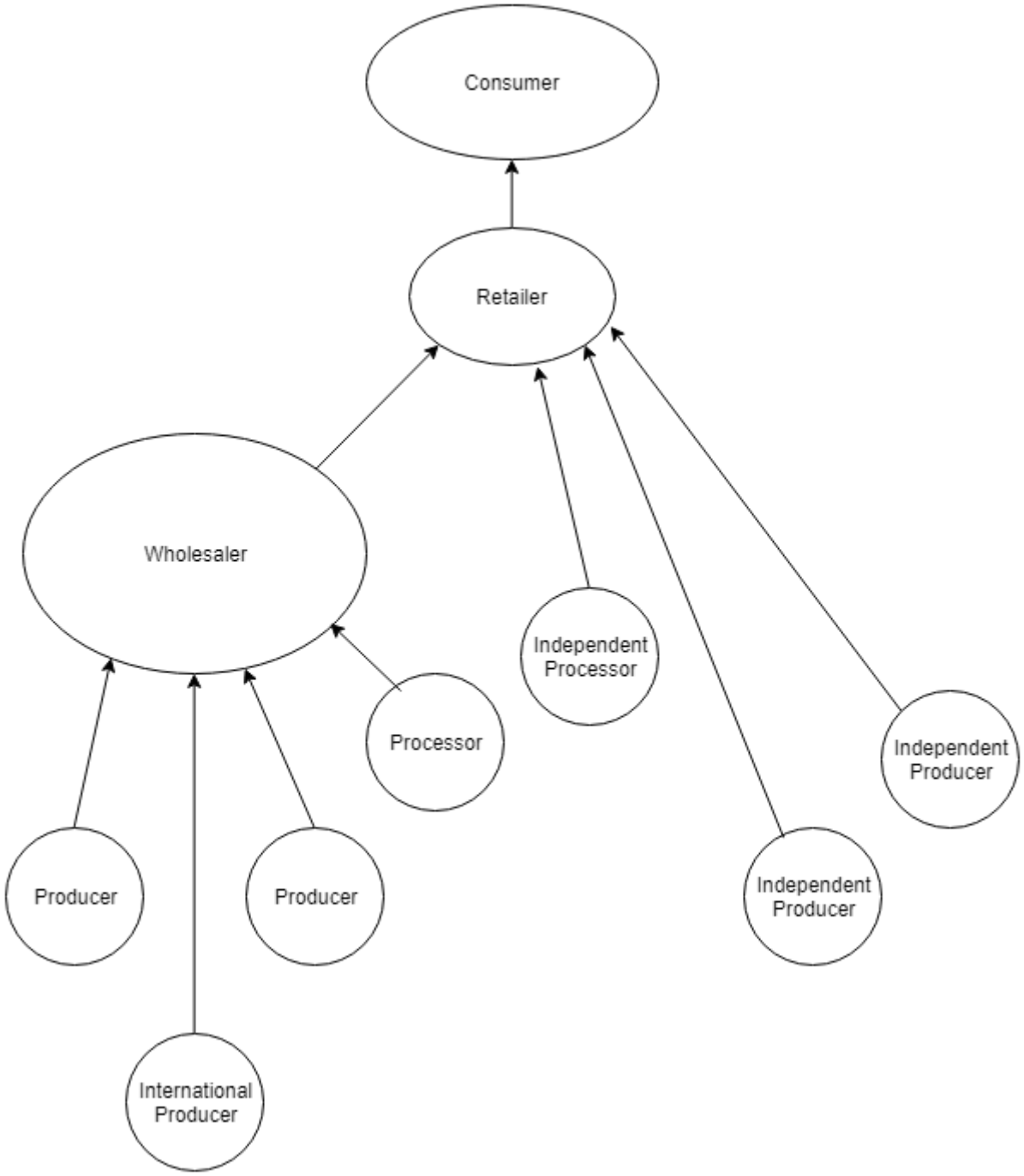


Figure 5-6: Supply structure

The ecopreneurs source from a limited number of independent producers directly. For these upstream members of the supply chain, the ecopreneurs apply their value-led selection criteria, which means they require the suppliers to be local and mostly organic or at least producing through non-intensive agriculture. The ecopreneurs build close relationships with these suppliers based on their shared-values, which entails helping them start-up and putting trust into their production methods when the supplier's size

prevents them from being organically certified. These trust-based relationships further alleviate the need for ecopreneurs to closely monitor their suppliers, which they often do not have the resources to do. Higher prices from these suppliers are willingly accepted by the ecopreneurs because the distribution of their products is part of the ecopreneurs' sustainability mission. However, the small size and localness of the suppliers confronts the ecopreneurs with several challenges. Firstly, local and especially organic produce underlies seasonality, which means the ecopreneurs cannot rely on a steady supply all year around. Secondly, not all crops can be grown organically in the UK, but to meet customer demand, the ecopreneurs are required to offer a sufficient variety of products. To overcome these challenges, the ecopreneurs complement their direct suppliers with two or three wholesalers. These source from a greater number of suppliers, which enables them to offer a steady supply of produce and often also import products that are not available locally. Through the single point of contact with the wholesaler, the ecopreneurs keep their administrative cost low, which contributes to their economic sustainability. The selection criteria for the wholesalers are based on issues of practicability rather than being value-led and represent mainstream supplier selection criteria (Genovese et al., 2013). The products bought through the wholesaler, however, have to conform with the ecopreneurs' sustainability criteria, which means the second-tier suppliers are required to reflect the ecopreneurs' values, even when the wholesalers themselves don't. Variations from this structure exist with organisations spanning multiple supply chain tiers, like organisations 6, 7, and 9, as shown in figure 5-1. The downstream flow of goods through the several tiers of the supply network, however, remains the same in the vertically integrated organisations with the difference that the products go through several supply network tiers within one organisation.

Through this examination of the ecopreneurs' sourcing and the previous examination of their distribution, we now have an overview of the different supply network members and their selection criteria. Having established an understanding of how the supply network is built, I now examine how ecopreneurs impact their supply networks to fulfil their sustainability goals

together with their trading partners, which will further answer the research question of this chapter.

5.3 Driving sustainability

To explore how ecopreneurs impact their supply networks to fulfil their sustainability goals together with their trading partners, I will first examine the sustainable engagement with supply chain partners. This represents ways in which the ecopreneurs aim to achieve sustainability in the supply network through their individual practices. Seeing that the ecopreneurs find themselves in complex networks without a focal firm, the impact of their independent practices on their network is limited. In this situation the literature suggests that collaborative approaches are needed to drive sustainability (Lee, 2016; Leigh & Xiaohong, 2015; Zhang & Awasthi, 2014). Therefore, the second half of this section will examine the collaborative approaches around sharing business practices and techniques, sharing resources, and the benefits from brand association. These themes arose from the data and as I will show, correspond to the literature on sustainable supply chain management.

5.3.1 Sustainable engagement with supply chain partners

The literature suggests that purchasing power enables buyers to push for sustainability in their own and their suppliers' processes (Frostenson & Prenkert, 2015). Hence, driving sustainability appears to be the responsibility of the downstream supply chain members (Lee, 2016). This perception is supported by the participants, who take on a certain responsibility for the sustainability of their suppliers. The ecopreneurs feel responsible for their suppliers' sustainability due to their values and the awareness that an organisation's sustainability is reliant on the sustainability of the other supply chain members, which we have also seen in the literature review (Ahi & Searcy, 2015; Kirkwood & Walton, 2010b; Marshall et al., 2015a).

"I don't haggle— try and get any special deals, from our suppliers, because they've got to be sustainable, you know. […] I think to be sustainable then you know suppliers have to work in a sustainable way as well." – Organisation 6

The above quote exemplifies the ecopreneurs' approach to price negotiations, which we have already seen in the firm level analysis. Most organisations act as price-taking and pay their suppliers the price they require to run sustainable and financially viable businesses. One exception to this is organisation 3 who negotiate discounts with their wholesalers based on their purchasing volume but do not squeeze the independent producers for prices. Another exception is organisation 9 who proactively offer above market prices to their suppliers to ensure the suppliers' sustainability. Receiving the mark-up for organic enables the ecopreneurs' suppliers to engage in small scale and organic farming whilst hiring staff at living wages. This way the improved farm income from higher prices not only secures the suppliers' economic sustainability (Seyfang, 2007), but also improves ecologic sustainability through non-intensive farming techniques and the social sustainability by providing jobs in the local area (Follett, 2009). Making small scale farming economically viable also means the ecopreneurs help other food businesses start-up, which results in the dissemination of sustainable farming techniques and consequently fosters further ecopreneurship (Cohen & Winn, 2007; Dean & McMullen, 2007). As we have seen in the selection criteria, the ecopreneurs make their sourcing decision based on their values (Kirkwood & Walton, 2010b) and engage with suppliers who share their vision. The ecopreneurs engage in dialogues about sustainable production with their suppliers and build their relationships on trust. This further helps new ecopreneurial ventures start-up, as it takes pressures such as the organic certification process off the new venture (Cholette et al., 2014).

A common theme in the supply chain literature is that firms aim for cost reductions in their supplier selection (Genovese et al., 2013) and sustainability efforts (Accorsi et al., 2016), which we can see is not supported by the ecopreneurs. Further, the literature suggests that implementing

sustainability measures helps organisations capture higher prices from customers with strong sustainability concerns (Tajbakhsh & Hassini, 2015). This, however, also does not seem to be supported by the ecopreneurs, who, especially when their buyers are consumers, are conscious not to charge excessive prices for good food. The ecopreneurs are reluctant to pass the higher prices for organic and local produce on to their buyers and often take a cut to their own profit in an attempt to keep good food affordable. Brandenburg and Rebs (2015) assert that the goals of sustainable supply chain management should be about win-win scenarios and achieving economic goals, whilst ensuring a minimum of ecologic and social requirements. From the investigation it appears the ecopreneurs approach their supply chain management the opposite way and aim for achieving maximum social and ecological outcomes, whilst meeting the minimum economic requirements.

The literature suggests supplier certification processes and sustainability auditing (Lee, 2016; Wilhelm et al., 2016) as means to influence the suppliers' sustainability. However, as we have just seen, the ecopreneurs avoid these methods and build their relationships on shared values and trust. In a set-up like this, the literature suggests collaborative approaches as effective ways of driving sustainability in the supply network (Leigh & Xiaohong, 2015; Zhang & Awasthi, 2014). Therefore, I examine these in the next section.

5.3.2 Collaborative approaches

One reason for the lack of supplier monitoring processes as a mean to implement sustainability, is that they require a powerful focal firm (Frostenson & Prenkert, 2015), which we have seen does not exist in the ecopreneurial supply network. In a supply network not shaped by a single firm but formed around shared values and a communal goal of challenging the status quo, it is reasonable to assume ecopreneurs apply collaborative approaches to driving sustainability. Defee, Esper and Mollenkopf (2009) assert that collaborative sustainability efforts build on fostering communication, sharing information and cooperatively developing processes. Further, Beske, Land and Seuring (2014) propose that, where size differences

exist, the larger firm can give resources to smaller ones to develop sustainability further. The themes from my analysis correspond with these propositions; they cover: sharing business practices and techniques and sharing resources. In addition to the themes from the literature, the benefits from brand association that supply network partners can get from working with each other also emerged as a theme from the data.

5.3.2.1 Sharing business practices and techniques

The collaborative approaches to business practices can be categorised into sharing information for the joint development of new, more ecologically sustainable business practices, exchanging knowledge for ecological process improvements, and the exchange of skills for the ventures' practical viability. Few ecopreneurs engaged in developing new business practices and production techniques themselves, but evidence of this could be found in organisations 5, 8, 11 and 12. Developing new business practices entails researching and trialling new approaches, recording data about the trials and developing the approaches further. To collaboratively foster the development of new techniques, the ecopreneurs need to exchange their insights into new approaches and the data from their trials. In support of this, organisations 5 and 8 have founded professional associations around their production techniques to collaborate with other farmers using similar methods. These associations exchange information and data and drive research into new production techniques, sometimes with the help of academics. Whilst not being a founding member, organisation 11 is also part of a professional association that, in addition to the information exchange, they also value for the community and sense of belonging. The joint development here appears to hold social and ecological value. Some of the associations organise conferences and workshops for the development of practices, but large parts of it are done via the internet, where insights and data are published.

"When I started, I thought I might be the only lunatic doing these sort of things. Well, everybody else thought I was. And then the internet opens it up to people all over the place doing the same thing. And then they share things and they share information… it's brilliant really." – Organisation 11

Equally, a vast knowledge exchange in the form of discussion groups and blogs exists online to disseminate insights into improvements of existing processes towards more sustainability. This in part is organised by professional bodies. Organisation 10 describes how the online discussion groups are helpful in improving the sustainability of processes because one member of a supply network will frequently encounter problems others have already solved and share their solution online. The exchange here can flow vertically through the different tiers of the supply network, horizontally between different producers within the same network, and with the help of professional associations also into other supply networks that are not connected through a training association. In addition to the online knowledge exchange, organisations 7 and 9 also facilitate direct interactions between their supply network members. These consist of group meetings and farm visits that aim at sharing farming techniques and exchanging skills to improve the supply network members' performance. Organisation 9 describes how in these meetings the different members complement each other's business skills, such as marketing or stocktaking, and that the exchange between the members improves all supply network members' chances of succeeding with their ventures.

The analysis appears to suggest that size plays an important role in facilitating collaborative approaches to sustainable development. Organisation 9 is a relatively large player in the supply network, spans multiple supply chain tiers, and interacts with a large number of organisations, which enables them to create networks for skill exchanges. Also, the founding of professional associations by ecopreneurs suggest that a larger organisation is beneficial to foster collaboration towards sustainability. In contrast, Organisation 7 is comparatively small but appears to sit at a

beneficial location within the supply network to facilitate knowledge exchanges between the large number of suppliers they directly engage with. This suggests that sharing business practices for sustainability improvements is fostered through organisations who stand in direct contact with a large number of supply network members. While often larger organisations fulfil this criterion, size is not always an indication of the ability to drive collaborative approaches towards sustainability. The literature suggests that firms have the largest impact on the sustainability of their first-tier supply chain partners (Wilhelm et al., 2016) because efforts towards sustainability require vast information exchange in the supply network (Isaksson, Johansson & Fischer, 2010), which becomes more onerous with lower-tier supply network members. Thus, communication drives collaborative supply network approaches and the firms' ability to communicate through the supply network impacts their ability to drive sustainability through sharing business practices.

5.3.2.2 Sharing resources

Sharing resources can impact all three areas of sustainability. The ecopreneurs engage in sharing machinery, facilities, input and distribution channels for economic benefits, to further their mission and to engage with the local community.

Seeing that the upstream ecopreneurs engage in small scale organic farming, their fixed costs have to be covered by the proceeds of a small output of crops, which makes it hard to recover the cost of farming machinery. To be able to achieve economies of scale in this setup, some ecopreneurs collaborate with neighbouring farmers in purchasing the machinery so that the machines are used for a larger output, which increases their utilisation and makes the purchases economically viable.

"And just today I took possession of my new toy, which is a mower on a retractable arm. […] But I'm sharing the cost of that with another farmer. And that's really what you got to look at is, if you've got 50 hectares then you can afford— you can justify it. When you've got two hectares or one hectare, it's pushing the economics of it all." – Organisation 8

From an ecologic perspective, sharing machinery is beneficial, because the higher utilisation means that fewer resources get wasted in the production of farming machinery. This approach was only used by few participants in my research but holds the potential to strengthen the economic viability of small scale farming and reduce the mark-up for organic produce. Further, it could create stronger local networks between the farmers and contribute to the social sustainability in the ecopreneurs' environment.

A more commonly used approach to sharing resources was the sharing of facilities. This was often done to help young food businesses with a shared mission start-up. Similar to sharing machinery, the sharing of facilities helps the ecopreneurs keep their fixed costs low and decreases the need for investments. Organisation 1, for example, has an arrangement with their main supplier that allows them to use parts of the supplier's warehouse and cooling space for free, as long as they procure the largest share of their produce from that supplier. Since the supplier's produce meets organisation 1's sourcing criteria, they are happy to do so and save on rent, which enables them to offer food for a lower price to the consumers. This directly supports their mission of making organic food more accessible to the wider community and offering good value for money. On the giving rather than receiving end, organisation 2 is planning to create a business incubator in their facilities.

"In our new central food centre premises, we're looking to incubate new food businesses. Because we'll have an industrial kitchen, it won't be in use all the time, so they can use it. […] It'll work to help new food businesses start" – Organisation 2

This again increases utilisation of equipment and facilities, which positively impacts ecologic sustainability. It also spreads the organisation's mission of delivering sustainable food, by fostering further ecopreneurship in the food sector. While organisation 2 is not large itself, it is larger than a new start-up company, so this is an example of a larger firm making resources available to a smaller one to drive sustainability (Beske, Land & Seuring, 2014). The literature speaks about this collaboration within a supply chain, but organisation 2 does not restrict their resources to potential suppliers. They see other ecopreneurs as fighting the same cause, so they are happy to help horizontal businesses, which mainstream organisations would consider competitors, start-up. Another way of helping ecopreneurial food ventures through sharing facilities is found in organisation 11. The organisation offers farmers in their vicinity, who rear indigenous pasture fed breeds and thus share their mission, butchery services and the opportunity to sell their products through organisation 11's own retail store. While this appears like a standard business transaction, it constitutes providing a route to market for other value driven businesses. Being able to sell through this shop enables the other farmers to receive a fair price and supports their economic viability. From the perspective of organisation 11 it means sharing their distribution channel with new entrants that potentially increases competition, which incumbent firms would usually avoid (Grant & Jordan, 2012). However, as long as sales from the other businesses don't cannibalise organisation 11's sales, sharing the retail facilities again means higher utilisation of the store and consequently spreading the fixed costs over a larger output. Doing so then improves the economic sustainability of organisation 11, whilst also positively impacting the economic sustainability of other farmers in the area, which strengthens the local social and economic sustainability and enables the farmers to achieve greater ecological sustainability too. In contrast to sharing the facilities with commercial partners from the supply network, organisation 5 also shares their facilities with social organisations from the local community. They enable these to set up projects on unused space on the premises and to use their teaching rooms for indoor activities. This embeds organisation 5 deeply in their local community and furthers their

social impact through increased community engagement and facilitating the activities of the social organisations.

