Mission-driven entrepreneurship in ecosystems for sustainable systems change

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Table of Contents

List of Figures

List of Tables

1

INTRODUCTION

All research is to a greater or lesser extent embedded in a research paradigm. Guba and Lincoln (1994) define paradigms as "the basic belief system or worldview" which influence the researcher's choice of epistemology, ontology, and methodology of the research. Studies about the free market and economic growth, for example, are often implicitly or explicitly embedded in the paradigm of neoclassical economics (Jacobs & Mazzucato, 2016). Studies in environmental behaviour are often implicitly or explicitly embedded in value theory (e.g., De Groot & Steg, 2010). This PhD research is no exception to this general rule of doing academic research. This research is primarily embedded in the paradigm of systems thinking. The general point of departure for this PhD thesis is that sustainable change is both systemic and personal. The paradigm of systems thinking takes a holistic approach to economy and focuses on relationships and how everything and everyone is ultimately interconnected. Following this logic, personal commitment may eventually be connected to macro-level changes (e.g., Ackoff, Addision & Carey, 2010). The focus of this study is on the transition towards a more sustainable economic system, aligning with the perspective that such a transition is needed in order to deal with the grand challenges of sustainability (e.g., Zenghelis, 2016). Put differently, the paradigm underlying this research is that entrepreneurial sustainable initiatives may result in sustainable entrepreneurial networking and sustainable leadership roles in business ecosystems which eventually may contribute to macro-level sustainable economic system changes. Our understanding of the layers and interconnections in these systems is still limited to date, despite achievements and progressing research. Hence, the focus of this thesis is to understand the dynamics of these sustainable systems, that is, it aims to understand whether and how meso-level dynamics of sustainable business networks and ecosystems may function as a catalyst to scale up and connect micro-level sustainable initiatives. To the best of our knowledge, an in-depth understanding of the elements of sustainable systems is far and between. This PhD research takes a systems approach in order to obtain and present in-depth insights of the elements of sustainable systems change highlighting meso-level sustainable dynamics that connect sustainability initiatives of entrepreneurs and the relationships thereof with sustainable systems change.

The outline of this chapter is as follows: first, the research domain will be discussed that will define the context of this research. Second, the main research model and the research questions of this PhD research will be introduced. Third,

the chapter will position this PhD research in two important schools of thought relevant for this research, namely systems thinking and neo-Schumpeterian economics. Fourth, the chapter will present and review the key concepts of this PhD thesis. Finally, this chapter will present the outline to this PhD thesis.

1.1 Research Domain

The underlying dynamics of sustainable systems change is the subject of research of this PhD research. According to Van Tulder & Keen (2018), "systems change is usually defined as 'change that pervades all parts of a system, taking into account the interrelationships and interdependencies among those parts'" (p.1). Clearly, sustainable systems change is then a complex phenomenon. This PhD research therefore uses different theoretical sets of lenses which is an often recommended research approach to analyse complex phenomena such as sustainable systems change (Sauvé, Bernard, & Slan, 2016). 'Sustainability science' has emerged in recent years as an interdisciplinary and innovative research field attempting to conduct problem-driven research that links knowledge to action (Miller, 2013), crossing boundaries of different fields of social sciences (including sociology, psychology, economics and business), which is needed to understand complex phenomena such as sustainability transitions. The ongoing debate on the nature of science and its role in society has gained new momentum due to the increasing challenges of sustainability transitions (Wittmayer & Schäpke, 2013). This thesis aligns with the proposition that science serves the finding of solutions for societial challenges and benefits from inter- or multi-disciplinary approaches (for an in-depth discussion for the differences between these perspectives and its relation to sustainability and the circular economy see, for example, Sauvé, Bernard, & Slan, 2016).

This research considers entrepreneurial innovation as one of the key elements needed for systemic sustainability change. In order to understand a phenomenon as complex as sustainability, and in particular the road towards more sustainability in organizations and in society, this research takes a systems thinking approach. This PhD is written with an interpretivist and critical scientific paradigm in mind, which posits that (1) reality is too complex to understand for the human mind in its wholeness, therefore we can only bring 'some order in the

chaos' and deduct certain patterns inductively and emergently without claiming there to be one way to 'solve' complex issues or to find 'absolute truth'; and (2) facilitates transformation and has the aim to bring out change (e.g., Bronner, 2011; Creswell, 2009).

Thus, this PhD research aims to contribute to understanding the dynamics of business actions and how these dynamics may lead to sustainable development by systematically mapping organizing principles, such as networking and collaborating in ecosystems, needed for a transition towards a more sustainable economy.

1.2 Research Model and Research Questions

Figure 1.1 presents the five-layered systems thinking research model of this study. The model is developed by Roobeek & Van Golstein Brouwers (2014) and offers a framework that enables to study different systemic levels, from the micro level (the individual entrepreneur) to the macro level (the society). The five-layered systems model elucidates how engaged mission-driven entrepreneurs (level 1) start and work in enterprises or companies with innovative business models (level 2), who collaborate in various ways and in different settings such as partnerships, coalitions, and entrepreneurial networks (level 3), giving rise to business ecosystems which a wide diversity of actors crossing traditional boundaries to tackle specific sustainability challenges (level 4), creating impact on a macro-level such as 'society' or 'world' (level 5).

Hence, this PhD research (1) takes a systems thinking approach, characterized by the idea that one needs to look at larger systemic structures in order to disentangle and understand the complexity of sustainability challenges, and (2) fits into the neo-Schumpeterian economic school of thought that has a focus on the key role of the entrepreneur and innovation in societal progress. Systems thinking considers an overall perspective and analyses interactions between the elements of a system. Systems thinking contrasts with reductionism, in which one typically focuses on a particular area of interest in order to obtain a detailed understanding of a specific part of a certain phenomenon. Russell Ackoff, one of the pioneers in developing the concept of systems thinking, defined systems thinking as follows: "Systems thinking looks at relationships (rather than unrelated

objects), connectedness, process (rather than structure), the whole (rather than just its parts), the patterns (rather than the contents) of a system, and the context. Thinking systematically also requires several shifts in perception, which lead in turn to different ways to teach, and different ways to organize society" (Ackoff, Addison and Carey 2010, p.6). In a similar vein, this research aims to contribute to an in-depth understanding of organizing principles that are needed for the transition towards a more sustainable economy.

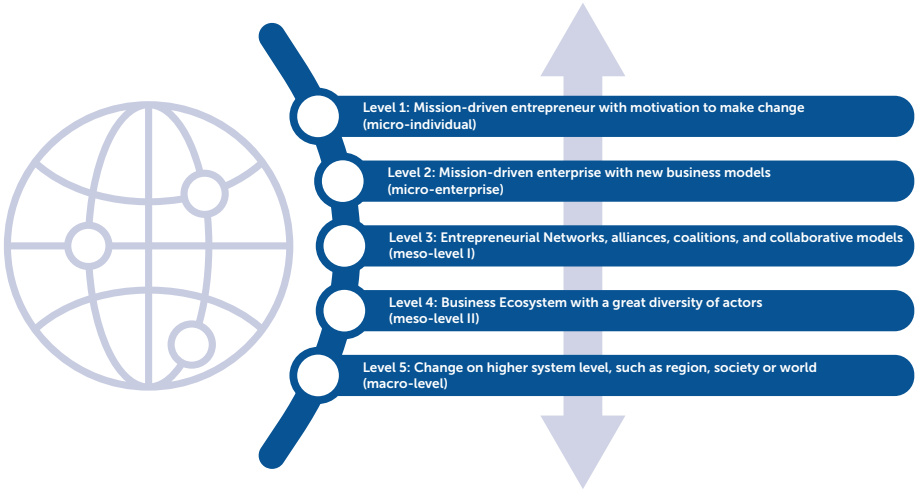

Figure 1.1 The five-layered systems model
Source: in adapted version derived from Roobeek & Van Golstein Brouwers (2014)

The model in Figure 1.1. is developed with the assumption that current organizing principles in business and society are not sufficient –or sometimes even counter-effective– in achieving a more sustainable economy. The model presents the constitituing elements of sustainable systems change highlighting the importance of organizing principles. What do we mean when we focus on organizing principles? The idea that collaboration is needed to connect interdependent parts and people in order to achieve goals is embedded in any organization and the reason of their existence. As, for example, Ouchi (1980) argues "a fundamental purpose of organizations is to attain goals that require coordinated efforts.