From this analysis, we can see that the collaborative approaches of sharing business practices and resources improve the ecopreneurs' internal sustainability in all three areas as well as impacting the sustainability of their supply network. Approaching sustainability collaboratively helps the entire network develop new practices and processes that enable them to work more sustainably. It also improves resource efficiency, which has a positive impact on the ecologic and economic sustainability of the ventures. This makes the ecopreneurial ventures more likely to succeed and subsequently improves local resilience (Wiskerke, 2009). What is interesting is that the ecopreneurs aim to improve their economic sustainability through collaborative approaches, but for reasons of staying viable rather than profit maximisation. Exclusive business practices, process innovation, high capital requirements and access to distribution channels, are considered barriers of entry to new ventures looking to enter the market. In conventional businesses, new entrants are seen to increase competition and thus decrease profitability, which makes it desirable for incumbent firms to upkeep the barriers to entry (Porter, 2008). As we have seen, however, the ecopreneurs share their resources and practices with new ecopreneurial ventures and offer them routes to market, thereby lowering the entry barriers and enabling new food ventures to start-up. This again is evidence that the ecopreneurs seek to maximise their social and ecological sustainability impact, in this case by enabling others to have a positive impact too, whilst considering the economic sustainability as a requirement, but not a maximisation goal.

5.3.2.3 Benefiting from brand association

In addition to sharing resources and knowledge, the ecopreneurs also share the benefits from their marketing activities. Often due to their small size, the ecopreneurs have limited marketing budgets and a short reach with their brand. Collaborative approaches can then help the ecopreneurs establish a greater reputation and credibility. One way the ecopreneurs achieve this is for downstream members of the supply network to name the upstream members

when listing their products. Through the shared values the organisations hold their missions support each other. The size and reputation of the organisations will then determine the direction the marketing value flows through the supply network. If, for example, a restaurant is well known for their sustainability, the restaurant's producers will benefit from being named on the restaurant's menu and will also be associated with sustainability. This can drive further custom to their other distribution channels and improves their economic sustainability. Conversely, if the producer has a great reputation for sustainability, the restaurant will benefit from listing them on their menu, as the producer's name lends credibility to the restaurant's sustainability claims.

> *"I'd like to think we've got a very good name for ourselves in Bristol and Bath now. So, when people are, you know— if x restaurant will say, 'we get all our produce from [organisation 9]', well hopefully that will add value to their organisation as well." – Organisation 9*

The participants report that these approaches are mostly done with supply network partners who share their values and pursue a similar mission. Organisation 9 in particular use their reputation and brand to inspire their distributors to pursue sustainability. This gives them influence over their distributors that other ecopreneurs struggle to acquire. It can therefore be proposed that branding not only affects an organisation's commercial strength but also enables the organisation to impact the sustainability in their supply network beyond their purchasing power. This is evident because organisation 9 exerts influence in the opposite direction of the cash-flow in the supply network by using their brand to influence their distributors.

In contrast to the shared value approaches, the organisations who also supply to large supermarket chains have reported that this has given them great benefits. Being able to name a large supermarket gives their own brand a strong credibility and is a helpful reference when establishing new trade relations. In addition, the greater distribution networks of the supermarkets give the ecopreneurs a higher exposure to consumers. In exchange for the

great promotional value, however, the ecopreneurs receive lower prices from the supermarkets as a result of volume discounts they have to grant. A benefit from brand association does therefore not require a shared mission and some ecopreneurs appear to be happy to receive it from non-ecopreneurial businesses too. Hansen and Schaltegger (2013) have shown how entrepreneurial ventures pioneer sustainable strategies that get picked up by large established corporations in the fashion industry. A similar influence could be assumed between the ecopreneurs in my study and the supermarket chains, seeing that more supermarkets now stock locally sourced products. A formal investigation of this effect would be needed to make a definite statement about the effect ecopreneurs have on the supermarkets they supply.

5.4 Discussion

The chapter started with an outline of the supply chain, or rather the network structure. I have shown that the supply network around the ecopreneurs is highly complex, without a focal firm or a clear concentration of power. I have also shown that the direction from which we look at the supply network determines the members we can see and how this affects the analysis. Due to this complexity, I first analysed the members of the supply network and their selection criteria from a distribution perspective and then from a sourcing perspective. From the analysis it emerged that while the ecopreneurs apply rigorous value led selection criteria to most of their suppliers, they apply mostly loose economic criteria in their distributor selection. We saw that the ecopreneurs' values play a role in the distribution set-up and that locality was an important feature of the distributors, but overall the ecopreneurs did not feel they were able to be selective of their distribution channels. Instead, the ecopreneurs reported being selected by their distributors, who show an interest in their product when they share the ecopreneurs' missions. Further, we saw that whether the ecopreneurs trade with the distribution channels depends on the economic viability of doing so. The local criterium, for example, is as much the result of the ecopreneurs' ambition to re-localise food as it is a constraint resulting from the ecopreneurs' choice of transportation

method. Since the choice of a low carbon transportation method is directly linked to the ecopreneurs' values, one can argue that locality as a selection criterion is a value led decision. However, in some organisations, the restricted local distribution is complemented by third-party shipping on a national level, which refutes the value led argument and suggests that value led distribution decisions are influenced by economic viability concerns. A further determinant of possible distribution channels appears to be linked to the nature of the product. As we have seen, the ecopreneurs without direct connection to the consumer choose to sell through a mix of independent small retailers, restaurants, cafés and delivery schemes, but complement this by selling through a larger retailer, to ensure stable demand. This structure can be seen in figure 5-7 and represents a way that ecopreneurs manage the trade-offs between their sustainability mission and economic viability.

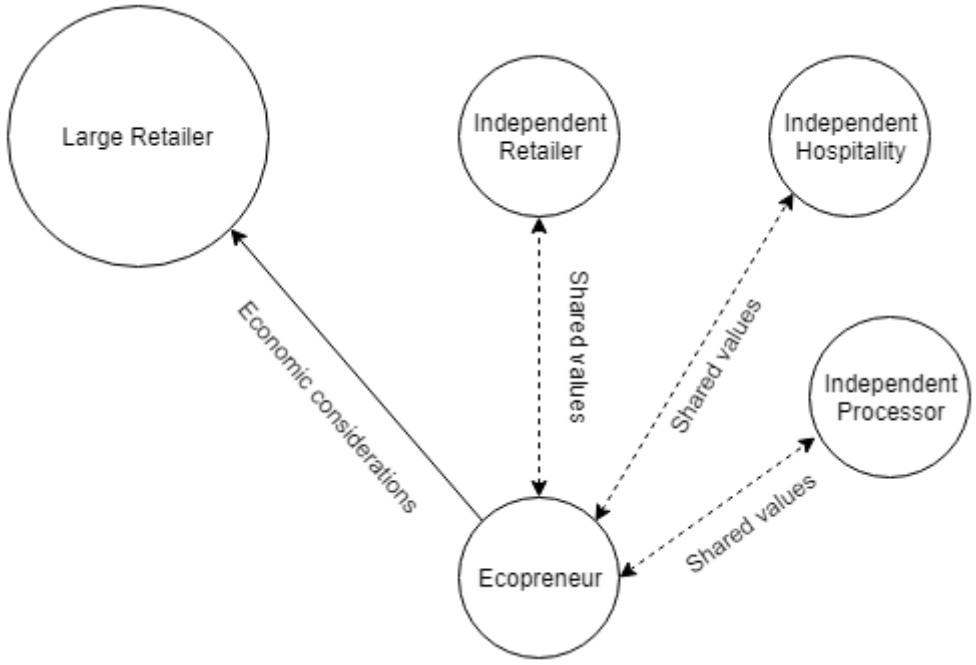


Figure 5-7: Distribution selection criteria

The producers of fresh, perishable, and unstandardised products seem to choose a local value led retailer as the stable distribution channel. This gives them a route to market and fair prices, which reflects a shared mission between the retailer and the producers. The ecopreneurs report not being able to supply to supermarkets due to insufficient output sizes and unwanted product features like the high fat levels of indigenous cattle breeds. Contrarily,

the producers of products with a longer shelf life and higher degree of standardisation like wine and oil also sell their products through two of the big four supermarket chains. It thus appears that the product features determine which distribution channels are available to the ecopreneurs and the limitations of their distribution possibilities impede on their ability to apply selection criteria to their distributors.

A different picture emerged for the ecopreneurs' sourcing activities. In contrast to the upstream ecopreneurs who reported to have little influence over their downstream partners, especially with regard to their sustainability, the downstream ecopreneurs not only felt they had the ability and an imperative to select the upstream suppliers, they also felt responsible for ensuring their sustainability. The ecopreneurs' assumed responsibility for their suppliers' sustainability appears to be linked to the cash flow through the supply network, even though the cash flow does not appear to be linked to a flow of power. The ecopreneurs reported they had no coercive influence over the sustainability of their suppliers' business practices. Rather, the ecopreneurs select suppliers who reflect their values, produce organically and locally, and through their custom the ecopreneurs ensured the suppliers were able to continue doing so. In this way the ecopreneurs seek to foster sustainable development by supporting ecologically sustainable products which were produced in a socially sustainable way. We saw that in this sourcing approach cost was of little relevance to ecopreneurs and the ecopreneurs displayed a reluctance to switch suppliers based on cost. Neither would they threaten to do so to negotiate lower prices. The cost only comes into play when it endangers the ecopreneurs' economic sustainability and could thus impact the ecopreneurs' ability to switch between suppliers, should the supplier not meet the required ecological and social sustainability criteria. Similarly, issues around practicability entered the ecopreneurs decision making as viability constraints. For most suppliers, the ecopreneurs apply selection criteria around locality, organic production and a positive impact, whilst considering the suppliers' reliability. Interestingly for wholesalers, which the ecopreneurs use to ensure steady supply of products, the sustainability criteria appeared to be less important than the

practicability constraints. The ecopreneurs buy products that meet their sustainability criteria from the wholesalers, but do not require the wholesalers to share their sustainability mission in the same way they require the producers to. Instead, the ecopreneurs consider conventional business selection criteria like order size and cycle, lead times, reliability and cost (Genovese et al., 2013), when choosing wholesalers. Considering that the wholesalers enter the sourcing to ensure steady supply and secure the ecopreneurs' economic viability, the application of economic selection criteria appears logical. As shown in figure 5-8, the selection criteria then appear to skip the wholesaler tier in the network.

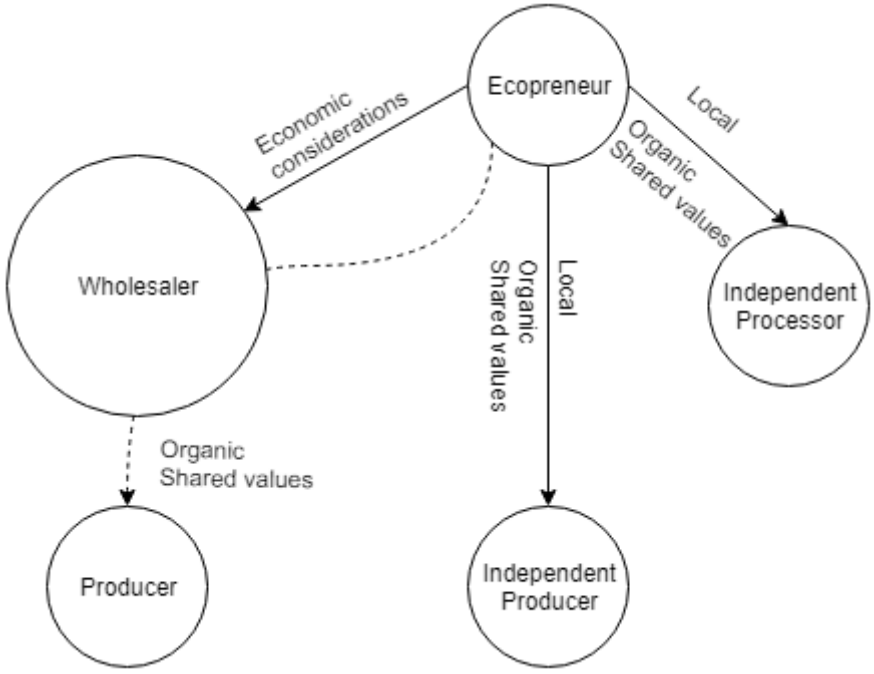


Figure 5-8: Sourcing selection criteria

We can thus see that the ecopreneurs' values impact their supply chain decision making (Kirkwood & Walton, 2010b) and that the ecopreneurs aim to maximise their sustainability impact, whilst having to consider the feasibility of their operations to secure their economic sustainability. This imposes practicability constraints in their distribution and sourcing decisions.

While the assumed responsibility for sustainability appears to be flowing upstream, the analysis did not show similar power relations. Instead most up- and downstream ecopreneurs equally reported to have little direct

influence over their supply network members. As we have seen, in this setup collaborative approaches to driving sustainability are required (Defee, Esper & Mollenkopf, 2009). These approaches appear to be initiated by proactive members of the supply network at various tiers of the supply network. Instead of the organisation's supply chain position or size, the ability to initiate collaborative actions towards sustainability appears to be depended on the organisation's links within the network and the resulting ability to communicate.

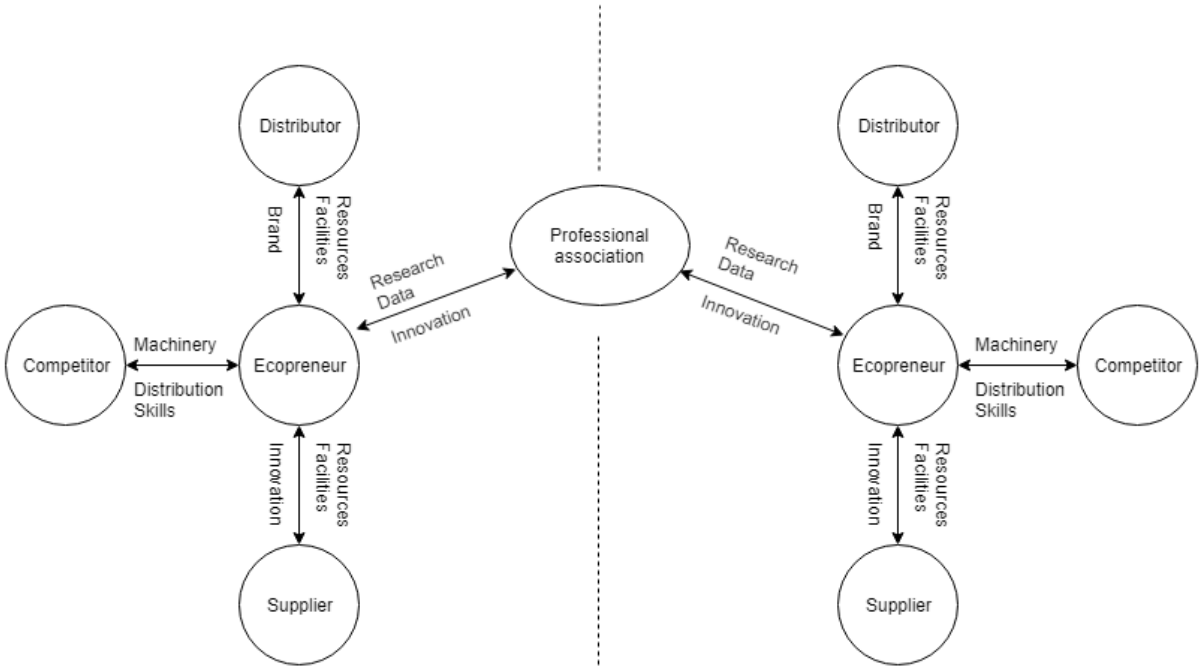


Figure 5-9: Collaborative approaches to sustainability

A clear direction of flow for sustainability initiatives was not found. Rather, as shown in figure 5-9, the collaborative approaches are present vertically where ecopreneurs collaborate with their suppliers and distributors, for example, to develop a better product; horizontally where an ecopreneur collaborates with other ecopreneurs on their supply chain tier, for example, when sharing equipment to increase resources and economic efficiency; and also across supply networks, in cases where ecopreneurs form and participate in professional associations that coordinate product and process innovation towards sustainability. From the analysis it became evident that all the approaches towards product and process innovation are aimed at improving the ecologic sustainability of the ventures and little innovation was being done

with a social motivation. The collaborative approaches of sharing resources, however, aim at helping other ventures fulfil their mission and therefore support spreading social sustainability too. When engaging in these activities the ecopreneurs don't consider the other ventures and new entrants as hostile competition, but rather feel like they are all fighting for the same cause. This further supports the notion that ecopreneurs value their mission over profit maximisation.

Going back to the research question of how ecopreneurs' supply chain practices impact their sustainability goal fulfilment, the analysis shows that ecopreneurs source with social and ecologic dimensions as the main drivers, while they mostly consider economic concerns in their distribution. Due to their small size and complex network structure, ecopreneurs engage in collaborative approaches to drive sustainability in their supply network and prioritise the reach of their mission over economic performance. It appears the ecopreneurs form networks around their shared values in which a perception of fighting the same cause exists. They work together to challenge the status quo and change the dominant system of food provisioning. Because they share this mission, other ecopreneurial businesses on the same supply chain tier are not considered a threat to success and the relationship to them is collaborative rather than competitive. Working together with other ecopreneurial businesses makes the ecopreneurs feel part of a bigger community for sustainable development. Within the community, the shared mission enables ecopreneurs to build their trading relationships on trust rather than on rigid supplier monitoring processes. This relieves the need to spend resources on setting sustainability standards and ensuring supplier compliance, which benefits the upstream members who cannot afford certification processes, and downstream members whose resources are limited by small profit margins.

In the profit maximising logic of conventional businesses, rigid sourcing criteria and standards are used to prevent what is considered irrational behaviour and sourcing based on personal preference. In contrast, the ecopreneurs' trust-based approach is built on interpersonal relationships that

arise from the values they share with their supply network partners. The ecopreneurs build and maintain their trading relationships in the community around sustainable development on criteria that are not profit maximising to further their mission but equally gain cost advantages from the trust-based system. We can thus see the trust-based trading system as a result of the joint mission, contributing to the fulfilment of the social mission and community building, but it is also a question of economic viability for the ecopreneurs. Within this setup, economic power and size are less important to drive sustainability because the network members work towards the same goals collaboratively instead of being driven by a focal firm. Consequently, to increase sustainability efforts within the supply network a firm's ability to inspire other members to follow the sustainability mission appears more important than coercive power. The ability to communicate and the number of connections within the network are more important to drive sustainability in a network without a focal firm, than organisational size and economic power. Where trading is built on trust-based relationships and collaborative action, firms taking a leadership position appear to drive sustainability through a transformational rather than a transactional leadership approach (Defee, Esper & Mollenkopf, 2009; Lee, 2016).

This chapter contributes to the literature in several ways. Firstly, it addresses the research gap between sustainability driven entrepreneurship and sustainable supply chain management, which I have identified in the literature review. My research has built on the findings of Kirkwood and Walton's (2010b) research on the impact of ecopreneurs' values in their supply chain decisions by showing how ecopreneurs aim to drive sustainability in the supply chain. The ecopreneurs aim to do so by forming supply networks based on their shared values. These networks mostly contain other ecopreneurs, but also links to conventional businesses exist too. To manage the different parties, the ecopreneurs apply a mix of value-led and pragmatic selection criteria. The former are applied to producers and processors whose products have a direct impact on the ecopreneurs' goal fulfilment. The latter are applied to distribution channels and wholesalers, members of the network who are non-producing but disseminate the products.

Secondly, this study enriches the SSCM literature by showing alternative supply chain practices aimed at pursuing sustainable development in supply chains. The literature proposed that collaboration relies on strong communication, information sharing and cooperative development of processes for increased sustainable performance (Defee, Esper & Mollenkopf, 2009). My research shows how these practices are pursued by ecopreneurs in their supply networks and have given examples of these practices. The ecopreneurs engage with horizontal and vertical players in the supply network as well as other supply networks through sharing business practices, resources and the benefits of a strong sustainability driven brand. Several studies (Beske, Land & Seuring, 2014; Wilhelm et al., 2016) propose that where size differences exist, larger firms could share resources to develop sustainability in smaller members of the supply chain. This study has given evidence in support of this claim and through examples explained how resource sharing contributes to sustainability in the supply chain. In contrast to the literature's assertions about the importance of firm-size, my research finds the connections within a network have a great impact on a firm's ability to drive sustainability. Within the supply network, a firm's ability to drive sustainability appears to be linked to the number of connections it has and the resulting ability to inspire other network members to pursue sustainable practices. In the literature review I have proposed that ecopreneurs, due to their aim of creating value for multiple stakeholders (Parrish, 2010), will not adhere to traditional market models and instead build supply chains on trust and reciprocation (Cholette et al., 2014). The evidence in this study confirms that proposition, as we have seen that ecopreneurs value their ecologic and social mission over profit maximisation in their sourcing decisions and their collaborative approaches. Additionally, this study confirms Marshall et al.'s (2015b) claim that ecopreneurs include non-traditional supply chain members, like the local community, in their supply networks. This could be observed where ecopreneurs share their facilities and resources with social organisations and community groups that are not involved in the value creation process within the supply network. Danloup et al. (2015) found that the lack of trust is one of the main barriers to supply chain collaboration,

however, as I have shown this appears to not be the case within ecopreneurial supply networks, as ecopreneurs build their supply network relationships based on trust. With collaboration being at the heart of supply chain management and trust appearing to be a hurdle but also an enabler to this, further research looking at the impact of shared values on trust and the factors impacting lasting trading relationships could produce valuable insights into supply chain management. While the sourcing criteria highlight on what basis the relationships are formed, future research should investigate how relationships are maintained. Of potential interest could be the impact of the interpersonal relationships of actors in firms trading with each other, as it is humans trusting other humans rather than corporations trusting each other. In this sense, shared values and missions, but also firm size and visibility of who you are doing business with, could play a significant role in maintaining trust-based trading relationships.

Thirdly, this study contributes to the alternative food network literature by uncovering the structure of regional alternative food networks and the relationships between the members. It highlights how each member of the supply network contributes to fulfilling another member's goals regarding the three dimensions of sustainability. This study shows through which supply chain practices the ecopreneurs in the AFN shorten the supply chain (Conto et al., 2014; Robbins, 2015), re-localise food production (Seyfang, 2007; Sini, 2014), and embed their activities in the local area to enhance social wellbeing and economic activity (Migliore et al., 2015; Roep & Wiskerke, 2012; Watts, Ilbery & Maye, 2005). My research also highlightes the importance of hospitality in AFNs, which so far has been overlooked in the literature.

Chapter 6: Discussion of ecopreneurial practices from a multilevel perspective

Building on the premise that unsustainable business practices are the result of market failures, which hold the opportunity for ecopreneurial action and innovation (Cohen & Winn, 2007; Dean & McMullen, 2007; Hall, Daneke & Lenox, 2010), this thesis explores ecopreneurial business practices that foster sustainable development. For this I have conducted a firm level analysis to answer the first research question: "How do ecopreneurs deliver their sustainability goals through their business practices?". This was followed by a supply chain level analysis to answer the second research question: "How do ecopreneurs' supply chain practices impact the fulfilment of their sustainability goals?". In this last chapter I want to marry the two together to give a multilevel examination of how the ecopreneurs' inter and intra-firm business practices contribute to delivering their sustainability goals. I link this to the propositions of how ecopreneurs are expected to foster sustainable development, which I derived from the literature review. This creates the proposed in-depth understanding of ecopreneurial business practices through which ecopreneurs are expected to act as change agents for sustainability.

This chapter is structured into four sections: First, I begin by examining the specific insights to alternative food networks before moving onto general insights from my research. Second, I discuss the ecopreneurial practices in response to market failures and sustainability. This addresses the Kirzner concept of entrepreneurship. Third, I discuss the area of eco-innovation which represents the Schumpeter concept of entrepreneurship. Both sections will be linked with the literature on sustainable supply chain management. Fourth, I summarise and discuss my findings of the trade-offs between the different sustainability goals. I further include the hybrid venture literature at this stage. In each section I present a summary table of my findings, followed by a detailed discussion. The tables have the following structure: On the left, the insights from the literature review are summarised. On the right,

the corresponding empirical evidence of business practices through which the ecopreneurs pursue sustainability, are presented from a firm level and a supply chain perspective. Following these four sections, I present a conceptual model of how sustainability is impacted by the different domains within and across organisations. Supporting the conceptual model, I derive theoretical propositions from the empirical evidence that lay the foundations for future research.

6.1 Insights to alternative food networks

Table 6-1 summarises the findings from the literature review on alternative food networks and links these to the empirical evidence of firm level and supply chain business practices found in ecopreneurial ventures.

The literature review shows that various forms of AFNs, such as farmer's markets (Migliore et al., 2015), farm shops (Rickett Hein, Ilbery & Kneasfsey, 2006), community supported agriculture (Seyfang, 2007) and food box programmes (Robbins, 2015) exist. All aim to shorten the supply chain in terms of the number of intermediaries as well as geographically (Conto et al., 2014; Robbins, 2015; Seyfang, 2007). On the firm level, the ecopreneurs achieve this by running their own retail operations and selling directly to the consumer. These retail operations include AFN forms like farm shops, community supported agriculture and food box programmes. In addition to the variations mentioned in the literature, I also found that ecopreneurs operate hospitality outlets. These enable the ecopreneurs to get closer to their community by creating a space for social exchange. They also help the ecopreneurs reduce food waste in other areas of their operations. In addition to their normal offering of seasonal food, the ecopreneurs process and sell food from their retail operations that is close to perishing in their hospitality outlets. Thus, hospitality outlets achieve both the social and environmental goals of AFNs.

Literature	**Empirical Evidence**	
Alternative Food networks	Firm Level Perspective	Supply Chain Perspective
AFNs aim to shorten supply chains (Conto et al., 2014; Robbins, 2015; Seyfang, 2007)	• Run own retail operations to sell straight to the consumer	• Span multiple supply chain tiers • Source products directly from independent producers
Shorter supply chains reduce carbon footprint (Curtis, 2003; Frankova & Johanisova, 2012; Hogan & Lockie, 2013; North, 2010)	• Use low-carbon delivery methods • Deliver to consumer's doorstep	• Limit supply and distribution network geographically
Shorter supply chains improve regional economy and local social wellbeing (Conto et al., 2014; Migliore et al., 2015; Roep & Wiskerke, 2012)	• Co-produce with consumers • Foster social interaction	• Source from locally owned businesses to keep money in the local economy
AFNs stabilise farm income and allow for small scale production (Seyfang, 2007; Sonnino & Marsden, 2006)		• Pay a premium to enable small-scale production and secure suppliers' sustainability
AFNs use organic production to protect the environment (Conto et al., 2014; Migliore et al., 2015; Wiskerke, 2009, Zsuzsa, 2012)	• Apply organic and biodynamic growing frameworks	• Source predominantly from organic producers • Examine organic practices for producers with insufficient resources for certification
To benefit from local production, AFNs need to choose plants, animal breeds and crop cycles according to local particularities (Roep & Wiskerke, 2012; Theurl, Haberl & Lindenthal, 2014)	• Find value for break-crops • Breed indigenous cattle • Only grow what can reasonably be grown locally	• Only import produce that cannot be sourced locally
AFNs seek to change consumer behaviour towards sustainable consumption patterns (Roep & Wiskerke, 2012; Seyfang, 2007)	• Making sustainable food accessible • Educating consumers about origin and value of food • Building communities around sustainable food production and consumption	

Table 6-1: Ecopreneurial actions within alternative food networks

Another overlooked feature with regards to eliminating intermediaries is the vertical integration of organisations in AFNs. The literature appreciates that short supply chains sell directly to the consumer through the mentioned variations of AFNs (Sini, 2014), but little has been said so far about organisations in AFNs spanning multiple supply chain tiers. Instead, it appears that the literature focuses on a reduction in tiers through more direct sourcing methods (Quaye et al., 2010; Watts, Ilbery & Maye, 2005). As we have seen, sourcing directly from the producer is indeed a common supply chain practice, but not the only way of shortening the supply chain. I propose that more focus in future AFN research should be placed on organisations spanning multiple supply chain tiers in AFNs. On the one hand, research could consider how vertical integration gives the AFN members more control over their distribution and production, the value distribution within the supply chain, and the subsequent increases in sustainability. On the other hand, vertical integration bears the risk of organisations losing their focus and incurring excessive management cost. Since single-tier organisations have been researched so far, I consider exploratory research into multi-tier organisations valuable, which would enable future research to compare the benefits and drawbacks from vertical integration in AFNs.

One of the main benefits from shortening the supply chains is the reduction in carbon emissions from shorter transportation routes (Curtis, 2003; Frankova & Johanisova, 2012; Hogan & Lockie, 2013; North, 2010). This sentiment is shared by the ecopreneurs, who predominantly focus on local sourcing and distribution. To improve the environmental impact beyond reducing food miles, some of the ecopreneurs employ low carbon transportation methods, such as bicycles or sailboats. I propose that improving the actual methods of transportation, in addition to shortening the routes, still holds great potential for eco-innovation in AFNs as the actual means of transportation are rarely discussed and contribute greatly to greenhouse gas emissions. Delivery schemes bringing the food to the consumers' doorstep further improve the carbon footprint of food provisioning by aggregating the deliveries and achieving higher vehicle utility than individual household trips (Danloup et al., 2015; Wiskerke, 2009).

Another benefit proposed to come from shorter supply chains is the improved regional economic activity and local social wellbeing (Conto et al., 2014; Migliore et al., 2015; Roep & Wiskerke, 2012). On a firm level, the ecopreneurs pursue this through co-creating with the consumers in their local community and by fostering social interaction in and around their venture. Co-creation constitutes integrating the consumers into the business decision making, offering volunteering opportunities or jobs to the consumers and inviting consumers to participate in the farming activities. Fostering social interaction is achieved by opening the venture's premises to the wider community. This enables the consumers to experience where their food comes from, to connect with the producers, and become more educated about their food choices. The community engagement tackles loneliness and creates social cohesion in the area.

On a supply chain level, the ecopreneurs aim to strengthen the regional economy by sourcing from locally owned businesses, which creates jobs and investment in the region. Further, sourcing locally and directly from the producer is sought to stabilise farm income and enable small-scale production methods (Seyfang, 2007; Sonnino & Marsden, 2006), which can be a counterweight to current intensive farming methods with their various environmentally degrading effects (Voget-Kleschin, 2015). To achieve this proposed outcome, the ecopreneurs in AFNs pay a premium to their suppliers that in some cases lies above the market price for comparably sustainable food, which supports the suppliers' sustainability and enables their engagement in the proposed small-scale production. As discussed in the firm level analysis, the higher cost from small scale organic production mostly results from a lack of economies of scale, while the variable costs in organic production often lie below those of intensive agriculture. This finding improves our understanding of the challenges AFNs face with regards to achieving economic sustainability. The identified practices of resource sharing, which I will discuss later, are one way of overcoming this hurdle, but further approaches are worth researching.

Environmental protection is at the heart of the AFN literature and organic production is the most mentioned means to alter food production towards sustainability (Conto et al., 2014; Migliore et al., 2015; Wiskerke, 2009; Zsuzsa, 2012). On a firm level, organic production was found in all but one of the upstream ecopreneurial ventures. One venture also expanded the organic production to biodynamic production. On a supply chain level, the participants favoured organic as a supplier selection criterion above all others. A problem the ecopreneurs faced, however, was getting their production certified, which requires funds beyond those available for the ecopreneurs (Cholette et al., 2014; Follett, 2009). To overcome this challenge, ecopreneurs build close relationships with their suppliers, investigate the production techniques themselves and are willing to vouch for the organic status towards their customers. This shows an example of supply chain collaboration for sustainability based on trust, which opposes a relationship built on power through the certification and setting of standards, commonly found in mainstream supply chain literature (Beske, Land & Seuring, 2014; Gosling et al., 2016; Wilhelm et al., 2016). The supply chain examination has shown us that these trust-based relationships are enabled by the shared values between the ecopreneurial ventures within in a supply network. We can therefore see that ecopreneurs in AFNs build their networks around their shared values to increase their environmental impact, but also for pragmatic considerations born out of resource constraints.

As discussed in the literature review, to benefit from local and organic production it is important for farmers to select their crop and animal breeds according to local requirements (Roep & Wiskerke, 2012; Theurl, Haberl & Lindenthal, 2014). The ecopreneurs put this requirement into practice in multiple ways. One example is of them finding ways to add value to break-crops, thus respecting crop cycles whilst also discovering economic opportunities. Another example can be found in rearing indigenous breeds of animals that can be held outside all year round and require fewer resources to rear. As such, the ecopreneurs only grow what can reasonably be grown locally. On a supply chain level, this means that the ecopreneurs import produce that cannot be grown locally. To secure their economic sustainability,

they could not avoid offering produce that cannot be produced locally or they would risk losing customers. With imported goods they also looked for sustainable production techniques of foreign producers and chose low carbon shipping methods. This shows that the ecopreneurs do what is necessary to secure their financial viability but aim to minimise their environmental impact whilst doing so. Again, this highlights the ecopreneurs' challenge of balancing their value driven and pragmatic considerations. These sustainability trade-offs will be discussed further below. The notion of the limited availability of produce in the UK and the aforementioned hungry gap, a time of the year where few crops can be grown locally, also requires more attention in the debate about food security from local food systems (Irani & Sharif, 2016).

The last proposition highlighted in the literature review is the AFNs' aim to change consumer behaviour towards sustainable consumption (Roep & Wiskerke, 2012; Seyfang, 2007). The ecopreneurs put this into practice by making sustainable food accessible to larger parts of society by educating consumers about the origin and value of food and by building communities around sustainable food production and consumption. In particular, making food accessible to all parts of society contributes greatly to changing consumption behaviour. It impacts consumers beyond a small group of food elites (Holloway & Kneafsey, 2000) and does not require a higher willingness to pay for sustainably produced food (Brecard et al., 2009), which the literature sees as limitations to AFN's efforts. In this way the ecopreneurs do not only influence the consumption decisions but actually increase the consumption options for a larger consumer base. These activities are deeply engrained with other practices, such as co-production and social interaction. Further, they link into the market failures of unmet demand for sustainable products and information asymmetries, which I will discuss in the following section together with the ideas of Kirznerian entrepreneurship.

My research adds to the literature on AFNs and food supply chains by providing empirical evidence for the business practices ecopreneurs within AFNs employ to change systems of food provisioning towards sustainability. Among these examples this doctoral dissertations shows how the propositions

are fulfilled, but also highlighted areas that oppose the literature or are not covered yet, such as the organisational forms and hurdles to economic sustainability in small-scale production. The remaining discussion will now, as far as is possible, move away from the specifics of the food industry to link ecopreneurial practices to the general sustainability driven entrepreneurship literature, the literature on sustainable supply chain management, and the hybrid venture literature.

6.2 How ecopreneurs address market failures

Table 6-2 summarises the literature's propositions of how ecopreneurship should arise from the market's failure of creating sustainability and the empirical evidence of ecopreneurial actions I found in my investigation.

While not necessarily a motivation, the first market failure of unmet demand for sustainable products is at the core of every ecopreneurial business model. Identifying a gap in the market and acting upon it is the essence of entrepreneurship (Kirzner, 1997; Shane & Venkataraman, 2000) and builds the foundation for the ecopreneurs' trading activity. We have seen in Kirkwood and Walton's (2010a) study that identifying the market gap constitutes one of the motivations for ecopreneurs to start up. However, this was not stated by the participants in this study; their motivation was around driving change and doing something worthwhile. On a firm level, this constitutes selling products with a lower environmental impact in a socially sustainable fashion.