Interdependence and uncertainty make goal attainment more difficult and create the need for organizational solutions" (Ouchi 1980, p.131). Relying on others is difficult when there is uncertainty about their intentions, motives and competencies. Managing interdependence among individuals, units, and activities in light of behavioural uncertainty therefore creates important organizational challenges. Organizing principles represent a way of solving the problems of interdependence and uncertainty. Zander & Kogut (1995) define an organizational principle as "the logic by which work is coordinated and information is gathered, disseminated, and processed within and between organizations" (p.77). McEvily, Perrone & Zaheer (1996) add that "an organizing principle represents a heuristic for how actors interpret and represent information and how they select appropriate behaviours and routines for coordinating actions" (p.92). Examples of organizing principles include hierarchy, mandate, centralization, de-centralization, autocracy or networks. When thinking about 'hierarchy', the logic behind this organizing principle is that it solves the problem of interdependence and uncertainty by reallocating decision-making rights (Coleman, 1990). Other organizing principles such as networking may have different logics. The logics of networking include co-creative relationships and joint decision-making processes. Organizing principles are often embedded in mental models of individuals about how the world looks like and are often taken for granted. Therefore, they are not easy to change. One could even argue that changing the principles of the system consequently leads to fundamentally changing the system. Therefore, an in-depth understanding of organizing principles is an important first step in the understanding (and, ultimately, the implementation) of systems change for sustainability.

The five-layered systems model serves as a guideline for this PhD research. t different levels we are studying both, the relevant actors and the organizational principles. Among others, special attention will be on how the *meso-level* (ecosystem) functions in relation to and the facilitating of the relationship between the *micro-level* (entrepreneurs, organization) and *macro-level* change (sustainable systems change).

Even though 'sustainability studies' as an independent field of research has not yet matured, it increasingly shows its added value as an interdisciplinary research paradigm that is needed to disentangle complex causes and consequences of systems change. Sustainability challenges are complex and are therefore especially suitable –and perhaps even needed– to be approached

from an interdisciplinary and multi-level perspective. The consideration of the *meso-level* is relatively new, as most existing research tends to focus on either the micro-level (e.g., on individuals in the field of organizational psychology) or on the macro-level (e.g., rules and institutions the fields of political science and international relations), whereas this research aims to generate in-depth insights into how the *meso-level* intermediates between the micro and the macro level to understand change processes.

The main research question of this PhD research therefore is: What are the distinctive organizing principles that enable systemic change towards sustainability and how do entrepreneurs apply these principles in real-world contexts?

The main research question is divided in three sub-questions that help to answer the main research question:

1. How do mission-driven entrepreneurs embed their businesses in networks and business ecosystem in order to achieve their sustainable purpose?
2. How do mission-driven entrepreneurs adapt their business models to optimize collaboration in networks and in ecosystem settings?
3. How can networks and ecosystems be designed that have as explicit aim to contribute to systemic sustainability transformations?

These sub-questions will be answered in three chapters that present the results of in-depth case studies. The case companies are selected based on their efforts of applying and contributing to new organizational principles in order to contribute to a more sustainable society.

1.3. Positioning of PhD Research

1.3.1 Systems Thinking

A systems thinking approach is relevant in the context of grand sustainability challenges that are 'wicked', such as climate change and social inequality. Wicked problems are complex and dynamic social challenges without one single or unique answer to solve the problems (the concept was coined by Rittel & Webber, 1973), rather the causes are rooted in a complex interplay of factors. They cannot be 'solved' in a straightforward way. Therefore causal thinking in terms of "A leads to B" falls short. Wicked problems may be contrasted with tame

problems. Tame problems may also be difficult to 'solve' but in principle have one correct answer, such as in for example complex mathematical tasks. Therefore the aim should not be to 'solve' wicked problems but rather to obtain in-depth systemic insights in order to find solution-oriented approaches that contribute to an improvement of the problem. Van Tulder & Van Mil (2019) emphasize in their paper the importance to find the right 'fit' between the complexity of the challenge on the one hand and its solution strategy on the other hand. They argue that the tendency to focus purely on technological answers for complex problems does not suffice, when the question how to organize the desired change remains unanswered. In this PhD research, we are specifically looking towards distinguishing the organizational principles 'fitting' wicked sustainability problems.

Wicked problems may be explained in numerous ways, depending on the perspective taken and there may be several routes to establish 'improvement'. In line, there is no 'rule' or procedure to deduct the 'correct' explanation. These modes of dealing with conflicting evidence are different compared to the positivist paradigm, which could be summarized as follows: 'Under conditions X and assuming validity of hypothesis Y, effect Z must occur. However, effect Z does not occur, therefore Y is to be refuted'. In the context of wicked problems alternative modes are admissible. Because of the essential uniqueness of the wicked problem and the corresponding lacking opportunity for rigorous experimentation it is not possible to put Y to a crucial test. Moreover, all contributions to a wicked problem essentially change the nature of the problem. One could argue that the traditional scientific method based on the philosophy of Karl Popper (Popper, 1959) is not adequate to study wicked problems and network phenomena. Analytic knowledge is based on deduction, whereas that of synthetic knowledge is induction. Deduction goes from the general to the specific, while induction may go from the specific to the general. For the generation of new knowledge of complex phenomena, an inductive approach is more adequate. Therefore, in this PhD research the research logic will be mostly inductive and based on emerging concepts. Inductive reasoning is by its very nature more open-ended and exploratory (compared to deductive reasoning which is more narrow in nature and concerned with testing or confirming hypotheses). The scientific method of this PhD research may be seen as a dialectic between analysis and synthesis (see Figure 1.2), where this PhD research puts more emphasis on wholes rather than

on parts. Systems thinkers try to make sense of 'surprising facts' by deducting certain *patterns*, which could possibly be used as hypotheses in future research.

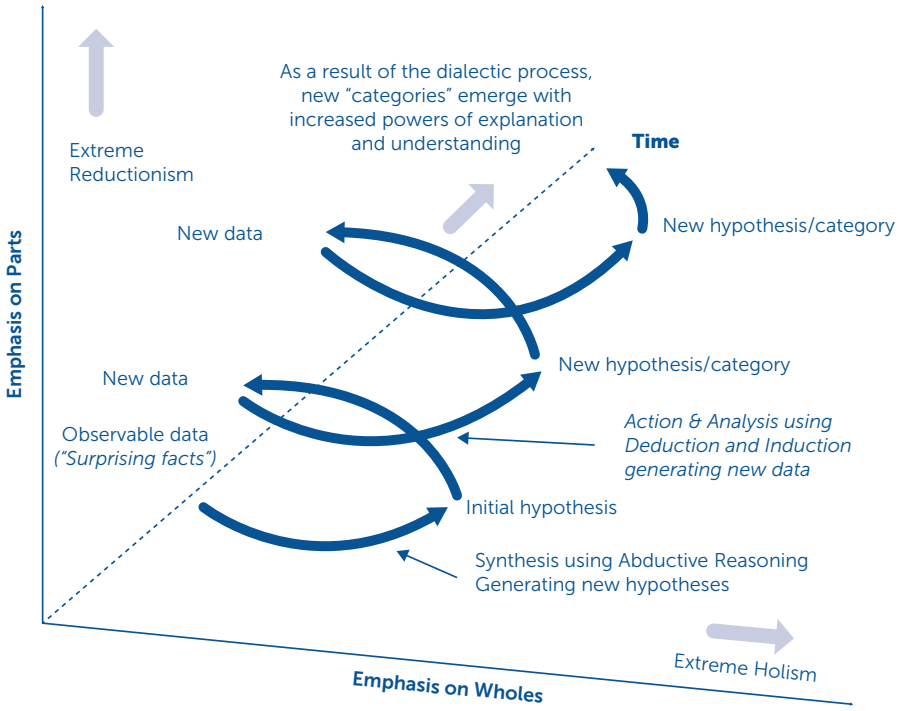

Figure 1.2 Scientific method as a dialectic between analysis and synthesis
Source: Barton & Hasslet (2007)

Where deductive researchers start with hypotheses, systems thinkers would like to start with the starting point of inquiry 'system', that is, the model is the starting point of inquiry.