Literature	**Empirical evidence**	
Market Failure	Firm Level Perspective	Supply Chain Perspective
Unmet demand for sustainable products holds ecopreneurial opportunities (Dean & McMullen, 2007; Hall, Daneke & Lenox, 2010; Kirzner, 1997)	• Selling products with lower environmental impact in a socially sustainable way	• Offering a route to market for new products
Information asymmetry leads to unsustainable consumer (Dean & McMullen, 2007) and supply chain (Hall, Matos & Silvestre, 2012) decisions	• Engaging with consumers to change relationship with the environment • Educating consumers on the requirements of production • Fostering social interaction	• Sharing results from production trials publicly • Skill exchange within supply network
Externalities and discrepancy between private and social cost encourage unsustainable business models (Cohen & Winn, 2007; Pacheco et al., 2010)	• Paying staff a real living wage • Paying a premium for products with lower environmental impact • Using low impact production techniques	• Paying suppliers above market price • Limiting distribution radius to limit carbon emissions

Table 6-2: Ecopreneurial actions in response to market failure

On the supply chain level, the trading constitutes offering routes to the market for new products with better environmental credentials. These actions thus increase the supply of sustainable products in the market and address the market gap, even though the exploitation of economic opportunity was not the ecopreneurs' primary motivation for starting up.

In addition to unmet demands, information asymmetries also lead to unsustainable consumption (Cohen & Winn, 2007; Dean & McMullen, 2007) and supply chain decisions (Hall, Matos & Silvestre, 2012). A lot of attention in the literature is placed on improving production and delivery methods (which I discuss further when discussing eco-innovation), but some authors (for examples see, Irani & Sharif, 2016; Kneafsey et al., 2013; Seyfang, 2007) also highlight the importance of changing consumer behaviour towards more sustainable consumption patterns. To achieve this the ecopreneurs engage with their customers through co-creating the products and holding workshops, as I have highlighted in the food specific discussion above. A close dialogue is developed to change the consumers' relationship with the environment. Getting the customers involved with the production constitutes one of the practices through which the ecopreneurs aim to educate the consumers on the resource requirements of the production and consequently raising their awareness for the impact of different consumption choices. Further, the ecopreneurs aim to create awareness for the value of food through their pricing strategies, but they must be careful not to exclude low-income classes from sustainable food to maintain their social mission. Finally, ecopreneurs also foster social exchange in and around their ventures, which enables the customers to engage in an information exchange with each other. A similar practice was found on the supply chain level where the ecopreneurs create knowledge and skill exchanges within their supply network. These aim to improve the production techniques of their suppliers, but also enables the network members to help each other out with complementing skills, thus increasing the likelihood of success for all. Additionally, the ecopreneurs who engage in developing new, sustainable production techniques and business practices, share the results from their trials publicly, to encourage more ecopreneurship in their area and help others develop their practices further

too. Through these practices the ecopreneurs address the market failure of information asymmetry and contribute to sustainable development by disseminating knowledge about sustainable consumption and production.

The last areas of market failure I have found the ecopreneurs to address are the existing externalities and flawed pricing mechanisms. As seen in the literature review, unsustainable business practices are favoured for the short-term economic benefits resulting from the free use of some natural resources like air and the oceans. Businesses using and polluting these do not incur any costs. Other resources are not priced correctly to reflect the impact production and distribution have on the wider ecological and social environment (Cohen & Winn, 2007). In a profit-maximising and cost-minimising environment, businesses are thus encouraged to exploit this market failure to accrue larger profits at the expense of the environment (Pacheco, Dean & Payne, 2010). The literature suggests that this holds an opportunity for ecopreneurs to engage in Coasian entrepreneurship which is the creation of property rights for exploited resources and limits the extent that others can use these for free, therefore offering the potential for entrepreneurial rents through selling the resources (Dean & McMullen, 2007). This behaviour was not observed in the ecopreneurs in my study. Conversely, they appear to disagree with this profit-maximising logic and instead willingly take on the additional cost needed for sustainability that the market failed to factor into the prices. This behaviour corresponds more closely with Cholette et al.'s (2014) assertion that social entrepreneurs don't adhere to traditional market logic. Therefore, I propose this assertion can be extended to include ecopreneurs.

To address this market failure on the firm level, the ecopreneurs take on the neglected cost of sustainability through paying their staff real living wages, paying a premium for products with lower environmental impact, and using low impact production techniques, even if these are less cost efficient. The fact that the ecopreneurs are careful not to pass these additional costs on to the consumer, but rather take a hit to their own profitability, underlines the break with a profit-maximising logic. On a supply chain level, tackling the flawed pricing mechanisms (Schleper, Blome & Wuttke, 2017) is reflected in

the willingness of ecopreneurs to pay their suppliers above the market price to ensure the suppliers' sustainability. To limit the externalities of their ventures and reduce carbon emissions, the ecopreneurs also limit the radius in which they distribute their goods. This further supports Kirkwood and Walton's (2010b) finding that ecopreneurs' supply chain decisions are value led.

Some of these areas, such as developing and disseminating new production methods and commercialising new more sustainable products, link into the domain of innovation, which I discuss next.

6.3 From ecopreneurial discovery to eco-innovation

Table 6-3 links the literature's propositions about eco-innovation to the evidence of how ecopreneurs drive eco-innovation within their own firm and across other firms. The themes that arose from the empirical evidence link into the ecopreneurial discovery from market failure.

Innovation as a process of identifying and commercialising new technologies, production methods or resources (Drucker, 2007) is at the core of Schumpeter's entrepreneurship concept. These activities make existing products obsolete and through creative destruction, force industries to change (Gunter, 2012). As noted in the literature review, not all innovation is beneficial to society and the environment, so in accordance with their mission, ecopreneurs are expected to engage in eco-innovation, which reverses or mitigates unsustainable conditions (Carvalho & Barbieri, 2012; Cohen & Winn, 2007). The literature discusses the definition of an ecopreneur and a green business, mostly revolving around starting a new, innovative venture with a sustainability mission (Kirkwood & Walton, 2014). This would exclude conventional businesses from being ecopreneurial. With reference to Schumpeter's work, however, an entrepreneur can be anyone for the time they are innovating (McDaniel, 2011). As stated earlier, Weinberg (1998) also suggests focusing on the impact a business has on improving the environment rather than defining what exactly constitutes a green business. I therefore propose it is possible for any business to act in an ecopreneurial way for the

time they display the mentioned behaviour of addressing market failures and innovating to reverse or mitigate unsustainable conditions.

A simple example of this kind of innovation can be seen in the ecopreneurs use of waste. Turning waste into products that can be sold takes a previously useless substance and lets it add value to the venture. This is a typical form of resource innovation portrayed by ecopreneurs (Dixon & Clifford, 2007) as well as conventional businesses (Defee, Esper & Mollenkopf, 2009), who act in an ecopreneurial way for the time they are creating innovation to improve the environment.

The ecopreneurs using low impact production methods can be seen as engaging in process innovation by changing the process of how food is produced. Interestingly, not all production methods the ecopreneurs commercialise are truly new, as they take inspiration from non-intensive farming methods used in the past. However, the re-emergence of non-intensive farming and its use together with new machinery, can be regarded as innovative. The ecopreneurs who engage in urban agriculture through aquaponic and hydroponic farms commercialise new technology, which is unquestionably innovative (Drucker, 2007). Further, process innovation can be found in the development and dissemination of low carbon distribution methods. On a firm level, the ecopreneurs thus engage in developing and commercialising new processes and technologies. On a supply chain level, they disseminate these by pioneering new technologies and helping other innovating businesses start-up.

Literature	**Empirical Evidence**	
Eco-Innovation	Firm level Perspective	Supply Chain Perspective
Innovation entails commercialising new technologies, production methods or resources (Drucker, 2007; Gunter, 2012)	• Producing products with lower environmental impact • Selling products with lower environmental impact	• Helping new sustainable businesses start-up
Ecopreneurs seek innovations that reverse or mitigate unsustainable conditions (Carvalho & Barbieri, 2012; Cohen & Winn, 2007)	• Using waste to create value • Developing production techniques that lower environmental impact	• Pioneering low-carbon shipping methods
Eco-innovation holds potential for sustainable development in supply chains (Beske, Land & Seuring, 2014; Isaksson, Johansson & Fischer, 2010)	• Developing distribution methods that lower environmental impact	• Joint development of business practices and techniques within own and competing supply networks

Table 6-3: Ecopreneurial practices in pursuit of eco-innovation

The last area of innovation links closely to the discovery of unmet demand, as ecopreneurs engage in product innovation by commercialising and disseminating low impact products. According to Schumpeter the innovator is not necessarily the inventor or creator of a new product. Instead, the person commercialising the new product is the innovator and entrepreneur (McDaniel, 2011), which in this case is represented by the ecopreneur bringing eco-friendly products that others produce to the market. Often this requires the ecopreneur to create demand for new, more sustainable products through changing consumption patterns (Seyfang, 2007), which we have seen as addressing the market failure of information asymmetry (Dean & McMullen, 2007). Changing demand and altering existing markets or creating new ones is also inherent in Schumpeter's concept of entrepreneurship (Kirby, 2003). We can thus see that the ecopreneurs' engagement in eco-innovation constitutes Schumpeterian entrepreneurship, whilst also addressing the market's failure to drive sustainability and thereby contribute to sustainable development. Isaksson, Johansson and Fischer (2010) argue that supply chains hold great opportunities for sustainability led innovations, but a lack of awareness and visibility works as a hurdle to these. Ecopreneurs working to reduce information asymmetries by sharing their practices and trial results thus work to overcome these hurdles and further foster innovation by addressing market failures. Beske, Land and Seuring (2014) find that collaborative development of practices and transparency drive sustainability in supply chains. The former can be found in conventional businesses who develop their trading partners and support them with resources to become more sustainable. The latter is mostly achieved through certifications and standards. Here we can see ecopreneurs deviating from conventional businesses again - their relationships to members of the supply network are built on trust and open dialogues, instead of power and certifications. Since their actions are motivated by their sustainability values, the ecopreneurs do not limit their support for developing sustainability to their own supply chain but aim to increase their mission's reach across the industry. To do so, they make the test results publicly available and share them through professional bodies with potential competitors. Further, their efforts of helping other businesses in the same industry start-up increase competition. These practices constitute further

evidence that ecopreneurs do not adhere to traditional market models. Their sustainable development efforts are not aimed at acquiring a competitive advantage, as proposed by the main stream supply chain literature (Brandenburg & Rebs, 2015; Busse, 2016; Danloup et al., 2015), but are motivated by their values for driving change. Future research should investigate the role of these practices in knowledge dissemination and their impact on the likelihood of innovation in ecopreneurial supply chains. The practices around market failure and eco-innovation, supported by a raison d'être that breaks with traditional market models, confronts ecopreneurs with a set of trade-offs, which I discuss in the following section.

6.4 Ecopreneurial responses to sustainability trade-offs

Table 6-4 is the largest of the discussion tables because it deals with the trade-offs between the three dimensions of sustainability. Analogous to the previous tables, the first column holds a summary of insights from the literature review and the second and third columns present the empirical findings of the ecopreneurs' responses to the trade-offs in sustainable development.

In the literature review, we can see that trade-offs between the economic, ecologic and social dimensions are challenging to manage due to their interdependent nature (Brandenburg & Rebs, 2015; Hall, Matos & Silvestre, 2012) and varying degrees of measurability of the sustainability goals (Beske, Land & Seuring, 2014; Doherty, Haugh & Lyon, 2014). Consequently, Ahi and Searcy (2015) find that no set of performance indicators are suitable to assess supply chain sustainability in all circumstances. The ecopreneurs respond to this challenge through a mix of value driven and pragmatic selection criteria. These are applied depending on the trading relationship with the supply network partners and their contribution to sustainability.

Literature	**Empirical Evidence**	
Trade-Offs	Firm level Perspective	Supply Chain Perspective
Interdependent nature of goals leads to complexity and forces trade-offs in supply chains (Ahi & Searcy, 2015; Brandenburg & Rebs, 2015; Hall, Matos & Silvestre, 2012)		• Mix of value driven and pragmatic selection criteria • Applying selection criteria depending on trading relationship
Quantifiable goals like economic and ecologic performance receive more attention than qualitative goals like social performance (Beske, Land & Seuring, 2014; Doherty, Haugh & Lyon, 2014; Seuring & Müller, 2008; Marshall et al., 2015b)	• Monitoring social performance through a split of measuring input quantitatively and a qualitative assessment of output • Ecologic performance monitoring restricted through lack of frameworks • Basic economic performance indicators	
Social sustainability can negatively impact economic performance (Santos, Pache & Birkholz, 2015)	• Paying highest possible wages	• Paying a premium to secure economic sustainability of suppliers • Avoid passing premium to customers to secure social sustainability
Social performance can positively impact economic performance through win-win scenarios (Dohrmann, Raith & Siebold, 2015; Theodoraki, Messeghem & Rice, 2018)	• Providing volunteering opportunities provides free labour and increases social impact • Non-financial reward systems	
Working conditions impact social sustainability (Carter & Jennings, 2004; Evans et al., 2006; Grover & Crooker, 1995)	• Developing staff in areas of interest • Making working conditions fair and enjoyable • Fostering employee wellbeing	

Negative economic performance can negatively impact social performance (Battilana et al., 2015)	• Social activities supported through grant funding • Profits from business unit fund social activities	• Limiting supplier numbers to provide stable and sufficiently large business to suppliers
Ecologic performance can negatively impact economic performance (Beske, Land & Seuring, 2014; Seuring & Müller, 2008; Tajbakhsh & Hassini, 2015)	• Paying a mark-up for sustainably produced products	• Paying a premium to enable small-scale, ecologically sustainable production in suppliers
Ecologic performance can improve economic performance through win-win scenarios (Ahi & Searcy, 2015; Ambec & Lanoie, 2008; Busse, 2016; Hall, Matos & Silvestre, 2012)	• Avoiding waste • Using fewer input factors • Turning waste into value	• Sharing resources and machinery to increase utilisation

Table 6-4: Ecopreneurial responses to trade-offs from sustainability

The ecopreneurs, for example, apply sustainability criteria such as locality and organic production to the producers they source from directly, but choose their wholesalers based on pragmatic features such as reliability. Through a mix of selection criteria, the ecopreneurs manage the challenges of aiming to address the different dimensions of sustainability in their sourcing.

A frequently stated problem with sustainability assessments is that, due to their quantitative measurability, economic and ecologic performance receive more attention in hybrid ventures (Doherty, Haugh & Lyon, 2014) and supply chains (Beske, Land & Seuring, 2014; Seuring & Müller, 2008; Marshall et al., 2015b) than the social dimension. This literature proposition was challenged in half of the ecopreneurial ventures. The ecologic dimension receives the least attention, mostly due to a lack of resources and appropriate measurement frameworks. The economic dimension is measured with basic performance indicators, but often appears to receive little attention beyond the aim to break-even, which reflects the relatively limited emphasis placed on profit maximisation. To circumvent the problems of assessing the social performance of their activities, the ecopreneurs use a combination of quantitative and qualitative assessment, where the input into social activities is measured quantitatively, while the output is assessed qualitatively. This approach can help further research build frameworks to assess the sustainability of businesses.

While social-economic and ecologic-economic trade-offs are well represented in the literature, the social-ecologic trade-offs receives little attention. The conceptual model presented in the firm level analysis shows that a direct trade-off between the two dimensions does not exist but is mediated by the economic performance of a venture. The literature proposes that social sustainability can negatively impact economic performance (Santos, Pache & Birkholz, 2015), which on a firm level is caused by activities such as paying the employees the highest possible wage, and on a supply chain level by paying a premium to secure the suppliers' sustainability whilst not passing on the increased prices to consumers. As Battilana et al. (2015) point out, when profits are used to fund further social activities, the reduced economic

performance from the prior engagements in social sustainability, can limit the extent to which the venture can engage in further social activities. In practice, this does not hold when the ecopreneurs manage to acquire dedicated grant funding to support their social activities. As we have seen from the literature, ecologic sustainability can also negatively impact economic performance (Beske, Land & Seuring, 2014; Seuring & Müller, 2008; Tajbakhsh & Hassini, 2015). This is evident in the ecopreneurs' willingness to pay a higher mark-up for ecologically sustainably produced products that enable their suppliers' small-scale, organic production. If we combine this with Battilana et al.'s (2015) insight, we can see that higher engagement in ecologic sustainability (that reduces economic performance) will also lead to reduced engagement in social sustainability due to the lack of available funds. Thus, activities in one sustainability dimension that diminish economic performance consequently limit the venture's efforts in the other sustainability dimension. This portrays how the engagement in activities in the social and ecologic dimensions are mediated by the economic performance of the venture. A conceptualisation of this relationship is presented in the conceptual model below.

In contrast to trade-offs in sustainability, however, certain win-win scenarios of sustainability exist, where improving one dimension of sustainability also improves another dimension. Frequently mentioned in the literature are ecologic-economic win-win scenarios (Ahi & Searcy, 2015; Ambec & Lanoie, 2008; Busse, 2016; Hall, Matos & Silvestre, 2012). Firstly, these are achieved on a firm level by avoiding waste and using production methods that require fewer input factors, which both save the venture money and improve the environmental impact. Secondly, by turning waste into value, which generates further income for the venture, the economic together with the ecologic performance is strengthened. The former are activities we can expect in any commercially minded business that wants to strengthen their financial position as they go hand in hand with direct cost savings. The latter, as shown above, constitutes the entrepreneurial discovery of an economic opportunity (Shane & Venkataraman, 2000) as well as a form of resource innovation (Dixon & Clifford, 2007; Drucker, 2007) that mitigates environmental degradation and is thus inherently ecopreneurial (Cohen & Winn, 2007; Dean

& McMullen, 2007). On a supply chain level, win-win scenarios exist in sharing resources and machinery with trading partners, which increases resource utilisation and cost efficiency.