According to Barton & Haslett (2007), "a system is a cognitive construct for making sense of 'surprising facts'" (Barton & Haslett, 2007, p.14). Lilienfeld (1978) argues that: "The world is seen as an unlimited complex of change and novelty, order

and disorder. Out of this flux we select certain contexts; these contexts serve as organizing gestalts or patterns that give meaning and scope to a vast array of detail that, without the organizing pattern, would be meaningless or invisible" (Lilienfeld, 1978, p.9). Systems thinking occurs when we use this construct to frame the scientific process which can be defined as a dialectic between analysis and synthesis. The importance of the systems approach is also summarized by Johanssen and Olaisen (2005, 1261-1262) who conclude that: "Understanding, explanation and predication (wherever possible) will, as far as systemic thinking is concerned, always be oriented towards deeper contexts and therefore, the construction of new patterns. It is the pattern which combines systemic thinkers always are looking for dealing with scientific problems/phenomena" (Bateson, 1972). The systems field includes: (1) the conceptualization of systems, (2) the design of systems, (3) the analysis of systems, (4) changing systems (system intervention), and (5) the philosophy of systems.

An important concept in the literature of systems thinking is the butterfly effect. The metaphor of the butterfly effect is that "the flap of a butterfly's wings may ultimately cause a tornado" and it refers to how "small changes can have large consequences" (in: Dizikes, 2011, p.12). Using this line of thinking, the question raises whether it could be that entrepreneurs, that are committed to innovation for successful sustainability working according to collaboration and networking principles, are shaping the path towards systems change at macro-level. This is a challenging and not so easy to answer question. Systems thinking underscores the importance of non-linear thinking and the idea that small changes may potentially have larger systemic effects (Dizikes, 2011). The key is to find the so-called leverage points of change: points in the system where small changes have the potential to have greater effect.

A well-known criticism of systems approaches argues that systems would be 'too complex and too big'. For this reason it is needed to specify system boundaries to the systems under study. The idea of systems thinking has been coined by Von Bertalanffy in 1969 and is well-established in the literature (see, e.g., Ackoff, Addison, & Carey, 2010; Arnold & Wade, 2015; Barton & Haslett, 2007; Casti, 2001; Checkland, 1981; Dzombak, Mehta & Mehta, 2013; Espinosa & Porter, 2011; Freeman, 1995; Kim, 1999; Malecki, 2011; Malerba, 2005; Mitleton-Kelly, 2003; Nguyen & Bosch, 2013; Senge, 1990).

For Senge (1990) systems thinking is the cornerstone of the learning organization, in other words "organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together" (Senge 1990, p.3). Senge argues that there are five key disciplines for these learning organizations, namely personal mastery, mental models, building shared vision, team learning, and systems thinking. Systems thinking is the discipline that integrates the others: its ability to comprehend and address the whole, and to examine the interrelationships between the parts provides both the incentive and the means to integrate the disciplines.

The well-established foundations of systems thinking recently gained renewed attention specifically in relationship to sustainability management, which may be explained in our current era of possible disruptive change related to digitalisation and technological development. For example, Williams, Kennedy, Philipp and Whiteman (2017) recently have conducted a systemic literature review of studies addressing sustainability management from a systems thinking perspective. They conclude that systems thinking is increasingly being used to understand sustainability issues in management. They highlight a key implication thereof, namely the importance to explicitly recognize the "social-ecological embeddedness beyond the boundaries of the firm, industry, and product/process level, and the focus on interconnections across multi-level, nested social-ecological systems" (Williams et al., p.878).

1.3.2 Neo-Schumpeterian School of Economic Thought

As a second area of positioning, this research project may be placed within the neo-Schumpeterian school of economic thought. Neo-Schumpeterian economics essentially is entrepreneurial and gives a central place to both, the innovative entrepreneur and the risk taking banker. They should be considered as being in a symbiotic relationship: the entrepreneur offers possibilities for investments for the banker and the banker enables venturing possibilities for the entrepreneur (Hanusch & Pyka, 2005). For getting a grip on the dynamic phenomena of economic reality, neo-Schumpeterian economics emphasizes the meso-level: it is the meso-level in which the decisive structural and qualitative changes can take place and can be observed (see, e.g., Dopfer, Foster, & Potts,

2004). To understand processes driving the development at the meso-level in turn, emphasis is given to knowledge, innovation and entrepreneurship at the micro-level, while innovation is identified as the major force fostering economic dynamics.

The emphasis on innovation is a distinctive feature of the neo-Schumpeterian school, compared to other schools of thought such as the (neo)classical or Keynesian schools of thought. Innovation competition takes the place of price competition as the mechanism of interest. Innovations are responsible for overcoming previous limiting conditions. The future opportunities for developing socio-economic systems –in this research innovation in a broad sense encompassing technological as well as organizational, institutional and social innovation– is the normative principle of Neo-Schumpeterian economics (Hanusch & Pyka, 2005).

This PhD research will focus on the meso-level as an important layer in between the individual entrepreneur and macro-economic change, in which the concept of entrepreneurial ecosystems will be specifically explored as an important mechanism at the meso-level. The meso-level also is the level where organizational principles, such as networking and collaboration, play important roles.

1.4. Key Concepts of the PhD Thesis

This section explains the key concepts that are used in his PhD research, namely (1) sustainability, (2) innovation, (3) mission-driven entrepreneurship, (4) ecosystems, and (5) systems change. A clear understanding of these concepts is important for this PhD research. Below, we will address each of the concepts from a systems thinking perspective.

1.4.1 Sustainability from a Systems Thinking Perspective

While there are many definitions of the concept of sustainability, with the Brundland one of "meeting today's needs without sacrificing the ability of future generations to meet their own needs" (Brundtland, 1987) among the most often used ones. Using this definition, Porter and Derry (2012) highlight three dimensions that fit to in a systems-based approach of sustainability, which they coin with the term 'sustainability thinking'. First, sustainability implies recognizing

the widespread interdependence of species and ecosystems, and therefore involves concern for all stakeholder groups. The notion of sustainability widens the actors regarded as stakeholders, next to including those with direct economic ties to the organization, such as employees, customers and suppliers, and it also includes stakeholders such as communities, civil society, and natural systems. Second, sustainability considers the impact on future generations of global life of our current business practices. Therefore it necessarily involves an expanded timeframe. Third, sustainability involves multiple dimensions of performance beyond simple economic profits. Thus, addressing sustainability means taking a multi-stakeholder, multi-timeline, and multi-performance approach.

What then does a 'sustainable system' entail? According to Porter and Derry (2012), there are two principles used to define sustainable systems, namely adaptivity and resilience. Adaptivity captures the ability to adapt to change and the ability to adapt to adaptations to change (Anderson, 1999). Resilience refers to the ability of a system to continually adapt without losing its basic core identity (Walker and Salt, 2006). The authors argue that sustainability thinking integrates and mirror complex adaptive systems, with conditions of rapidly changing environments, multiple factors contributing to grand challenges, a change of greater economic or societal challenges, and a great number of stakeholders. Valuable steps towards a sustainability outlook in business include letting go of traditional top-down control mechanisms, encouraging bottom-up initiatives, increasing collaborations across former boundaries, non-linear communication and spontaneous network forming.

1.4.2 Innovation from a Systems Thinking Perspective

Traditionally, innovation is seen as economic value and purpose. However, it is widely recognized that regardless of economic growth, innovation is of value in solving societal problems, has cultural and intrinsic value for the flourishing of people in activities of creation and self-realisation (Nooteboom & Stam, 2008). In order to realize more sustainable solutions for the grand sustainability challenges, 'business as usual' will not be sufficient and innovative solutions are needed.

In order to understand the process of innovation, we need to understand its various stages, from exploration to idea creation (through development and testing), application (with new products and processes), continuous improvement, diffusion, and differentiation. Feedback loops are essential in this process.

Feedback processes throughout all stages of the innovation process are needed in order to improve and find better applications. Innovation also does not have a beginning and an end. It rather is a circular and a continuous process of improvement that occurs within a system.

Next to innovation being a circular process of and in itself (i.e., based on re-occurring feedback loops), it is also increasingly recognized that it is a network phenomenon – arising from interaction between a variety of firms, knowledge institutes, and public authorities, embedded in local conditions of infrastructure and institutions. Conceptually, there is an increasing recognition that innovation requires learning by interaction (Nooteboom, 2000). The underlying idea is that people perceive the world, and interpret and evaluate it, on the basis of mental categories that are constructed in interaction with other people. People see and understand the world differently as they have developed their cognition along different life paths, in different environments and with different experiences. As a consequence people never have identical knowledge or views. Therefore, we learn from the interaction with others and by sharing and both are able to make new combinations of knowledge (Nooteboom, 2008).

The inherent circular characteristic of innovation in a system is also emphasized by a recent approach to the process of innovation inspired by the field of evolutionary economics. In this view, evolution is driven by processes of variety generation, selection, and transmission of what survives selection. It is argued that also innovation in a system works in a similar way: a process of research, learning, application and selection of the best methods/products, which result in the appearance of new productive options that bring about a modification of the environment itself. Thus, it can be concluded that innovation does not occur in isolation, but rather in interaction, by making new combinations, and is both, driven by and impacting on the system.

1.4.3 Mission-Driven Entrepreneurship from a Systems Thinking Perspective

The notion of mission-driven entrepreneurship has two elements, namely 'mission-driven' and 'entrepreneurship'. These dimensions will be explained below.

Entrepreneurship involves the identification, evaluation, and exploitation of opportunities (Shane & Venkataraman, 2000). Opportunities represent occasions to bring new products or services into existence such that individuals or organizations are able to sell new outputs at prices higher than their cost of

production. The implication of this mainstream understanding of entrepreneurship is that the fundamental mission of entrepreneurial activities involves profit generation, and these profits help entrepreneurs to build personal wealth (Certo & Miller, 2010). However, key thinkers in the area of entrepreneurship have already noted that entrepreneurship in general is an improvement for society, leading to innovations, fostering of employment and economic growth (e.g., Drucker, 1985; Schumpeter, 1936). The Austrian economist Joseph Schumpeter puts emphasis on the ability of value creation, and sees in the entrepreneur the force required to drive economic progress. In absence of entrepreneurs, economies would become static and immobilized. Also, he argues that successful entrepreneurship sets off a chain reaction, encouraging other entrepreneurs to iterate upon (discussed in Martin & Osberg, 2007). In this line of thinking, we identify two key elements of entrepreneurship of profit generation by the exploitation of opportunities and improvement by innovation.

Entrepreneurship with a sustainable (in the literature also 'social' or 'environmental') mission is sometimes coined as 'social entrepreneurship'. For example, Austin, Stevenson, and Wei-Skillern (2006) define social entrepreneurship as "an innovative, social value creating activity that can occur within or across the nonprofit, business, or government sectors" (Austin et al., p.2). This PhD research, however, argues that the concept of entrepreneurship clearly needs to include a for-profit element. As Martin and Osberg (2007) note, today the definition of social entrepreneurship has become so inclusive that all types of socially beneficial activities may fit in. This PhD research applies the concept of mission-driven entrepreneurship, in which it wants to emphasize both, the entrepreneurial innovative character and the sustainable mission of an organization. This PhD research therefore defines mission-driven entrepreneurship as "seeking to achieve financial viability while contributing positively to society, through a focus on innovative activities fostering sustainability".

Mission-driven entrepreneurship has a strong focus on outcomes that accomplish a set of social missions. Systems thinking may help to understand the underlying complexity for achieving the desired impact. Mission-driven entrepreneurship is based on decisive personal values and the desire to change something for the better. One of the aims of mission-driven entrepreneurs could have is to break with the natural "equilibrium" of the system while ensuring positive changes.

Jeff Skoll, one of E-bays first presidents, offers the following description of social entrepreneurship: "Equilibrium describes a stable state, generally economic or social, controlled by and benefiting established entities. The social entrepreneur sees the limitations of an existing equilibrium and offers a more efficient solution with the potential to benefit those not served by the existing model. [...]. The ultimate example of equilibrium change would be to eliminate a problem by solving its root cause or to create global impact by driving universal adoption of a new innovation by all others who address the same issue" (in: Goldstein, Hazy, & Silberstang, 2008, p.20). In other words, entrepreneurship may change the equilibrium of the existing system. When this entrepreneurship is then also driven by a sustainable mission, it could create sustainable systems change.

Taking the above into account, one of the most remarkable features of mission-driven entrepreneurship is the ability to successfully prompt social innovations within a given system. One construct taken from complexity theory that is of special relevance to social entrepreneurship is that of emergence, which refers to the arising of novel patterns, structures, and properties in complex systems (Goldstein, 1999). Social entrepreneurship projects and emerging phenomena exhibit the same set of characteristics, such as radical novelty, collectively, unpredictability, and irreducibility to antecedent and lower level components. A key feature of innovation in a system is often the recombination of already existing elements, for example the mixing of hierarchical levels, areas of expertise, differing perspectives, and so forth. This phenomenon is highlighted by Kary Mullis, the Nobel Laureate in chemistry: "In a sense, I put together elements that were already there, but that is what inventors always do. You can't make up new elements, usually. The new element, if any, it was the combination, the way they were used" (in: Sutton, 2002, p.22).

Already in 1934, the Austrian economist Schumpeter has posited that 'innovation' is the most important entrepreneurial function, and that this entrepreneurial function cannot be divorced from entrepreneurial leadership. Schumpeter's vision was to make room for the entrepreneur, according to him "the most vital figure" of the competitive capitalist process (Schumpeter, 1947). Also remarkable is that Schumpeter (1934) subdivided entrepreneurial leadership in both, economic leadership and social leadership functions. More specifically, Schumpeter argued that the economic leadership of the entrepreneur entails the leading of successful innovation in an economy, while the social leadership

function presupposes the innovative entrepreneur as a leader in the noneconomic area of society". This shows that the idea as such, namely that entrepreneurs play an important role in both economic as well as social development (or sustainable development used in this PhD research but not coined by Schumpeter as such), is not a new idea. However, the study of the meso-level systems in which this unravels and the linking of this to the relatively recent notion of entrepreneurial ecosystems may be regarded as a unique contribution of this PhD thesis.

1.4.4 Mission-Driven Entrepreneurship and the Eight Tenets of Systems Thinking

Compared to mainstream organizations, mission-driven enterprises have multiple goals which the innovator needs to skill-fully navigate through a myriad of complex economic, cultural, and social challenges. The tenets of systems thinking may provide an answer for managing the development and operation of sustainable enterprises. Mission-driven enterprises may be aided by the holistic approach that system thinking offers as to solve complex problems by considering every issue as a part of a web of interconnected and interacting systems rather than as independent issues with unrelated consequences (Dzombak, Mehta, Mehta, & Bilén, 2013). Below the eight tenets of systems thinking will be discussed, taken mainly from Dzombak et al. (2013), with a corresponding explanation how these tenets fit in the approach of a systems perspective of mission-driven entrepreneurship in this PhD research.