Less mentioned in the literature, but found especially for hybrid ventures, are win-win scenarios between the economic and social dimension (Dohrmann, Raith & Siebold, 2015; Theodoraki, Messeghem & Rice, 2018). On a firm level, the ecopreneurs capture these win-win scenarios by providing volunteering opportunities to special needs groups, which furthers their social sustainability and provides free labour. Further, non-monetary reward systems for employees enable ecopreneurs to increase their social sustainability whilst not impeding on their economic performance. On a supply chain level, ecopreneurs were found to limit the number of suppliers they engage with. This gives each supplier a larger share of the business and secures their sustainability, whilst reducing the administrative cost for the ecopreneur and thus achieving a win-win situation.

We have seen the existence of win-win scenarios in both the social-economic and the environmental-economic dimension as well as the previously established mediating effect of the economic performance on the social-environmental dimension. I therefore postulate that analogous to the indirect social-environmental trade-offs, indirect social-environmental win-win scenarios exist too. Cost savings in one dimension of sustainability, can be used to fund further activities in a different dimension of sustainability.

6.5 Conceptual model: sustainability flows in ecopreneurial supply networks

The literature portrays the existence of these trade-offs as detrimental or at least a hurdle to business success (Pagell & Shevchenko, 2014). This perception stems from the literature's view on organisational performance as equivalent to economic performance (Busse, 2016). Any trade-off that diminishes economic performance thus diminishes organisational performance and hinders business success. If we instead link the trade-offs to the insight that ecopreneurs purposefully take on the social cost of their

business activity, we can see that the trade-offs between ecologic or social sustainability and economic sustainability represent the market failures of existing externalities and flawed pricing mechanisms. Under the ecopreneurs' ecologic and social impact maximising logic, managing these trade-offs is thus not overcoming a hurdle to business success, but rather at the core of their understanding of success. This insight then demands a different perspective of looking at ecopreneurial businesses. Social and ecologic performance are not additions to economic performance, but rather economic performance is an enabler for social and ecologic activities that aim to drive sustainable development. Instead of profit, the ecopreneurial ventures' main goal is then the contribution to sustainable development through activities that correct market failures and introduce eco-innovation into the market. As stated, the economic performance is a requirement for the venture's viability, but only to the extent that the income covers the costs. Any profits from the venture's operations have no effect on sustainable development until they are used for activities that improve social or ecologic wellbeing. On a firm level, this alternative business logic for sustainable development is conceptualised in Figure 6-1. This model summarises the discussion and lets me derive three theoretical propositions.

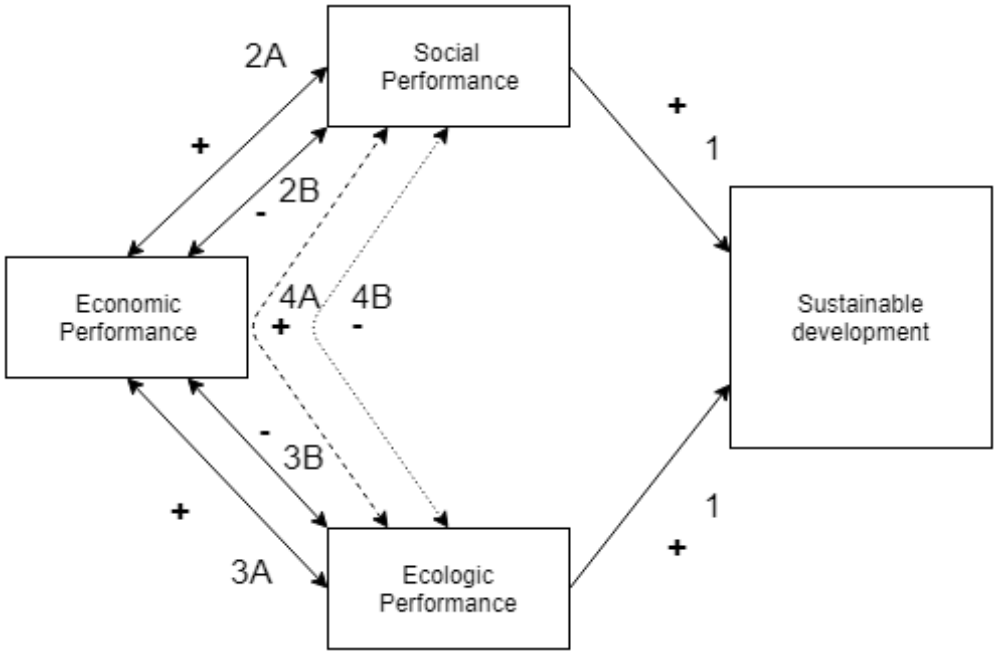


Figure 6-1: Conceptual model of a business logic for sustainable development

In the firm level analysis, I have shown how ecopreneurs pursue their sustainability goals through their business practices. The activities the ecopreneurs engage in aim to address market failures and introduce eco-innovation to drive sustainable development. The performance of ecopreneurial ventures in these activities thus determine the venture's impact on sustainable development and subsequently its success (relationship 1). I propose:

Proposition 1: In an ecopreneurial venture, profit is neutral towards the venture's performance unless it is invested in activities that contribute to sustainable development.

Economic performance has no direct impact on sustainable development but can have an indirect impact when the economic value captured by the venture is transformed into social or ecologic value. Consequently, in the ecopreneurial logic, economic performance is not a goal but the enabler that funds the social and ecologic activities through which ecopreneurs contribute to sustainable development. From the firm level analysis, we have seen that these activities are highly interconnected and the performance in one sustainability dimension will impact the performance in another. From the discussion it emerged that trade-offs but also win-win relationships between the dimensions exist. I have called activities that cause a positive correlation between the performance of two dimensions type A activities. In contrast, type B activities are those that lead to a negative correlation between the performance of two dimensions.

As we have seen, an example for a type A activity exists in ventures offering volunteering opportunities, which increases their social impact and reduces their costs, thus strengthening the social and economic performance simultaneously (relationship 2A). Further examples exist where social activities are funded through the proceeds from economic activities; stronger economic performance will then lead to stronger social performance due to increased engagement in social activities. The negative correlation of type B activities is evident in activities that increase a venture's social performance through increasing its cost, as seen with ecopreneurs paying higher wages.

Here the social performance increases while the economic performance decreases (relationship 2B). Battilana et al. (2015) warn that social activities which diminish economic performance would diminish social performance due to this relationship. While there is merit in this statement, it portrays a one-way relationship that implies businesses can do economically well irrespective of their social performance. Any engagement in type B social activities is then a sign of goodwill and a bonus. I argue, however, that poor social performance can equally diminish economic performance - for example, through decreased employee satisfaction or damages to the brand reputation and consumer goodwill (Gualandris & Kalchschmidt, 2014; Mani, Agrawal & Sharma, 2015). Thus, a circular relationship rather than a one-way dependence from one dimension to the other exists between economic and social performance.

As we have seen throughout the discussion, similar trade-offs and win-win situations also exist between the economic and the ecologic dimension. An ecologic type A activity, for example, exists where ecopreneurs sell by-products of their production. They simultaneously reduce waste whilst increasing their revenues, thus improving the ecologic and economic performance (relationship 3A). Ecologic type B activities exist, for example, where the ecopreneur restricts their distribution radius to lower the carbon footprint. While greenhouse gas emissions are reduced and the ecologic performance is increased, the revenues are restricted, and the economic performance decreased (relationship 3B). While the reduced economic performance might limit the engagement in further ecologic activities, a reduced ecologic performance might also impede on the economic performance - for example, where soil degradation reduces crop yield for farmers (Conto et al., 2014). Therefore, the discussed circular relationship between social and economic performance also holds for ecologic and economic performance.

Mediated through economic performance, social and ecologic performances are also correlated, which is captured in relationships 4A and 4B. Again, both directions of correlation can be identified. Social activities of type B will

diminish the venture's ecologic performance, as the diminished economic performance limits the venture's ability to engage in type B ecologic activities (relationship 4B). If, for example, the venture increases wages to improve social performance (type B social activity), their ability to pay a premium for ecologically produced products (type B ecologic activity), and subsequently their ecologic performance, will be reduced. Vice versa, paying a premium for ecologic products will reduce the venture's ability to pay higher wages. In contrast, however, activities in one dimension that strengthen the economic performance of the venture will enable it to improve its performance in the other dimension too (relationship 4A). An organisation that, for example, manages to sell their waste will have additional funds that allow it to pay higher wages and subsequently increase their social performance.

For a complete understanding of how the ecopreneurs' business practices contribute to sustainable development, the insights from the supply chain examination have to be added to the model (Ahi & Searcy, 2015; Kirkwood & Walton, 2010b; Marshall et al., 2015a). For this I have put the conceptual model from Figure 6-1 into a sequence, portraying a supply chain. This visualises the impact a venture's sustainable performance in different dimensions has on their up- and downstream trading partners. Because some of the relationships overlap, the relationships from Figure 6-1 have been taken out of Figure 6-2, but they still hold. The venture which is currently in the analytical focus occupies tier 0 in its own supply chain. The venture's buyer occupies tier 1, the supplier tier -1.

As stated earlier, the downstream members of a supply chain aim to address the market failure of unmet demand for sustainable products by disseminating products with better sustainable credentials than those currently available in the market. A buyer's sustainable performance is therefore dependent on their supplier's sustainable performance (relationships 5a and 5b). Through the increased consumer awareness for sustainable products and processes (Mitra & Datta, 2014), firms with increased sustainability performance can receive a competitive advantage and improve their economic performance (Brandenburg & Rebs, 2015; Marshall

et al., 2015a; Taticchi et al., 2015). This represents the benefits from brand association within the collaborative supply chain approaches. From the supply chain analysis, it further emerged that ecopreneurs aim to improve their suppliers' social and ecologic sustainability by strengthening the suppliers' economic performance (relationship 6). This then enables the suppliers to engage in more type B activities to improve their social and ecologic performance. Because these practices, like paying above the market price or offering the use of resources for free, reduce the ecopreneurial venture's profitability, these actions negatively impact the venture's economic performance.

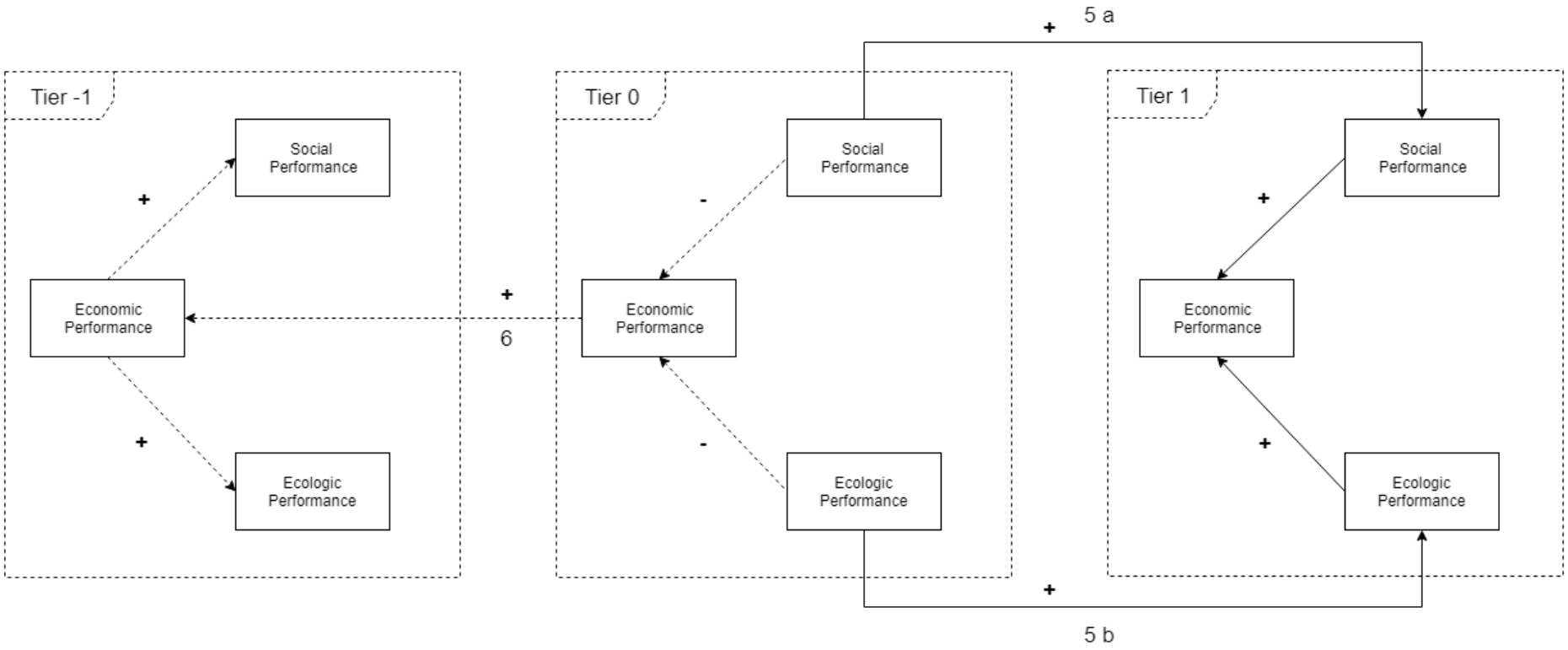


Figure 6-2: Conceptual model of sustainability relationships in a supply chain

The ecopreneur thus pushes part of their economic performance upstream in the supply chain, to enable their suppliers to improve their own social and ecologic performance. From this examination we can see that ecologic and social sustainability appears to follow the material flow downstream through the supply chain, while the economic sustainability follows the cashflow upstream through the supply chain. Seeing that economic performance works as an enabler for social and ecologic performance, a fair distribution of economic value throughout the supply chain is a requirement for sustainability on all tiers for a fully sustainable supply chain. Further, when profit has no direct impact on the ecopreneurial venture's success (unless invested into activities that contribute to sustainable development) and the venture's contribution to sustainable development is reliant on their supply chain's contribution to sustainable development, enabling each member of the supply chain to contribute to sustainable development increases the ecopreneurial venture's and their supply chain's success. The ecopreneurs' willingness to share profits and push for collaborative practices thus contributes to sustainable development on a supply chain level. I therefore propose:

Proposition 2: The fair distribution of economic value throughout the ecopreneurial supply chain maximises the supply chain's contribution to sustainable development and consequently each of the ecopreneurial ventures' successes.

Figure 6-3 is a combination of all relationships and portrays the interconnected nature of sustainability goals on the intra and inter-firm level with the relationships between all dimensions. The complex interdependent nature of dimensions and high number of circular relationships highlights the enormous challenge of creating a sustainable business. It also explains why it is so difficult to create an unambiguous typology of sustainable ventures.

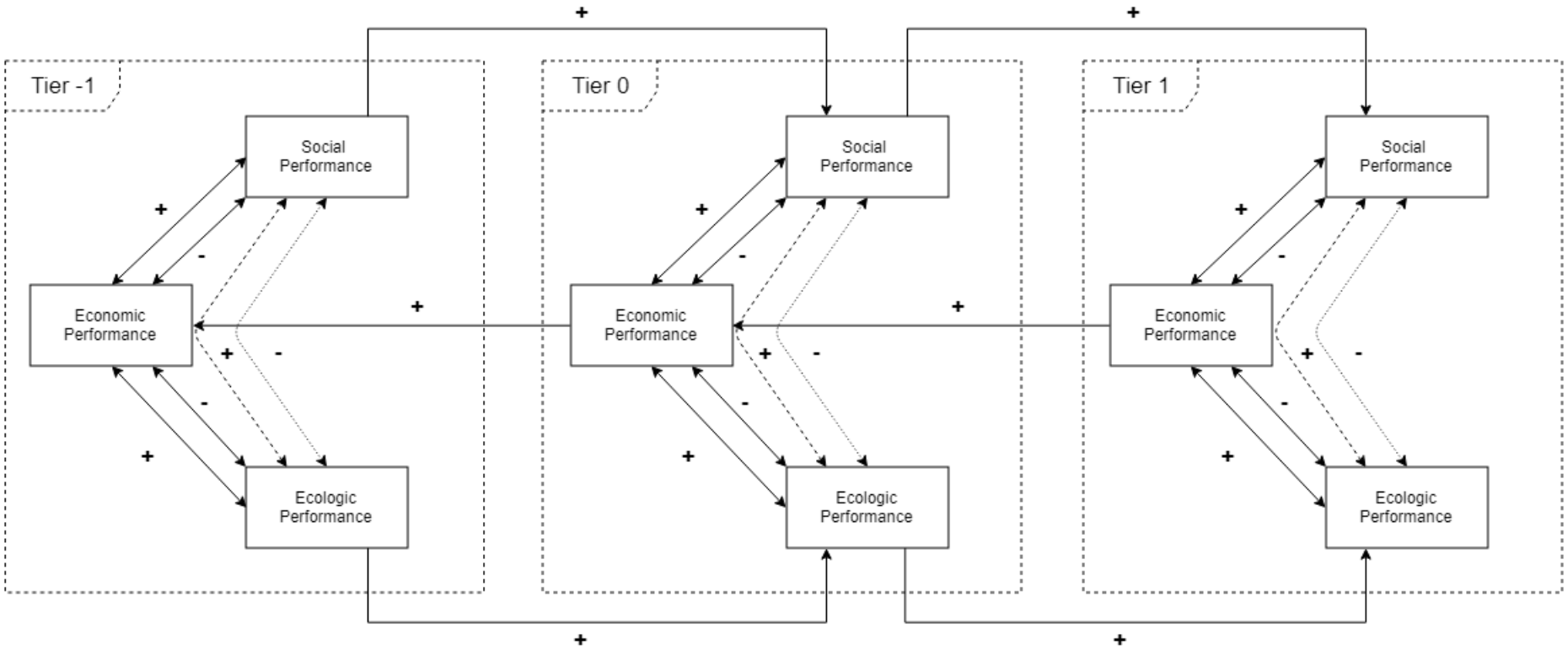


Figure 6-3: Multilevel model of sustainability flows in a supply chain

In a conventional business, where maximising economic performance is the goal, activities of type A should primarily be sought as vast amounts of literature point out (Ahi & Searcy, 2015; Ambec & Lanoie, 2008; Busse, 2016; Hall, Matos & Silvestre, 2012; Pagell & Shevchenko, 2014). For ecopreneurial ventures with the aim to maximise their contribution to sustainable development, an engagement solely in type A activities is not enough. Instead, in addition to type A activities the ecopreneurs must also pursue type B activities, for which I propose a value led and a rational selection process. The value led selection process would entail choosing type B activities by personal preference of the ecopreneur and is likely influenced by a cause close to the ecopreneur's heart. The rational selection process would firstly require the ecopreneur to identify each type B activity's contribution to sustainable development. Secondly, the ecopreneur must find the combination of activities that maximises the overall contribution to sustainable development, whilst keeping the profit greater or equal to zero.