Tenet 1: Interdependence, defined as the mutually beneficial and reciprocal relationship between systems (Dzombak et al., 2013). It is aimed at satisfying the needs for development, co-creation, and resource optimization to achieve relational integrity within a larger system, of which every small individual system is a subsystem. Interdependence means that all systems depend on other systems or subsystems to successfully meet their responsibilities. This corresponds to the notion of mission-driven entrepreneurs operating in an ecosystem in which different parties are interdependently linked to each other.

Tenet 2: Holism, with two main aspects that (1) the parts of any system can only exist and be understood in their relationships to the whole, and (2) the whole is always greater than the sum of its individual parts (Dzombak et al., 2013). Holism is central to the key idea of systems thinking that all of the properties of a given system cannot be determined by their component parts alone, but that rather the system as a whole determines how the parts behave. Mission-driven

entrepreneurs need to be aware they operate in a certain system and think about both on how they wish to utilize the system as well as create impact the system.

Tenet 3: Multi-finality, defined by Von Bertalanffy (1971) as attaining varied alternative objectives from the same inputs, all systems remaining constant. The idea behind multi-finality is the ability to achieve several distinct outcomes from one original system, product or processes. In relationship to mission-driven entrepreneurship, the concept of multi-finality refers to designing a system in which the individual actors and inputs, the subsystems, and their interactions all meet their own goals while the system as a whole also meets its goals (Stepler, Garguilo, Mehta, & Bilén, 2010).

Tenet 4: Equifinality, defined by Von Bertalanffy (1971) as the principle that, for open systems, a given end state can be reached by many potential means. In relation to mission-driven enterprises, equifinality is manifested that various paths can be chosen in order to achieve impact. The grand sustainability challenges are 'wicked' in nature, meaning that there is not only 'one solution', but rather a multitude of solutions possible.

Tenet 5: Differentiation, by Senge (1990) defined as specialized units performing specialized functions within any given system, followed up by Rasch and Knodt (1994), discriminating between things, aspects, subsystems, or processes. Differentiation enables interdependence, which in turn is a condition for holism. In modern society, systems interact with the complexity of the environment in which they reside. Differentiation may be used as the method of identifying individual components of a large system, and to consider individual components in relation to each other and in relation to the entire system, so as to increase the complexity of the system. In the context of mission-driven entrepreneurship, differentiation may refer to the different roles actors play in an ecosystem and to optimally utilize the diversity available.

Tenet 6: Regulation, defined as a method of feedback that is necessary for the system to operate predictably and to counteract entropy (Carr 1996; Skyttner 2006). Feedback is essential for the regulation of any system, as to ensure that the system is working and all stakeholders are accountable to each other and the system. In relation to mission-driven enterprises regulation may refer to structures set up that help the system function.

Tenet 7: Abstraction, defined as a process for thinking and describing anything with multiple dimensions. Increasing the level of abstraction implies

moving away from specific details about an object, event, or idea, and shifting the discussion or analysis to include broader aspects. When applied to mission-driven enterprises, abstractions may provide a means of showing how grassroots action can affect wider change (Dzombak et al., 2013).

Tenet 8: Leverage points, defined as "places within a complex system (a corporation, an economy, a living body, a city, an ecosystem) where a small shift in one thing can produce big changes in everything" (Meadows, 1997). Mission-driven entrepreneurs must navigate in interconnected and often unfamiliar social, economic, and behavioural webs as they seek to implement their ventures a look for those 'leverage points' where they can make a change. One could say that the aim of a mission-driven entrepreneur is to introduce new paradigms at critical leverage points that lead to systemic change.

1.4.5 Entrepreneurial Ecosystems as Building Blocks for Ecosystem Economies

While the concept of clusters emphasizes geographic location, the systemic ecosystem approach leaves more space to look at the interconnectivity of actors and their surroundings. In ecosystems a larger diversity of companies and non-business partners can collaborate on solutions that contribute to understanding and eventually solving the challenging (societal) questions. Ecosystems may be defined as follows: "ecosystems are dynamic and co-evolving communities of diverse actors who create and capture new value through increasingly sophisticated models of both collaboration and competition" (Kelly, 2015, p.4). This definition and its various components will be elaborated upon in chapter 2.

In ecosystems, the collective intelligence brought forward by the companies and non-business actors is the feed stock for the generation of innovative concepts to be translated into products, processes, and organizational insights. The access to knowledge, resources and collective intelligence is an essential advantage for participating actors. It is the intangible smart and slow capital that is the glue within the ecosystem that lays the foundation for solid relations of trust and exchange. For entrepreneurs building an ecosystem around them or being part of an existing ecosystem could be a competitive advantage. Besides, for entrepreneurs that use business as vehicle to contribute to solutions of societal challenges bowling alone is not an option, it is prerequisite to be well embedded in society. Isenberg (2010) states that the face of entrepreneurship is

changing and that entrepreneurial ecosystems may be jump start for business growth.

The notion of ecosystems as building block of the new economy is also put forward by Scharmer and Kaufer (2013). He argues that "today's economy works as a set of locally embedded and globally interlinked eco-systems" (p.192). They emphasize the Greek root oikos of 'eco', which means "the whole house" or "the place to live", while the word system denotes a set of interdependent components forming an integrated whole. Thus an ecosystem is a system whose elements interact with their surroundings. In addition, Scharmer and Kaufer posit that "the biggest leadership challenge of our time is the gap between eco-system reality and ego-system consciousness – in business, in government, and in civil society" (Scharmer & Kaufer, 2013, p.12). This perspective is similar to the one chosen for this PhD thesis.

1.5 Outline of the Thesis

The outline of this thesis is as follows. Next to this introductory chapter, the thesis presents the foundations and research results in five chapters. Chapter 2 offers theoretical and methodological foundations of this PhD research. In each of the subsequent chapters, empirical case study results are presented that enable to answer the research questions of this PhD research (as formulated in this chapter). In so doing, the structure of this PhD thesis aligns with the increasingly common structure of PhD theses in business and entrepreneurship studies. Like in sciences, it has become more common to divide a main research question in sub-questions and to design and present separate research projects and research results for each of these sub-questions independently. The structure of PhD theses in business and entrepreneurship has evolved from monographs into a coherent collection of separate, sequential studies in line with the increasingly complexity of the research questions at hand. The division of an overall research question in separate studies also enables to timely present and discuss research design and findings with peers in for example international or expert conferences, as has been the case for this research.

In line with this first introductionary chapter, Chapter 2 offers an outline of the theoretical foundations and a justification of the research approach chosen for this PhD research. Specifically, each of the five layers of the five-layered systems model will be explained in more detail. Chapter 2 will also review and justify the need to apply case study research methods in order to answer the research questions of this PhD research. In so doing, Chapter 2 offers theoretical and methodological foundations for the empirical case study research projects presented in Chapters 3, 4, and 5, respectively.

Chapter 3 presents the first empirical research project, making a first effort in the case study approach of this PhD thesis. This chapter takes a multi-layered systems approach on entrepreneurship, innovation, and sustainability. More in particular, Chapter 3 studies how mission-driven entrepreneurs (level 1) employ new business models and launch innovative products and/or ideas in their enterprises, which are (level 2) operating in entrepreneurial ecosystems (level 3), and how these in turn may generate higher level sustainable change (level 4). The chapter employs a qualitative research approach with the aim to offer a systematic overview and analysis of mission-driven entrepreneurship that offer input for new theory. Fourteen in-depth, semi-structured interviews were conducted with mission-driven entrepreneurs in the Netherlands in which their individual drive, business models, and ecosystems were discussed. Interview transcripts were systematically coded and analysed and the ecosystems that derive from these interviews were visually mapped. The most important patterns that are identified in Chapter 3 include (1) entrepreneurs have a clear sustainable mission and regard this mission as de *raison d'être* of their enterprise; (2) entrepreneurs employ new business models with a focus on collaboration for innovation; the business model supports or enhances the sustainable mission of the enterprise, (3) entrepreneurs collaborate in ecosystems in which *a)* they also regard suppliers as partners for innovation and clients as ambassadors for the sustainable mission, *b)* would like to improve their relationships with financial institutions as they are in the entrepreneurs' perspective often lagging behind with their innovative ideas and models, *c)* they collaborate for knowledge and innovation with several parties, *d)* personal informal connections are very important, and *e)* in which the higher sustainable mission is not a point of competition but of collaboration.

Chapter 4 presents the second empirical research project of this PhD thesis, focussing specifically on enterprises within a networked ecosystem-setting. Successful businesses cannot evolve in a vacuum, they must be able to draw upon capital, partners, suppliers, and customers to create cooperative networks. Business strategist James Moore first imported the concept of ecosystem to the increasingly dynamic and interconnected business context in his 1993 HBR article (Moore, 1993). He argues that a company should be viewed not as a member of a single industry but as part of a business ecosystem that crosses a variety of industries. In this way, he argues, (1) companies may co-evolve capabilities around new innovation, and (2) they may work cooperatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations. This research argues that in the current age ecosystem thinking and new business models supporting a cooperation/competition mixture is especially of relevance for entrepreneurs who wish to achieve sustainable impact. The aim of Chapter 4 is to explore these assumptions by using a qualitative case study methodology. In Chapter 4, a collective consisting of six independent mission-driven enterprises named 'Powered by Meaning Collective' is studied. Each of the enterprises has its own mission and vision, but the Powered by Meaning Collective has also an overarching goal, namely "co-creating social enterprises". The results of Chapter 4 indicate that enterprises within the Powered by Meaning Collective have their individual networks as well as complementary networks. Across all enterprises there is a strong belief in entrepreneurship as a driver for change. Business models are set up in such a way that they stimulate more entrepreneurship and collaboration. Overall it can be said that the enterprises in the network complement each other and strengthen each other's business.

Chapter 5 presents the third empirical research project of this PhD thesis, studying the role and characteristics of ecosystems in relation to sustainable systems change. It is argued that ecosystems are an important starting point to implement systemic solutions. The question is whether such systems can be designed in the first place. The research presented in this chapter aims to answer the third sub-question of this PhD research, that is, how may ecosystems be designed that have as explicit aim to contribute to systemic sustainability transitions? In this chapter it is attempted to clarify the unique meso-level characteristics of the ecosystem and

how it may connect the initiatives and enterprises of mission-driven entrepreneurs to larger scale systems change. In order to explore ecosystem design and dynamics the case study 'Social Impact Factory' is studied. The Social Impact Factory, a non-profit organization, was founded by Kirkman Company and the Municipality of Utrecht to bring social, sustainable initiatives and societal challenges together in one platform. The objective of the Social Impact Factory is to inspire and to connect organizations and to create an empowering environment for mission-driven enterprises. The Social Impact Factory therefore offers an appropriate research context to answer the research question at hand. The results indicate that ecosystems enable participation of diverse range of organizations, both from private and public sectors, large and small organizations, that are crossing the boundaries of traditional industries and instead are organized around a specific theme that unites these different actors. As sustainability challenges, like climate change, are collective action problems ('tragedy of the commons'), the only way to address these problems is by organized collective action. Ecosystems that are based on organizational principles of entrepreneurial effort, collaboration and networking, are a way to organize this collective action that is needed for setting in motion a sustainable systems change such as a transition to a circular economy.

Finally, chapter 6 offers a review of the main research aim, research questions, research methods and empirical insights that derive from the research projects presented in this PhD thesis. Chapter 6 also offers implications and recommendations for business education, business leaders and policy makers, and suggests avenues for future research in this field.

2

THEORETICAL FRAMEWORK AND RESEARCH APPROACH

2.1 Introduction

This PhD research project departs from a systems model where the interaction between mission-driven entrepreneurs, enterprises, entrepreneurial networks, business ecosystems and the society/world are central stage. In this chapter we first will discuss the various levels of the system and how they are connected. It is important to understand the model because it frames and positions this PhD research and it enables to come to grips why thinking in terms of entrepreneurial ecosystems carries relevance. The focus in this PhD research will be on how levels 3 (networks) and 4 (entrepreneurial ecosystems) function as the *meso-level* in between the microlevel (entrepreneur and enterprise) and the macro level (society/world). In so doing, it plays an important function to mediate between the entrepreneurial initiatives and societal change. In order to understand how the meso-level may strengthen initiatives on the micro-level it is important to start explaining the overall model given that this determines how and why the various levels and their interactions are analysed. Subsequently the chapter will justify the research methods of this research.

2.2 Theoretical Framework

2.2.1 Level 1: Mission-Driven Entrepreneur (micro level: the individual)

The first level of the theoretical framework starts with the individual. Zoeteman (2012) in describes in his book that is important to look into the deeper layers of motivation of individuals that could make sustainable development a growing wave of change. He describes that sustainable development strives for a balance between economic, social and environmental 'capital', similar to new business models of entrepreneurs. The idea often captured in the phrase ' going from ego- to ecosystem' is also well caputered in Zoeteman's work, in which he describes personal sustainability attitudes on 5 levels, level 1 being ego-centered behaviour and step 5 being sustainability attitudes in which all stakeholders are open for the best possible future development for the collective whole. Interestingly, the level 5 individual attitude leads to collective behaviour and it also comes into being collectively, therewith bridging the linkage between individual leadership on the one hand and organizational and collective change on the other hand.

Thus, the individual drive is an important starting point. One way a motivated individual could bring his or her sustainability ideals in practice is through entrepreneurship. In our model, the mission-driven entrepreneur represents the individual and micro-level of the 5-layered model that is used in this research. What is exactly a mission-driven entrepreneur? Why is it so important focus on the entrepreneurial individual as starting point for change?

Mission-driven entrepreneurship in a changing societal context

In the current society more and more engaged individuals make the choice for mission-driven entrepreneurship as a form of individual and collective action. It fits in the current zeitgeist, with changing values and more attention to individual wellbeing as well as the motivation to contribute to society. Economic growth does not only correlate with positive effects on wellbeing and life expectancy of people. Non-economic aspects of life become increasingly important. Values such as quality of life, protecting nature and environment, (group) identity and self-expression gain importanceand a high material standard of living with an increasing part of the population (Inglehart, 2008). This change potentially has an influence on someone's world view, including social, political and economic convictions. This reasoning, however, does not always hold for everybody and everywhere: in many sectors such as parts of the financial sectors it seems that capitalistic thinking without attention to human values has continued, which could be seen as one of the causes of the recent global financial crisis. This crisis has also questions the sustainability of the current system. The financial excesses have led to indignation from significant groups of citizens who would like to take a different path. An increasing number of entrepreneurs and business leaders aim to utilize their enterprise or business as a vehicle for change. Examples include mission-driven enterprises in the Netherlands such as MudJeans, FairPhone, and Marqt, that are value-driven and introduce different types of business models in which collaboration and networking is key. This will be further discussed and analysed in Chapter 3. An example of 'big business leadership and networking' in this regard is the Dutch Sustainable Growth Coalition, in which companies such as Unilever, DSM, and Philips work together towards a more circular economy.