If we accept the alternative goal definition of ecopreneurs to be maximising sustainable development instead of profit, we shift our perspective on the trade-offs. Type B activities are no longer ones that deteriorate economic performance, but rather ones that convert economic value, captured by the venture, into social and ecologic value. These activities thus address market failures of flawed pricing mechanisms and existing externalities and push eco-innovation, which requires substantial investment. Therefore, they are expected to be found primarily in ecopreneurial ventures. In comparison, type A activities that create win-win scenarios address market failures of imperfect efficiencies and unmet demands. Because type A activities can be economically justified, they appeal to a profit-maximising logic and can be expected to be found in any commercially minded venture. What differentiates ecopreneurial ventures from others is then that they capture economic value, not to pay out profits to shareholders, but to transform it into actions that drive sustainable development. The ecopreneurs share their insights and business practices with parties that conventional businesses would consider competition, to maximise the contribution to sustainable development even

though the increased competition will potentially reduce their profits. However, since profits are not the ecopreneurial venture's goal, I propose:

Proposition 3: Ecopreneurs are indifferent to which venture captures and transforms economic value into activities that drive sustainable development as long as their own economic viability is not impaired.

This explains the different attitudes to growth found in the literature, from not wanting to grow in order to stay true to their mission (Phillips, 2006; Phillips, 2012), to growing their own venture for increasing their impact (Dixon & Clifford, 2007), which were shared by the ecopreneurs in this study too. In order to stay competitive and maintain their economic viability, the ecopreneurs want to grow their own ventures, but equally aim to grow their supply chain partners' ventures. Further, sharing their innovation and insights enables other ventures with similar values, but outside of the ecopreneurs' supply chain, to replicate the ecopreneurs' mission, which increases the overall contribution to sustainable development. The ecopreneurs reported feeling fulfilment when other ventures take on their mission and innovation, but they also report that the fulfilment is greater when this does not happen in direct competition. Thus, ecopreneurs seek to grow their mission through their own and other ventures and support others who share their values, as long as they remain economically viable. If my propositions hold, a market dominated by ecopreneurial ventures should result in a scenario where each venture breaks even, but no profits are realised. This is equivalent to the conditions under perfect competition in neoclassical economics (Lipsey & Chrystal, 2007). So, even though the underlying mechanisms are different, a functioning market from a neoclassical and a sustainable development perspective appear to share the zero-profit characteristic. Interestingly, this feature is rarely mentioned in the discourse on sustainable development in the management literature.

To follow the ecopreneurial logic, together with a special set of values, ecopreneurs thus need to be free from shareholder pressures to be successful. We have seen that the ecopreneurial ventures were owned by the ecopreneurs or the community, but never by external shareholders. It appears that this

financial freedom allowed the ecopreneurs to think outside the box and offer alternative business practices, not found in mainstream businesses. In the ecopreneurial logic, paying dividends is a type B activity because it diminishes the venture's ability to engage in social and ecological activities. This raises questions about how we think about profits, finance and return on investments in sustainability driven ventures, which should spark a discussion too large for this thesis.

Following this discussion of my findings and the ecopreneurial business logic, I conclude my dissertation with a summary of my contributions to the entrepreneurship, supply chain management, hybrid venture and alternative food network literature, an overview of implication for policy makers and practitioners, and finally by outlining the thesis' limitations and potential for future research.

Chapter 7: Conclusion

To conclude this doctoral dissertation, I highlight the contributions of my research to the different literature streams, its implications for policy makers and practitioners and outline its limitations. Finally, I propose future research to deal with the limitations and expand our knowledge on ecopreneurship.

7.1 Contributions

My research draws from an array of fields and contributes to these by adding novel findings that arise from the explorative nature of the two studies. These findings contribute to the entrepreneurship literature, especially with focus on sustainability driven entrepreneurship, the hybrid venture literature, where it overlaps with sustainability driven entrepreneurship, the literature on sustainable supply chain management and the literature on food systems, especially with focus on alternative food networks. While I will outline my contribution to each of these fields individually, a large part of my contribution lies in highlighting the connections between the different fields. Especially introducing sustainability driven entrepreneurship into the sustainable supply chain management literature, as a factor of changing supply chains towards sustainability, is a substantial contribution that addresses the research gap identified in the literature review. To date little research has been done to understand how ecopreneurs contribute to sustainable development in supply chains.

7.1.1 Contributions to the entrepreneurship literature

My research builds on two streams of entrepreneurship research: The innovation and creative destruction stream based on Schumpeter's ideas (Bureau, 2013; Drucker, 2007; McDaniel, 2011; Gunter, 2012), and the discovery and exploitation of economic opportunities from the market failures stream, based on the Austrian school of thought (Kirzner, 1997; Shane & Venkataraman, 2000). In the literature review, this doctoral dissertation used Dean and McMullen's (2007) examination of how sustainability driven entrepreneurship links to Kirzner's (1997) ideas and Cohen and Winn's (2007) examination of different types of sustainability driven entrepreneurship to

establish the link to Schumpeter's concepts. Using secondary data on sustainability driven entrepreneurs (Dixon & Clifford, 2007; Kirkwood & Walton, 2010a; Phillips, 2012), my research shows that social concerns cannot be excluded from environmentally motivated entrepreneurs through which I have established my understanding of the ecopreneur along the dimensions of motivation, action and growth aspirations. My research contributes to the literature through my explorative study to show how ecopreneurs drive the change the literature ascribes to them. Through the business practice examination, this doctoral dissertation provides empirical evidence for ecopreneurial discovery sparked by market failures that detract from sustainability. I found supporting evidence for ecopreneurs identifying Dean and McMullen's (2007) lack of perfect efficiency, flawed pricing mechanisms, existence of externalities and information asymmetries. My research further provides evidence for ecopreneurs engaging in eco-innovation as part of Schumpeterian entrepreneurship proposed by Cohen and Winn (2007). Contradictory to the assertions of those two studies the evidence I provide does not support the assertion that ecopreneurs seek profits in their actions of innovating and exploiting market failures. Rather my evidence supports the non-profit maximising logic found in the later ecopreneurship literature (Kirkwood & Walton, 2010a; Parrish, 2010; Phillips, 2012) that finds ecopreneurs aim to make a living but seek to maximise their ecologic and social value creation beyond that. Here my research contributes to the literature by uncovering the business practices that enable ecopreneurs to do so and the trade-offs they must consider in their decision making. To address market failures, my research shows that ecopreneurs address the market gap for sustainable products (Dean & McMullen, 2007; Hall, Daneke & Lenox, 2010) by selling these in a socially sustainable way and by offering other sustainability driven ventures a route to market. In response to information asymmetries (Dean & McMullen, 2007; Hall, Matos & Silvestre, 2012), the ecopreneurs educate their consumers and foster social interaction to change the consumers' attitudes to the environment. They further share their results from trials of new production methods publicly and set up skills exchanges in their supply chains. To tackle the discrepancy of private and

social cost of production (Cohen & Winn, 2007; Pacheco et al., 2010), my research shows that ecopreneurs internalise the social cost through paying their staff real living wages, paying premium prices for products with lower environmental impacts, which secures their suppliers' sustainability and change their production and distribution methods. The change in production and distribution methods also links into eco-innovation (Carvalho & Barbieri, 2012) driven by ecopreneurs through creating more sustainable products, turning waste into value and by disseminating other ventures' sustainability driven inventions.

This doctoral dissertation further expands the ecopreneurial business logic of maximising social and ecologic value through economic activities by conceptualising the relationships between the different performance dimensions. The conceptual model in the firm level analysis shows the interconnectedness of the business practices in the three domains of sustainability, while the model in the discussion uncovers the mediating effect of economic performance on social and ecologic performance. This expands the research on entrepreneurial business practices portraying a dichotomy between commercial and social entrepreneurs (Williams & Nadin, 2013) and commercial and green entrepreneurs (Kirkwood & Walton, 2014) by showing how the three dimensions are intrinsically linked in ecopreneurial ventures.

My research has also uncovered ways of performance monitoring in a triple bottom line setup, which so far is underdeveloped in the SME literature. Especially in social performance monitoring the split of quantitative data capturing the inputs into social activities in combination with qualitative data such as story banks capturing the outcomes of social activities, appears to be a novel workaround to the difficulty of making social impact tangible. This lays the foundation for further research on performance assessment, sustainability minded measurements of organisational performance and best practices.

7.1.2 Contributions to the hybrid venture literature

Closely linked to ecopreneurship is the hybrid venture literature, as it is concerned with ventures that hold multiple, often competing goals (Doherty,

Haugh & Lyon, 2014; Dohrmann, Raith & Siebold, 2015; Santos, Pache & Birkholz, 2015; York, O'Neil & Sarasvathy, 2016). Ecopreneurs who pursue social, ecologic and economic goals simultaneously thus meet this requirement. My research contributes to the field of hybrid venture research by linking it to the literature on ecopreneurship and by providing evidence for the business practices that help ventures align their competing goals. This doctoral dissertation expands the knowledge on hybrid ventures by showing the different income streams they utilise, namely revenue from sales of products and services, sales of by-products and waste as well as grant funding. My research further uncovers their pricing policies of target pricing, cost-plus approaches and market-based pricing and how they are employed in a mix to cater to different customer and beneficiary groups. My research also shows the trade-offs hybrid ventures make between profit, cost, size and mission to align their competing goals.

This doctoral dissertation further adds to the literature by highlighting different business model structures (Osterwalder & Pigneur, 2011) used by ecopreneurs, which furthers our understanding of hybrid business models. It appears the organisational structure is chosen in response to the targeted customer and beneficiary groups. Simpler structures are utilised where the two groups overlap in models that deliver the mission through the trading activity. More complex structures are chosen when the two groups are distinct, and the mission is funded by the trading activity, but not delivered through it.

The most significant contribution to this literature stream is my introduction of a venture placing equal weight on the pursuit of all three dimensions of sustainability, which fills the gap between social hybrid ventures (Barrientos & Reilly, 2016; Battilana et al., 2015; Doherty, Haugh & Lyon, 2014; Dohrmann, Raith & Siebold, 2015; Santos, Pache & Birkholz, 2015; Smith et al., 2012) and environmental hybrid ventures (York, O'Neil & Sarasvathy, 2016) that currently appears to exist in the literature.

7.1.3 Contributions to the sustainable supply chain management literature

In the literature review, this doctoral dissertation highlights how the three dimensions of sustainability affect supply chains and how trade-offs between the dimensions impose challenges to supply chains becoming more sustainable. My research gives an overview of how distance in terms of geographical distance, as well as number of supply chain tiers, leadership in the supply chain, and innovation in supply chains, impacts sustainable development. The literature on supply chain management is mostly concerned with supply chains of larger corporations who hold a power advantage and are able to influence their suppliers' practices (Dubey, Gunasekaran & Ali, 2015; Lee, 2016). These are considered as the focal firms in supply chains, and the existing research seeks to understand how they implement sustainability measures (Frostenson & Prenkert, 2015; Hall, Matos & Silvestre, 2012; Seuring & Müller, 2008). My research contributes to the field of sustainable supply chain management by investigating how sustainability is pursued in absence of a focal firm. For this, the second study examined the ecopreneurial supply network which was characterised by a complex rather than a linear structure and the absence of a dominant firm. My research uncovered value led and pragmatic selection criteria for sourcing and distribution decisions in ecopreneurial ventures, which gives an insight into the directions that sustainability efforts move through the supply network. Ecologic and social sustainability appears to follow the material flow downstream, while economic sustainability follows the cashflow upstream through the supply network.

My research further adds to the knowledge on supply chain decision making by introducing the ecopreneurial logic that favours sustainability goals over profit into a supply chain setting. So far, the environmental and social sustainability criteria were always considered alongside, but subordinate to, the economic criteria (Genovese et al., 2013). This provides empirical evidence for the claim that mission driven entrepreneurs build supply chains on trust rather than power and include non-traditional supply chain members in their

decision making (Cholette et al., 2014; Danloup et al., 2015; Parrish, 2010). My findings thus provide evidence for practices through which the community surrounding a supply network is integrated in the activities of the network (Marshall et al., 2015b). The lack of power advantages means that collaborative approaches are required for the network members to drive sustainability. The literature highlights collaborative approaches as promising routes towards sustainable development (Dania, Xing & Amer, 2018; Lee, 2016; Leigh & Xiaohong, 2015; Zhang & Awasthi, 2014). This doctoral dissertation thus contributes to the field by uncovering collaborative business practices in pursuit of sustainability in complex supply network settings. The study has shown vertical collaboration through sharing of information, practices and brand association; horizontal practices through sharing of skills and resources and inter-supply chain collaboration, through the joint development of sustainable business practices, facilitated through professional bodies. The development and dissemination of sustainable business practices throughout the supply chain constitutes eco-innovation (Carvalho & Barbieri, 2012), which the literature proposes to hold significant potential to improving supply chain sustainability (Beske, Land & Seuring, 2014; Isaksson, Johansson & Fischer, 2010). By linking ecopreneurship to sustainable supply chain management, my research shows how ecopreneurs discover this potential for eco-innovation and act as Schumpeterian entrepreneurs in the supply chain context.

7.1.4 Contributions to the alternative food network literature

Empirically this dissertation was based in the food industry, more specifically within AFNs in the southwest of the United Kingdom. My research contributes to the AFN literature by uncovering the business models of organisations in AFNs and their links to existing knowledge on hybrid ventures. It shows that AFN members, similar to hybrid ventures, aim their activities at a range of customer and beneficiary groups which can overlap but are often distinct. My research shows that the AFN members hold multiple goals around challenging the existing systems of food provisioning which they deliver in close

cooperation with their customers, staff, suppliers and the community they are embedded in.

This doctoral dissertation also furthers our understanding of AFNs through uncovering the supply network structure and decision making in AFNs, by mapping and investigating a near complete AFN in the wider Bristol area. Here the contributions to the SSCM literature also inform the AFN literature.

Another new insight from my research is the role that hospitality plays in AFNs and its importance in embedding actors in their local community and fostering social exchange (Roep & Wiskerke, 2012; Seyfang, 2007).

The examination of business practices in AFN members adds to our understanding of AFNs on a micro level, because the majority of research is concerned with the macro impact AFNs have. My research provides evidence of practices that embed ventures in their communities (Cembalo et al., 2015; Robbins, 2015) such as the running of own retail operations, co-production with consumers and fostering social interaction, and links this to the ecopreneurial act of breaking down information asymmetries. This further supports Migliore et al.'s (2015) assertion that AFN members are social entrepreneurs.

Furthermore, my research demonstrates how the ecopreneurs in the AFN re-localise and re-socialise food (Seyfang, 2007; Sini, 2014) and how their actions aim to improve the social and economic wellbeing of their region (Migliore et al., 2015; Roep & Wiskerke, 2012; Watts, Ilbery & Maye, 2005). To improve social wellbeing, the ecopreneurs in AFNs make sustainable food accessible to all social classes through their pricing. They further educate consumers and provide job and volunteering opportunities with fair working conditions. With regards to the environmental wellbeing, my research identifies the use of low-carbon delivery methods, organic and biodynamic growing frameworks, creating value for break-crops and choosing the produce and cattle from indigenous varieties. My research thus provides knowledge on the practices AFNs employ in pursuit of their sustainability goals. This knowledge can be used to help overcome hurdles like mission drift (Doherty, Haugh & Lyon, 2014) and high prices leading to exclusivity and food elites (Brecard et al.,

2009; Holloway & Kneafsey, 2000). The improved understanding of the cost structures underlying organic and intensive agriculture can be used for further research aiming to break down barriers to profitability in AFNs.

7.2 Implications for practitioners

The insights from this dissertation can be helpful for anyone wanting to start or running an ecopreneurial venture, and for people running a commercial venture that aims to become more sustainable.

The firm level analysis gives insights of how to design a sustainability focussed business model and which trade-offs to consider. Practitioners should consider their value proposition and who they aim it at. Of importance here is whether the customers and beneficiaries overlap or whether they are distinct groups. This impacts whether the trading activity delivers the value directly to the beneficiaries of the social and ecological mission. If so, a simple organisational structure is sufficient to deliver the value. If the groups are distinct, the ecopreneur could consider splitting the organisation into a business unit and a social venture and use profits from the former to fund the latter.

Further ecopreneurs should consider how to stack revenue sources. Does their social activity entitle them to grant funding or can they turn by-products and waste into additional value? These possibilities should be exhausted to increase the venture's ability to deliver the mission. When planning the cost structure, ecopreneurs should consider the type of activities they engage in. They should seek out which beneficiary groups they can cater to through win-win scenarios. Additionally, they should see, where trade-offs exist, to which extent they can maximise their social and environmental impact without impeding on their financial viability. Existing organisations that aim to improve their sustainability impact should consider changing the organisational structure in this way and examine whether they can generate new income streams by stacking revenue sources.

The model from the firm level analysis and the conceptual model in the discussion can help considering the interconnectedness of these trade-offs.

Regarding the cost structure, ecopreneurs should seek to build alliances with other ventures that allow them to share equipment and the related fixed costs, which will strengthen their economic performance. While most ecopreneurs in my study did not engage in economic performance monitoring in great depth, I would recommend working out the gross-margins of their products, which in combination with their sales levels will allow them to evaluate the degree to which they can engage in type B activities. These measures are crucial to business success but appear to currently not being done by many ecopreneurs in my study.