Entrepreneurship also fits in a trend of increasing individualism in modern society, as *empowered individuals* feel they can take action ('I see a problem, what will I do about it' versus 'I see a problem, what will the government do about

it'), where people become more conscious (and also have the technological tools to do so) that they may organize themselves and that they also may enter in partnerships themselves. Mission-driven entrepreneurship fits in the trend of increasing self-initiative, technological innovation, but also with a new way of bottom-up self-organization and collective action. The younger generations will be less likely to be loyal to one employer during their entire career and would like to be in control of their own working-life (combining 'projects' and entrepreneurship with working for employers). According to Ibarra (2003), in these types of 'portfolio-careers', people are looking for new working identities where they regard the traditional model of loyalty to one organization increasing less desirable. A '9-to-5' mentality and hierarchies make place for working attitudes based on personal development and creativity, this fits in a 'new world of work' as Gratton (2011) describes in her book *The Shift: the future of work is already here*. An important feature of this new way of working is the entrepreneurial character: taking own initiative and finding creative (social) solutions with own new ideas instead of being employed in hierarchies. Some of the new generation are not only technological innovative, they are also individuals who would like to combine personal career with impact of work (paid and unpaid) and not just with the agenda of the company they work for. This signifies a potential shift in *mental models* and *values* on how work should be organized (which is one of the layers of the 'iceberg of systems thinking') and therefore plays an important role in understanding changes in organizing work.

Thus, the two main factors of (1) the *societal value-shift* as a consequence of increasing wealth and the (2) *empowered individual with technological abilities* have set a context in which mission-driven entrepreneurship becomes a choice for engaged individuals. However, this does not imply that all persons are entrepreneurs. What then sets mission-driven entrepreneurs apart?

Mission-driven entrepreneurship further defined

So what is exactly a mission-driven entrepreneur? In short, it is an *entrepreneur* with a company that has integrated with their financial profit mission a societal, environmental or more overall a mission to achieve more sustainable outcomes, one way or the other. It is import to first have more understanding what it means to be an entrepreneur. The entrepreneur can be both the starter of an own enterprise, but may also operate in a large organization as 'entrepreneurial leader'.

According to Austrian economist Joseph Schumpeter (1949), an entrepreneur is a person, or a group of people, who is willing and able to convert a new idea or invention into a successful innovation. According to Schumpeter, the *entrepreneurial leader* cannot be divided from the *entrepreneurial function (i.e., innovation)*. Successful entrepreneurship does not only involve the process of setting up a new business, but also generating new business opportunities that produce either a new product, a new process, or a new market for an existing product or process. More recently Isenberg (2011) defines an entrepreneur as "a person who is continually pursuing economic value through growth and as a result is always dissatisfied with the status quo" (p.2). It is the role of entrepreneurs to see and exploit potential new opportunities, without knowing for sure they will succeed.

Drucker (1970) explains that entrepreneurship is about *risk-taking*: an entrepreneurs is a person willing to put his or her career and financial security on the line and take risks in the name of an idea, spending time as well as capital on an uncertain outcome – in fact it is not only 'risky', but also highly 'uncertain', the difference being that in the latter case the probabilities of success are not known, which is the reason that traditional scientific and economic models are not adequate to explain the emergent nature of entrepreneurial success (which is innovation). Overall, one could say the role of entrepreneurship employs 'the gale of creative destruction' to replace, in whole or in part, inferior innovations across markets and industries, simultaneously creating new products including new business models, and in so doing destroying the lead of the incumbents (Schumpeter, 1949).

What then does it mean to be a *mission-driven entrepreneur?* Several key thinkers on the area of entrepreneurship have already noted that entrepreneurship, in general, is an improvement for society, leading to innovations, fostering employment and resulting in economic growth (Drucker, 1985; Schumpeter, 1936). The Austrian economist Joseph Schumpeter puts emphasis on the ability of value creation, and sees in the entrepreneur the force required to drive economic progress, in absence of entrepreneurs economies would become static and immobilized (in: Martin & Osberg, 2007). Mission-driven entrepreneurs add another dimension to their entrepreneurial activities, in this sense that they purposely work towards a certain sustainable mission, e.g., reducing plastic soup

in the ocean or reducing CO2 emissions, and that they build a business model *around* this sustainable mission.

We define *mission-driven entrepreneurship* as "seeking to achieve financial viability or growth while pursuing a particular social and/or ecological mission, through a focus on innovative activities fostering sustainability". In the context of systemic sustainability transitions it may be argued that this type of entrepreneurship holds promise to address some of today's most urgent sutainable issues, such as climate change and social inequality of all sorts (Bornstein, 2007; Busenitz & West, 2003; Eggers & Macmillan, 2013; Kickul & Lyons, 2012; Nicols, 2008). The mission-driven entrepreneurs develop and use new products and business models that are based on the tenets of the Triple Bottom Line as coined by Elkington (2004), which means they have a more inclusive concept of *value creation* (not only based on Profit, but also on People and Planet). Also, these entrepreneurial individuals may function as change agents and sources of inspiration in the bigger system (see, for example, Elkington & Hartigan, 2008 or Isenberg, 2010).

2.2.2 Level 2: Mission-Driven Enterprise with New Business Models (micro-level: the enterprise)

How do mission-driven entrepreneurs put their entrepreneurial motivation into practical solutions? The answer is straightforward: by starting enterprises as vehicles for change with both, new business models and new products/services. The enterprise could be regarded as the vehicle that entrepreneurs use for change. In this research the focus is on the change in organizing, therefore the business model concept is of key importance. Also, sustainable development at the societal level is not very likely without the sustainable development of organizations, with business models being one of the key initiating components of corporate sustainability. According to Schaltegger, Hansen and Lüdeke-Freund (2016) the focus on business models is needed because "apparently, the usual approaches to sustainable development of philanthropy, corporate social responsibility, and technological process and product innovation are insufficient to create the necessary radical transformation of organizations, industries, and societies toward genuine, substantive sustainable development" (p.1). Today, entrepreneurs (together with leaders and managers) are challenged to contribute

to sustainable development on the individual, organizational, and societal levels, where entrepreneurs may be regarded as appropriate actors to be business model innovators.

Business model innovation may be defined as generating new sources of profit by finding novel value propositions/value constellation combinations (Yunus, Moigenon, & Lehmann-Ortega, 2010). Business model innovation may be considered to be a radical form of innovation, as it entails questioning the models that have previously led enterprises to success, which involves revising a number of basic assumptions and fits into the 'innovation for sustainability' line of thought where we need a different way of thinking about business. Therefore, the notion may be especially relevant to mission-driven entrepreneurs, who may be the best suited to bring the three lessons in practice that Yunus et al. (2010) described: (1) challenge conventional wisdom, (2) find complementary partners, and (3) undertake continuous experimentation for social change. These new type of mission-driven enterprises are by definition already breaking with 'business as usual' by taking another approach to what 'creating value' means and therefore its definition of success: success of an enterprise is not only defined in terms of the creation of profit or shareholder value, but also in terms from achieving the self-set social and/or ecological mission and therewith creating value for the stakeholders and targeted beneficiaries.

Fostering social change towards more sustainability is complex. Taking entrepreneurial business model innovation as a starting point of greater systems transitions is daring but it fits in the discourse of the need to change 'business as usual' and finding different *organizing principles*. According to Schaltegger et al. (2016), the business model perspective is particularly interesting in the context of sustainability because it highlights the value creation logic of an organization and allows for new governance forms altogether. It is the growing concern with the modus operandi of our capitalist societies and economies that may be the reason for growing academic and practical interest in more sustainable business models. Schaltegger et al. (2016) define a business model for sustainability as follows: *"A business model for sustainability helps describing, analysing, managing, and communicating (i) a company's sustainable value proposition to its customers and all other stakeholders, (ii) how it creates and delivers this value, (iii) and how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries"* (p.3). This calls for new

types of enterprises that are collaborative in nature and go beyond the border of their own enterprises.