The supply chain analysis gave insights into the different selection criteria ecopreneurs can apply to their sourcing and distribution decisions. Considering that ecologic and social sustainability follow the material flow, ecopreneurs (who often have limited resources) should focus their attention on applying appropriate sourcing criteria, before rigid criteria are applied to the distribution channels. I would further advise ecopreneurs to engage with professional bodies who can share knowledge and resources around new business practices and sustainability frameworks. These could also be important resources for existing business looking to improve their sustainability. The ecopreneurs doing so reported to greatly benefit from these engagements and received valuable support from those networks.

7.3 Implications for policy makers

In line with the implications for practitioners, there are a few implications for policy makers, too. The Labour Party have stated that social enterprises will be integral to their future economic policy (Social Enterprise UK, 2019), which indicates some interest in the topic from politics. Seeing that some ecopreneurs reported that the beneficiary groups of their social activities are determined by the availability of grant funding, policy makers should consider working with ecopreneurs in designing new grant programmes when they want to target a specific beneficiary group. Considering the value of professional bodies in creating and disseminating sustainability driven innovation, policy makers should consider their support of these bodies in future policies and funding decisions. Especially alternative groups that

oppose the mainstream systems of food provisioning could benefit from policy support, as their financial standing is weaker than that of mainstream professional bodies, who have more and larger members. Further, the research uncovered problems for small food businesses to get their production certified, due to the considerable cost attached to the process. Policy makers should reconsider whether the costs of organic certification are justified and whether low cost options or special grants for certification should be made available to support the emergence of more small-scale organic farming. Overall policy makers should consider supporting ecopreneurship as a means to strengthening regional economic development and sustainability as a complement to the policies predominantly focused on high growth technology start-ups (Brown, Mawson & Mason, 2017).

7.4 Limitations and future research

Like any piece of research, this doctoral dissertation holds several limitations as a result of the work's scope and employed methodology. I will outline these and the avenues for future research in the following.

Regarding the scope of the research the following limitations exist. First, as described in the methodology, I have collected all data in the southwest of the UK and restricted my cases to the food industry. Many findings are therefore only applicable to the food industry and the specifics of the southwest. Second, as I have mentioned in the supply chain study, the sampling was restricted by the complexity and the network horizon of my participants. Therefore, primary data was not available on all supply network members.

Regarding the limitations from the methodology, while the qualitative approach enabled me to uncover business practices that contribute to each of the three dimensions of sustainability, the qualitative nature of the research hindered me from evaluating the effectiveness of these practices. Equally, the strength of the relationships and their overall contribution to the organisations' successes was not assessed. Owed to the inductive case study approach, my findings are generalisable within the theoretical propositions I put forward, but not towards a larger population of ecopreneurs (Yin, 2014). This means the external validity of this research is restricted (Bryman, 2008).

Further, my research has built on the entrepreneurship literature concerned with entrepreneurial discovery and innovation but has excluded the stream of institutional entrepreneurship that is concerned with entrepreneurial actions aiming to introduce or alter institutional arrangements in pursuit of their interests (Bjørnskov & Foss, 2016).

Future research could address these limitations in the following ways. Reproducing my approach in other geographies or industries would contribute to the transferability of my study, if the findings support mine (Bryman & Bell, 2011). Contradictory findings could add to our knowledge of the diverse requirements for sustainable food production in different regions. To address the shortcomings of the supply chain study, further explorative studies could look at the network members I have not collected primary data on, such as international producers and single tier wholesalers. In the context of supply chains, further research should also be conducted on the impact ecopreneurs have on incumbent businesses. Hansen and Schaltegger (2013) have found indications of sustainable innovation from entrepreneurship being picked up by incumbent firms in the fashion industry. Future research should examine this effect in different industries, like the food industry. With regards to the larger societal impact of ecopreneurship, I recommend looking at the phenomenon through an institutional entrepreneurship lens.

While establishing statistical generalisability is not the aim of inductive exploratory research, my findings open the possibility for deductive studies to test my propositions on larger samples (Stuart et al., 2002). These could be drawn from within the food industry to test the food specific findings on business practices or from a multitude of industries to test the overall ecopreneurial business logic outlined in the conceptual models of the firm level analysis and the discussion. Survey studies could also examine the decision making in supply networks to further support the selection criteria I identified in the supply chain analysis. This could establish statistical generalisability over the population of ecopreneurs (Bryman, 2008).

My findings thus build the foundation for future research to quantify the effects of different business practices and their correlation with organisational

performance. With regards to ecological organisational performance, my findings in the firm level analysis highlighted the lack of appropriate performance monitoring frameworks for SMEs. The current literature on sustainability measurement in SMEs also shows a gap here, which calls for further research on the topic.

Valuable future research should also be conducted adopting a longitudinal approach, which can help investigate several aspects. On a firm level, future research could follow the development of ecopreneurial ventures over time. Doing so three perspectives could be especially interesting. First, longitudinal research on the start-up of ecopreneurial ventures could compare the venture development process with the so far known entrepreneurial processes. Especially with regards to the growth stages in the known processes it would be interesting to examine how these differs in ecopreneurs, who have differing growth aspirations to commercial entrepreneurs. Here the research could also draw on the hybrid venture literature and examine the occurrence of mission drift in the process and means of avoiding it. Second, also in the start-up phase of ecopreneurial ventures it would be interesting to examine factors contributing to venture success. Because many start-ups fail within the first five years, much research has already been done on examining reasons for failure and success factors in commercial entrepreneurs (Bernoster, Khedhaouria & Thurik, 2019; Staniewski & Awruk, 2019). Seeing that ecopreneurs have different business models, growth aspirations and the ecopreneurs in this study showed no engagement with venture capital or other institutional investors, this research could hold promising new insights. The research here could build on my findings and aim to identify the business practices that contribute most to venture success. Third, a longitudinal approach on the firm level could look at the innovation process in ecopreneurial ventures. As my research has now identified practices in pursuit of sustainability goals, it would be interesting to investigate how these practices are developed through ecopreneurial innovation and at which stage an innovation is established as a practice.

On a supply chain level longitudinal approaches could also generate valuable insights. My research so has highlighted how the different parties make up the supply network and the decision criteria around sourcing and distribution. As highlighted in the supply chain study, in addition to understanding how the relationships between the network members are built, it would also be interesting to examine how these are maintained. For this a longitudinal approach would be applicable, where the researcher follows a distribution network over time and examines strength and continuation of relationships. This research could draw on the industrial clusters literature to combine the existing knowledge on governance, trust and collaboration with my findings of ecopreneurial supply networks and make sense of trading relationships in networks without a dominant player. Seeing that industrial clusters are found to give their members competitive advantage (Faustino, Gohr & Santos, 2019) this research could be greatly beneficial to building resilience in AFNs.

Another interesting area for future research is the understanding of value. As the research has shown ecopreneurs aim to deliver social, ecologic and economic value simultaneously. In the firm level analysis, we saw that due to this the ecopreneurs combine several value propositions targeted at different customer and beneficiary groups in their business models. These value propositions appear to differ across ecopreneurial ventures with regards to their idealistic outlook. It would be interesting to further research value propositions in ecopreneurial ventures to gain knowledge of how ecopreneurs understand value with regards to each of the three dimensions of sustainability. This could add to understanding the business models of ecopreneurial ventures, but also the social construction and identity of ecopreneurs. Findings in this area would further illuminate the underlying logic of ecopreneurial activities and the ecopreneurs' motivations.

My discussion of the ecopreneurial business logic that I put forward in my theoretical propositions opens up the debate on organisational performance, which so far has been mostly equated with financial performance. Future research should evaluate different measures for organisational performance

in a sustainability context. In this sense we need to rethink the role of shareholders and financial targets. Replacing profits with the contribution to sustainable development as the main goal of the firm also calls for a revaluation of the known microeconomic models that all aim for profit maximisation on a firm level. The question really is, how our understanding of the economy changes when we replace the goal definition in this way. Overall, the exploration of ecopreneurship as the foundation to a new understanding of an economy that prioritises people and nature may hold important insights to systemic changes required for businesses to function in a sustainable future.

"It's not earth that's in trouble

It's the people that live on it, no no

Earth'll be here long after we've all gone the way of the dodo"

- *Mike Skinner*

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Appendix A – Research Protocol

Version Record

Version - Date	Changes	Reason for Changes
Version 1 – 05/12/2016	Initial setup	
Version 2 – 03/04/2017	Change research questions, New interview guide	More focused RQ after feedback from upgrade panel, Feedback from initial interview
Version 3 – 15/12/2018	Minor changes to the particularities of the data collection and analysis	Insights from analysis

Background

The background of research is outlined in the literature review. It combines the overlap of sustainable supply chain and sustainability driven entrepreneurship. From the literature review the following research questions were derived and shall be answered with a case study approach:

RQ1: How do ecopreneurs deliver their sustainability goals through their business practices?

RQ2: How do ecopreneurs' supply chain practices impact the fulfilment of their sustainability goals?

Design

The case study will apply a cross-case and an embedded multi-case design. This allows me to examine variations of the same phenomenon across multiple cases and conduct comparative analyses. This will enrich the findings and make the theory derived from the study more robust (Yin, 2014).

Objective

The objective of the study is to identify the role of ecopreneurs in driving sustainable development in a supply chain context. From an empirical perspective, I will be looking at alternative food networks as their members are likely to act as ecopreneurs. The

questions revolve around three main areas of investigation: innovative business models for alignment of sustainable goals; supply chain leadership for sustainable development; and sustainable innovation within the supply chain. The relevance of these areas can be found in the literature review.

Propositions

No propositions will be formed to allow for insights to emerge from the interviews.

Data Collection

Data will be collected through semi structured interviews and supporting documents.

The interview will follow an interview guide with open-ended questions touching on founding of the business, business practices, goals and motivation of the business, suppliers, customers and power relations.

In addition to the interviews, supporting documents that reveal information about mission, vision, sustainability impact, news articles, etc. should be collected. To get access to these documents, I will need the participants to provide them. To gather information on the mission and values of the business, I will in some cases be able to gather mission statements from the business's website.

The data collection will happen between May and September 2017. In total I aim to examine 10–14 cases. If the data analysis reveals the need for further cases, the time line can be extended.

Interview Guide

This is an outline of questions that should be answered during the interview, so I can gather the required information for my analysis. The interview can and should, however, go on tangents, in order for the participants to express the topics that are most important for their work. The first questions open up a topic. The following questions do not need to be asked and can be used if the interview does not flow or the answers lack depth. If new general themes are discovered during trail interviews or the first two case studies, they may be added to the interview guide. Any changes will be documented in the version record.

Research Question	Sub Question	Interview Questions	Literature Reference
RQ1: How do ecopreneurs deliver their sustainability goals through their business practices?	What sustainability goals can be found in ecopreneurs' value propositions?	1.1 Can you tell me how you started out with your business/organisation? 1.2 What are the goals you are pursuing with your business/organisation? 1.3 What value are you aiming to provide with your business?	Dohrmann, Raith & Siebold, 2015; Kirkwood & Walton, 2010a; Migliore et al., 2015; Santos, Pache & Birkholz, 2015; York, O'Neil & Sarasvathy, 2016
	Which stakeholders do ecopreneurs aim their value proposition at?	1.4 Who are your most important stakeholders? 1.5 Which stakeholders is your value proposition (*recap from Q3)* aimed at?	Battilana et al., 2015; Parrish, 2010; York, O'Neil & Sarasvathy, 2016
	What business practices do ecopreneurs apply to	1.6 What does your business do to deliver this value?	Battilana et al., 2015; Dohert, Haugh and Lyon, 2014;

	deliver their value proposition?	1.7 Can you describe your day-to-day operations in some detail? 1.8 Can you describe your marketing activity? 1.9 Do you have formal HR processes in place? 1.10 How do you evaluate your performance?	Parrish, 2010; Santos, Pache & Birkholz, 2015
	What tensions between sustainability goals exist?	1.11 Have you ever experienced conflicts between the different goals/stakeholder groups of your business? 1.12 (if so) How did you deal with it? 1.13 Does your performance evaluation reflect these tensions?	Dohert, Haugh and Lyon, 2014; York, O'Neil & Sarasvathy, 2016; Smith et al., 2012
	How is financial viability maintained?	1.14 Can you live from the income your business/organisation generates? 1.15 How important is the financial performance of your business/organisation?	Parrish, 2010; Kirkwood & Walton, 2010a; York, O'Neil & Sarasvathy, 2016

RQ2: How do ecopreneurs' supply chains practices impact the fulfilment of their sustainability goals?	What role to ecopreneurs play in achieving sustainable supply chains?	2.1 Can you tell me about your supply chain? Who are your most important suppliers? What are your most important distribution channels? 2.2 Do you have certain selection criteria you chose business partners by? 2.3 Are your sustainability goals supported by your business partners (suppliers and distributors)? 2.4 What possibilities do you have, to increase sustainability among your partners? 2.5 How much influence does sustainability have on price negotiations within the supply chain?	Busse, 2016; Indaco-Patters, 2013; Kirkwood & Walton 2010b; Marshall et al., 2015b
	How do ecopreneurs disseminate sustainable business practices through supply chains?	2.6 Do you share sustainable business practices you discover/develop with your partners or vice versa? 2.7 Are there efforts for joint development of sustainable business practices? 2.8 Would you say sustainability within your supply chain is initiated by any specific firm? (If so, by whom?)	Cholette et al., 2014; Danloup et al., 2015; Defee, Esper & Mollenkopf, 2009; Dubey, Gunasekaran & Ali, 2015; Eriksson & Svensson, 2015; Hansen & Schaltegger, 2013;

		2.9 Do you exchange information on sustainable business practices with organisations outside your direct supply chain? 2.10 Have you experienced organisations, you are not involved with, take up sustainable practices pioneered in your supply chain?	Lee, 2016; Marshall et al., 2015b; Mylan et al., 2015;

Appendix B – Participant information letter

Thank you for showing an interest in my research project. I am a postgraduate research student at the University of Bristol, currently studying towards my PhD in management. I am being supervised by Dr Mary Phillips and Dr Xiaojun Wang.

My research is concerned with sustainable development in food supply chains. I am looking in particular at the role individuals in alternative food networks might play in driving systems of food provisioning towards sustainability. In the context of my research, I see sustainability as providing food with a minimal adverse or positive effects for the social and ecological environment. For this, I want to examine business practices that ventures employ to deliver their sustainability goals.

I aim to generate insights in these topics by conducting case studies. This involves one one-hour semi-structured interview, with the possibility of a second interview, in case areas that need clarification. The interview touches on questions around business practices, your network, motivation, goals and potential hurdles to achieving these goals. In addition, I would be grateful for sight of any documents such as mission statements and business plans. These documents are not a requirement, however, and I would still very much appreciate you taking part in the study if you do not want to discuss or disclose them.

I hope that you will also benefit from taking part in the study. Therefore, upon completion, I am happy to make available the findings from my PhD on your request. Furthermore, I hope you find the opportunity to discuss and reflect on challenges and opportunities of your organisation interesting and insightful.

To participate in the study, I will require about one hour of your time. Any gathered information will of course be treated confidentially and will be anonymised. Neither you nor your organisation will be named in my study or presented in a way that readers could identify you. I have attached a consent form to this letter that I would like you to fill out once all your questions about my research have been answered and you are happy to participate.

Lastly, I would like to point out that any participation in the study is voluntary and that you can withdraw your participation at any time without providing reasons for doing so.

If you have any questions, please do not hesitate to contact me via email at niels.schneider@bristol.ac.uk or on my phone on: [redacted]. Alternatively, you can contact my supervisors via: mary.phillips@bristol.ac.uk and xiaojun.wang@bristol.ac.uk.

Kind regards,

Niels Schneider

Appendix C – Consent Letter

CONSENT FORM

Alternative Food Networks and Sustainability

Please answer the following questions to the best of your knowledge

HAVE YOU:	**YES**	**NO**
• been given information explaining about the study	☐	☐
• had an opportunity to ask questions and discuss this study?	☐	☐
• received satisfactory answers to all questions you asked?	☐	☐
• received enough information about the study for you to make a decision		
• about your participation?	☐	☐
• been informed that your information will be anonymised?	☐	☐

DO YOU UNDERSTAND:

that you are free to withdraw from the study and free to withdraw your data prior to publication

• at any time?	☐	☐
• without having to give a reason for withdrawing?	☐	☐

I hereby fully and freely consent to my participation in this study

I understand and acknowledge that the investigation is designed to promote scientific knowledge and that the University of Bristol will use the data I provide for no purpose other than research.

I understand the interview will be recorded and transcribed for the research project.

I understand the data I provide will be kept **confidential**. My name or other identifying information will not be disclosed in any presentation or publication of the research.

I understand that the University of Bristol may use the data collected for this project in a future research project but that the conditions on this form under which I have provided the data will still apply.

Participant's signature: _____

Date:_____

Name in BLOCK Letters: _____

Final consent

Having participated in this study

I agree to the University of Bristol keeping and processing the data I have provided during the course of this study. I understand that these data will be used only for the purpose(s) set out in the information sheet, and my consent is conditional upon the University complying with its duties and obligations under the Data Protection Act.

Participant's signature: _____

Date:_____

Name in BLOCK Letters: _____

If you have any concerns related to your participation in this study please direct them to the School of Economics, Finance and Management research ethics committee, at Stephan Heblich: Stephan.heblich@bristol.ac.uk

Appendix D – Codebook Firm level Analysis

Name	Description
Ecologic sustainability	Parent code gathering codes around ecologic sustainability
Creating value from waste	Participant describes methods of turning waste into products or services that generate value
Promoting sustainable alternative products	Participant offers better products and tried to lead consumers to buying them through promotion and pricing
Reducing waste by cutting out packaging	Participant describes ways that waste is reduced by selling products with innovative packing methods
Economic sustainability	Parent node for collecting all codes arising around economic sustainability like revenue streams and cost sources
Cost drivers	Code collecting mechanisms that influence the cost of goods
Cash cycle	Cash being tied up in stock generates cost for the business.
Human resources	Cost related to employing and managing staff
Machinery	Participant describes machinery and issues of utilisation as cost driver
Marketing and Promotion	Cost related to marketing and promotion
Mark-up for local	Local food is more expensive than food from main stream systems of food provisioning

Mark-up for organic	Organic food is more expensive than food from main stream systems of food provisioning
Order size	Participant describes the effect of order size on prices suppliers offer
Transaction cost	Participant describes cost arising from dealing with higher number of suppliers and the related administrative cost arising from that
Pricing rationale	Code collecting the different pricing mechanisms
Competitive pricing	Participants set prices in accordance to prices of competitors
Cost plus approach	Participant describes using a cost-plus pricing approach to reflect input prices
Cross subsidisation	Participants set prices according to the purchasing power of different customer groups
Price sensitivity	Participants set prices in accordance to consumer's willingness to pay
Profitability	Code gathering codes around the issue of profitability
Creating surplus in business unit	Participants make a profit in one business unit that is used to cover cost other (charitable) part of organisation.
Making a living	Participant makes a living of business, but does not accrue (large) profits
Margins even out across products	The participant sets margins in a way that the business is financially sustainable across all products, but not necessarily in every single product
Reinvesting profits	Participant makes profits that are reinvested into growth of business and mission
Revenue steams	Code collecting different streams of revenue into and within the business

External and grant funding	Participants receives grant funding for social mission of the venture
Profits from business venture fund social venture	The participant generates surplus value/profits with the business venture of the organisation, which are then channelled towards the social venture to fund the mission
Renting out of idle assets	The participant generates revenues from renting out assets in their idle time.
Sale of business unit	The participant received funds by selling off part of the business
Sales of products and services	The participant generates revenue through selling products and services
Sales of waste products	The participant generates revenue through selling (processed) waste products
Subsidies from affiliated businesses	The participant receives funding from affiliated businesses
Evaluation of Performance	Parent code collecting the different mechanisms with which participants evaluate their performance
Ecological Performance	Participant talks about ecological performance evaluation
Financial Performance	Participant talks about financial performance evaluation
Social Performance	Participant talks about social performance evaluation
Goals of the Organisation	Parent code to collect all codes arising around the goals of the organisation

Being a company people enjoy doing business with	Participant describes one of their goals as being a company people enjoy engaging with.
Challenging the status quo	Code collecting statements of participants seeing challenging the established systems of food provisioning as one of their goals
Creating justice in the supply chain	Participant wants to redistribute power and value through the supply chain, to create justice in the food system
Helping new businesses set up	Participant wants to enable other businesses that offer alternative to established systems of food provisioning, set up their business
Supermarket food is too cheap	Participant sees cheap prices of supermarkets as unfair and detrimental and wants to change this structure with their organisation
Creating value from by-products	The participant wants to create value by transforming a by-product or existing activity of own or affiliated business into valuable business activity
Giving suppliers secure route to market	Participant wants to provide a secure route to market for suppliers
Helping disadvantaged people	Code collecting statements of participants about goals that aim at helping disadvantaged members of the community
Creating community engagement	Participant creates a community around their organisation to help disadvantaged people and engage with them long term.
Providing volunteering opportunities	Participant describes one of the goals as providing volunteering opportunities to disadvantaged people

Improving the ecological environment	The participant sees improving the ecological environment as one goal of the organisation
Pioneering sustainable methods	The participant describes one goal of the organisation as developing and diseminating sustainable practices and methods
Providing access to good products	Participant wants to give consumers access to what they consider to be good products
Selling local produce	The participant sees selling local produce and promoting local agriculture as one goal of their organisation
Selling organic produce	The participant sees selling organic produce and promoting local agriculture as one goal of their organisation
Social sustainability	Parent code gathering codes around social sustainability
Sustainable treatment of employees	Code gathering themes around socially sustainable treatment of employees
Trade-offs	Parent code collecting themes around trade-offs participants encounter when pursuing their business
Professionalism versus inclusiveness	Participant experiences difficulty and unprofessional work from disadvantaged, but is willing to forego this for the sake of working with disadvantaged
Profit versus quality	The participant describes the trade-off between making money and having a quality product.
Size versus mission	Participants describe the relationship between size of an organisation and their sustainability outlook
Speed versus cost	Participant describes slow growth as result of low/no cost approach

Spreading mission versus alienating customers	The participant describes a trade-off between being true to what you stand for and not being too radical to alienate the customers
Sustainability versus cost	The participant foregoes profits in order to secure sustainability in the supply chain
Sustainability versus quality	Participants describes produces being inconsistent in quality due to sustainable production methods
Sustainability versus professional standards	The participant describes that efforts towards sustainability are limited by the requirements of the industry, like health and safety

Appendix E – Codebook Supply Chain Analysis

Name	Description
Supply chain management	Parent code collecting all codes around supply chain management
Collaborative approaches	Code collecting examples of collaborative supply chain approaches
Brand association	A supplier/distributor benefits from the association with the brand the participant has built
Building relationships on trust	Participants report they will engage with suppliers based on trust and goodwill without the requirement for certificates and accreditation through official bodies, which are often not financially viable for small businesses
Creating a dialogue to work for best solutions	Participant has open exchange with supply chain partners to find solutions that work for everyone
Fighting the same cause	Participants engage with suppliers/buyers, because they pursue the same goals
Joint development	
Sharing business practices and techniques	Participants share discovered business practices or techniques on sustainability with their supply chain members
Sharing resources	Supply chain members share resources such as equipment and infrastructure with supply chain members to improve utilisation and make equipment

	affordable that small businesses cannot acquire otherwise
Distributors	Sub-parent code gathering issues related to distribution side of supply chain
Distribution channels	Code collecting different distribution channels
Collection points	Participant delivers products to set number of places throughout town, where consumers pick up their orders
Delivery schemes	Participant supplies to delivery schemes that sell online
Hospitality	Participant supplies cafés, restaurants, bars and the like
Mail order	Self-explanatory
Markets	Participant sells through markets in the area
Retailers	Self-explanatory
Self-distribution	Participant distributes products through own delivery methods or own retail outlet
Wholesalers	Participant distributes products though wholesaler, who sells on to customers in retail and hospitality
Distributor selection criteria	Code gathering themes around distributor selection
Local	Distributors are selected because they are local
Respect for the product	The participant sells to customers who value the product and ensure that it is displayed appropriately at the point of sale
Self-selecting	The participant has no set criteria for the selection of their distributors. Distributors approach participant based on affinity towards products and mission. The distributors are thus self-selecting.

Shared values	Distributors are selected, because they share values around sustainability
Sympathy	The participant selects distribution partners based on how well they get on
Driving sustainability	Code collecting themes of how sustainability is being driven in supply chain
Closed loop supply chains	The participant has mechanisms to return and process waste in the supply chain
Exerting pressure	Participant describes mechanisms of pressuring supply chain partners for more sustainability
Help create reach of suppliers	The participant promotes sustainability by helping suppliers with favourable products/production methods increase their reach and sell more products
Supplier Selection Criteria	Code gathering themes around supplier selection
Carbon Footprint	Participant chooses supplier because of low carbon foot print
Convenience	Participant selects supplier because they are convenient
Cost	Sub-Code collecting themes around the impact of cost on supplier selection
Supplier is selected because of prices	Participant selects supplier because supplier offers lowest prices
Supplier is selected regardless of prices	Participant choses supplier, even though cheaper options are available, but because supplier fulfils other more desirable criteria

Innovativeness	Participant describes selecting suppliers based on the innovativeness of their product
Order size	Participant selects supplier due to flexible order sizes
Organic	Participant selects suppliers that offer organic products
Positive impact	Participant selects suppliers that convey a positive message toward sustainability
Proximity	Participant selects suppliers that are close and local
Reliability	Participant selects suppliers based to their reliability
Shared values	Suppliers are selected based on shared values with participant organisation
Sympathy	Participant selects suppliers based on how well they get on
Variety	The participant selects their suppliers according to variety of product so that the suppliers do not stand in too much competition to one another
Supplier structure	Code gathering descriptions of the mix of suppliers
Large suppliers for steady supply supported by select smaller supplier	The participant receives lion's share of products from one large supplier to secure availability of products for the customers. In addition, special products are added from selected smaller suppliers.
Supplier Types	Code gathering the different supplier types
Importer	Self-explanatory
Processor	Supplier of processed food that is processed in the business
Producer	Self-explanatory
Retailer	Self-explanatory

Wholesaler	Self-explanatory

Appendix F – Cost functions of agricultural production

Total cost of a company ($C(x)$) in dependency of the output (x), equals the fixed cost (c_f) plus the variable cost (c_v) times the output (x).

$$C(x) = c_f + c_v x \quad \text{(i)}$$

The cost per unit ($C_u(x)$) in dependency of the output (x) then equals the fixed cost (c_f) divided by the output (x) plus the variable cost (c_v).

$$C_u(x) = \frac{c_f}{x} + c_v \text{ (ii)}$$

$$\frac{c_f}{x} = fixed\ cost\ per\ unit$$

$$c_v = variable\ cost\ per\ unit$$

If we indicate intensive farming with a superscript “i” and organic farming with the super script “o” we get the following cost functions.

$$C_u^i(x) = \frac{c_f^i}{x^i} + c_v^i \text{ and } C_u^o(x) = \frac{c_f^o}{x^o} + c_v^o \text{ (iii)}$$

If we assume that over the long run no firm wants to sell their products at a loss, the unit price (p) has to at least equal the total cost per unit.

$$p \geq \frac{c_f}{x} + c_v \text{ (iv)}$$

Further, we can say that

$$p^i = price\ per\ unit\ from\ intensive\ agriculture$$

$$p^o = price\ per\ unit\ from\ organic\ agriculture$$

From the data we know that the price of intensively produced produce is lower than that of organically produced produce.

$$p^i \leq p^0 \text{ (1)}$$

And we also know that the input factors that go into the production of organic produce are lower than the input factors that go into intensively produced

produce. We can therefore say that the variable cost per unit of organic produce is lower than that of intensive produce.

$$c_v^i \geq c_v^o \quad (2)$$

If we insert formulae (iii) into (iv) and assume that condition 1 holds, we receive the following inequation.

$$\frac{c_f^i}{x^i} + c_v^i \leq \frac{c_f^0}{x^o} + c_v^0 \quad \text{(v)}$$

If we rearrange formula (v) and consider condition 2, we have to assume that the fixed cost per unit of organically produced produce has to be greater than the fixed cost per unit of intensively produced produce minus the difference of the variable costs per unit.

$$\frac{c_f^0}{x^o} \geq \frac{c_f^i}{x^i} - \left(c_v^0 - c_v^i\right) \quad \text{(vi)}$$

This holds true in three scenarios. Either the total fixed costs of organic production are greater than those of intensive production and / or the output from organic production is smaller than that of intensive agriculture. Seeing that intensive agriculture farms are usually bigger than organic farms, the most likely scenario is that both the total fixed costs and the total output in intensive agriculture are greater than those in organic production, even if the yield per input is higher in organic production (leading to lower variable cost).

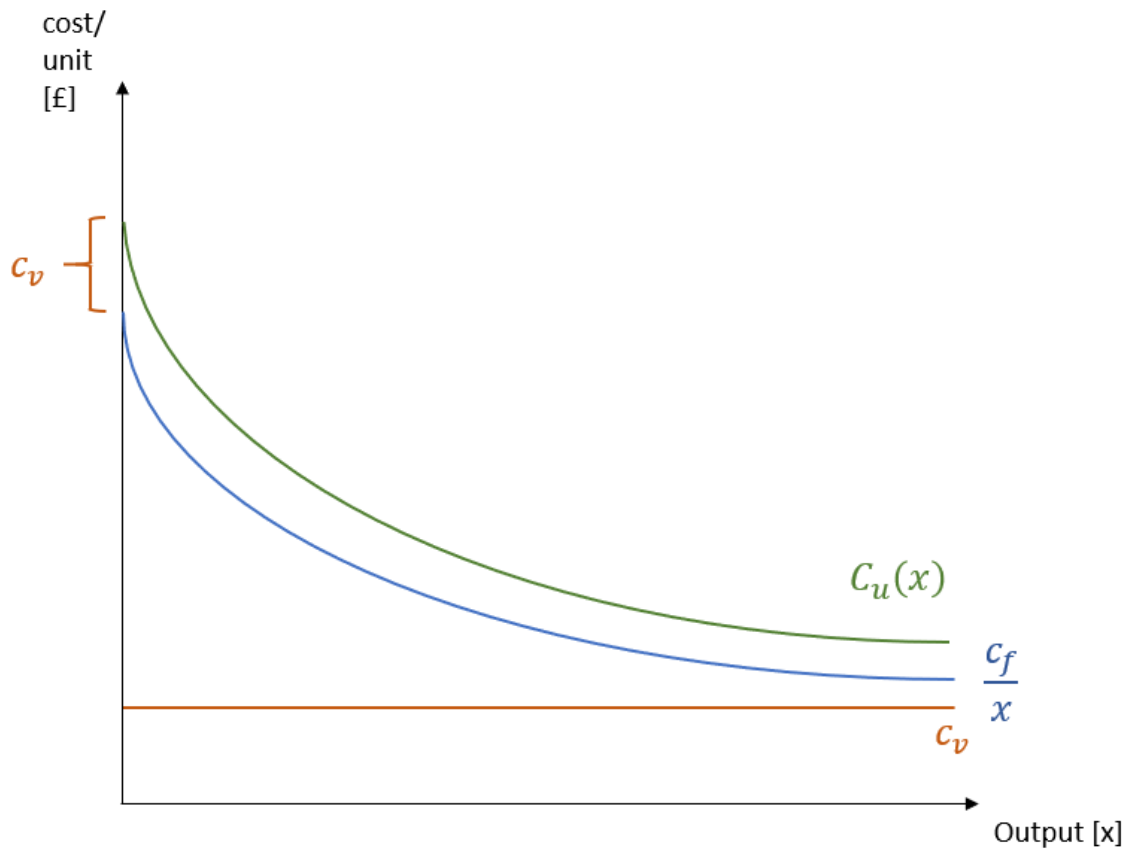

Figure F-1: Cost functions

If we plot the cost functions like in Figure F-1, we can see that the fixed cost per unit decreases with output, while the variable cost per unit stays the same. The overall per unit cost function then follows the shape of the fixed cost per unit but is increased by the variable cost. If we now compare the cost function of the organic and intensive agriculture, we arrive at Figure F-2.

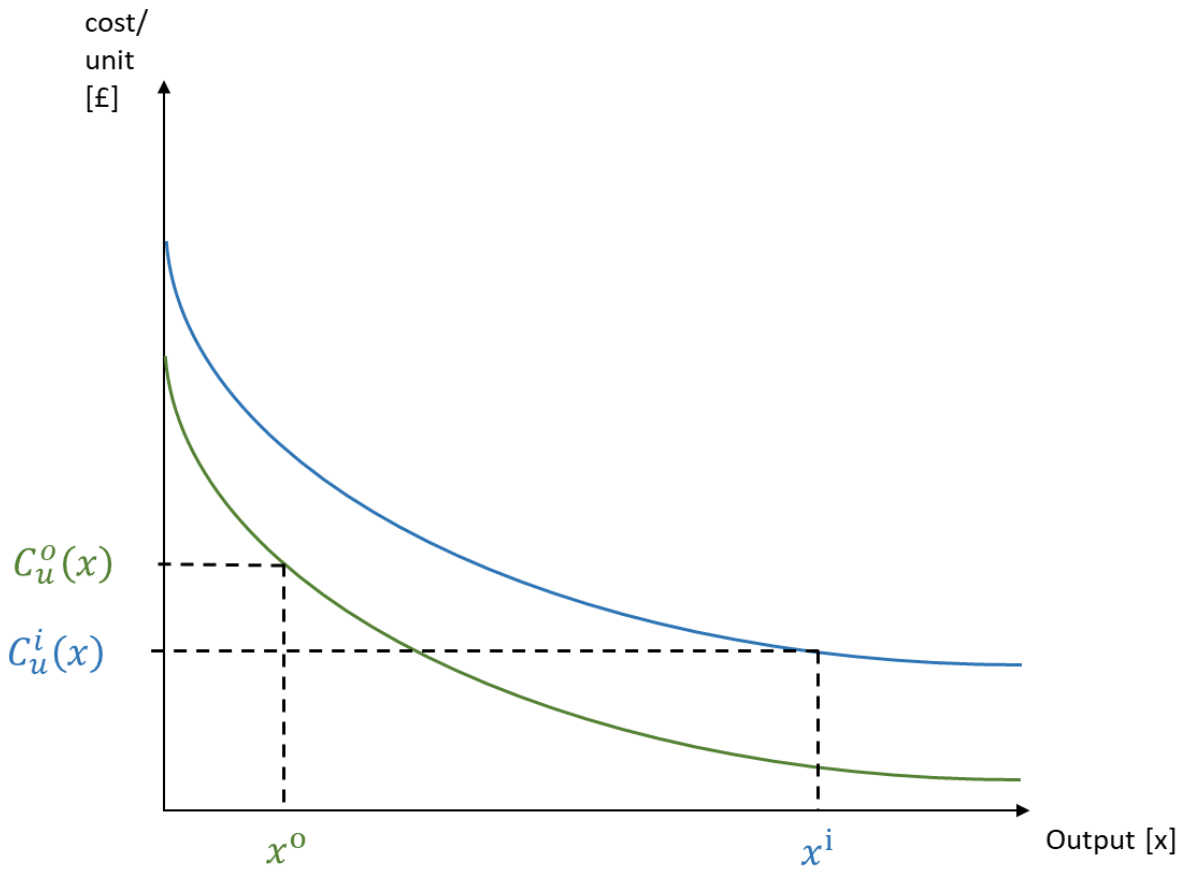

Figure F-2: Comparing cost of organic and intensive agriculture

We can see that overall the cost function of organic agriculture lies below the cost function of intensive agriculture, because the organic farmers incur lower variable cost and lower total fixed cost. Due to their smaller output, however, the fixed cost per unit for organic production are higher than those for intensive agriculture, which leads to higher overall cost per unit as I have postulated in formula (v). We have now seen that the overall cost determines the minimum price and that the cost function decreases in relation to the output size. Considering that the farmers in their comparison only looked at the variable cost (from input factors), but set their prices to cover the total cost, we can understand why organic farmers report lower cost, but retailers report higher prices for organic produce.

Appendix G – Map of South West UK