Sustainable business models need to encompass organizational principles such as collaborative networking, because sustainability issues are *multi-faceted, complex* and *wicked*, which makes a multi-stakeholder approach necessary. Porter and Derry (2012) distinguish three dimensions that have implications in the sustainable business model innovation reign, namely (1) sustainability implies recognizing the widespread interdependence of species and ecosystems, and therefore involves concern for all stakeholder groups, (2) sustainability considers the impact on future generations by current business practices, resource use, and waste disposal practices, therefore involving an expanding timeline, and (3) sustainability involves multiple dimensions of performance beyond simple economic profits, such as social and environmental performance. This translates into business models that are *multi-stakeholder, multi-timeline*, and *multi-performance* oriented.

An example of new collaborative business models are those of networked enterprises. Networked enterprises are closely linked companies that together aim to enable and provide services and products (Solaimani, 2014). The evolving shift from collaboration towards networked enterprises with diverse stakeholders entail opportunities, but also complexities when it comes to creating and implementing collective business objectives (Thompson, 2008), with the process consisting of *"value co-creation, co-conversion, and co-capturing together with the different players in the ecosystem: customer, competitors, complementors, and community"* (El-Sawy & Pereira, 2013, p.4). Implementation is not included in business models itself, but of important consideration (Solaimani, 2014), with the question *how* should *whom* do *what* to gain *which* value (Gordijn, Akkermans, & Van Vliet, 2000).

2.2.3 Level 3: Entrepreneurial Networks, Alliances, Coalitions and Collaborative Models (meso-level)

How do mission-driven entrepreneurs that use their enterprises as vehicles for change scale up to grow and generate more social impact? As business models shift to more collaborative or networked models to approach wicked sustainability challenges, it is necessary to increase the emphasis on finding the right type of partnerships for the enterprise. According to Chesbrough (2007),

finding partners to leverage expertise and resources is a crucial element for new successful business models. Collaboration allows organizations to gain access to new resources they would otherwise need to develop alone or purchase. One of the main advantages of collaborative agreements from a competition point of view is the pooling of resources and knowledge, which in turn may lead of a development of a broader portfolio of resources for the firms in the network (Greve, Rowley, & Shipilov, 2014). Continuous and strategic experimentation is needed as changes need to be radical and will question the firm's conventional way of doing business. It also fits in economies that are increasingly knowledge-based and in which firms have a competitive advantage when they have better access to information (Kim & Mauborgne, 1999).

Collaboration may take place in different contexts, such as in networks, alliances, and coalitions, with all concepts bearing subtle differences (see also Roja & Nastase, 2012). It is the purpose of the PhD research to identify and analyse different forms of collaboration and how these different forms build into working and thinking in ecosystems (and how it is different from the beforementioned concepts). This networked approach signifies a shift in thinking compared to the more linear and static value chain approach. Also, working closely together in alliances and networks enhances *competitive advantage* for entrepreneurs, better spreading of risks, more market entry points, sharing of resources reducing costs, and overall an increased access to information (Nambisan & Baron, 2013).

2.2.4 Level 4: Entrepreneurial Business Ecosystem with a Great Diversity of Actors (meso-level)

Entrepreneurs are important drivers towards sustainable change, however they are not alone. Characteristic of a system (as opposed to a network) is the *diversity of actors* that mutually influence each other. How then to put in practice new, complex business models applied that foster new ways of working that create value for *all stakeholders*, namely clients, business partners, employees, environment, society, and as a result also shareholders and investors? Because of the multi-faceted approach business models become more complex and need to be collaborative. Collaborative business model innovation may transcend the traditional firm and also take place on the level of the ecosystem specifically build around challenging societal issues. The question then becomes what the underlying *organization principles* of this way of working are, i.e. what are the

distinctive features to build and organize systems that aim to generate sustainable change?

The neo-Schumpeterian economic school of thought emphasizes the importance of the *meso-level* (Hanusch & Pyka, 2005) that forms a bridge between the micro-level and the macro-level. Entrepreneurs may be important drivers for innovation, as discussed above. At the same time, however, it is important to realize that innovation is a 'cumulative', innovation today builds on innovation yesterday (Mazzucato, 2013). Innovation cannot be pushed without the efforts of many, and it cannot proceed without a long-term vision that sets the direction and clarifies objectives. Rather it needs cross-sectoral collaboration between companies, government, financial sector, non-profit sector, and academia ('multi-helix'). Schumpeterian scholars also emphasize the 'systems' component of technological progress and growth. Systems of innovation are defined as "the network of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies" (Freeman, 1995) or "the elements and relationships which interact in the production, diffusion and use of new economically useful, knowledge" (Lundvall, 1992, p.2). The system of innovation can be inter-firm, regional, national or global.

The concept of entrepreneurial business ecosystems

In biology, ecosystems represent a community of living organizms interacting as a system. The word was coined in the 1930s by Arthur Tansley to refer to a localized community of living organisms interacting with each other and their environment. The organizms compete and collaborate, share and create resources and are subject to external disruptions to which they adapt together (in: Kelly, 2015, p.3). James Moore first imported the concept of ecosystem to the increasingly dynamic and interconnected business context in a 1993 HBR article (Moore, 1993). He argues that a company should be viewed not as a member of a single industry but as part of a business ecosystem that crosses a variety of industries. In this way, he argues, (1) companies may co-evolve capabilities around new innovation, and (2) they may work cooperatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations.

The definition that we would like to use in this research is *"ecosystems are dynamic and co-evolving communities of diverse actors who create and capture new value through increasingly sophisticated models of both collaboration*

and competition" (Kelly, 2015, p.5). From this definition three elements can be distinguished, namely:

1. "ecosystems are co-evolving communities of diverse actors"; ecosystems typically bring together a diverse set of actors in order to create, scale and serve markets in ways that are beyond the capacity of any single organization or even any traditional industry. Their diversity and collective ability to learn and innovate together are key determinants of longer-term success;
2. "who create and capture new value"; ecosystems develop new co-created solutions addressing societal challenges, while ecosystems also increase the importance of discovering new individual business models to capture that value
3. "through both collaboration and competition"; participants in the ecosystem recognize the growing need to collaborate in order to invest in the long-term health of their shared ecosystem, competition is still essential but not the sole driver of sustained success.

Hence, important characteristics for the successful functioning of ecosystem settings are a diverse group of actors crossing industries and hierarchical levels, a common set of goals and objectives (shaped by the ecosystem-level focus), and a shared set of knowledge and skills (complementary set of technologies and capabilities) (see also Adner & Kapoor, 2010; Iansiti & Levien, 2004; Nambisan & Baron, 2012; Teece, 2009).

We argue that in the current age of transformation ecosystem thinking and new business models supporting a cooperation/competition mixture is especially of relevance for entrepreneurs who wish to achieve sustainable impact. Entrepreneurship, and especially driven from a certain sustainable mission, may be the best vehicle to address some of today's most urgent sustainability challenges, such as climate change and social inequality of all sorts (Busenitz & West, 2003; Eggers & Macmillan, 2013). A distinctive characteristic of collaboration in an ecosystem is *that together something can be achieved beyond the* effective scope and capabilities of any individual actor. This relates also to large societal problem that no individual organization is able or incentivized to resolve (Kelly, 2015).

Deliberate ecosystem building for sustainability

In this PhD research the focus will be on the deliberate building of business ecosystems (the case studies are different examples of network and ecosystem building efforts). In accordance with this perspective, building an ecosystem is a deliberative choice to bring together entrepreneurial initiatives and cross traditional boundaries, in line with Kelly (2015) *"a distinctive characteristic of many ecosystems is that they form to achieve something together that lies beyond the effective scope and capabilities of any individual actor (or even group of broadly similar actors). In some instances, these relate to large societal problems that no individual organization is able to, or incented to, resolve"* (p.6). This leads to the question: how to best build and organize these types of ecosystems in which groups of diverse actors work together and beyond their own interest with the aim to contributing to complex sustainability challenges? If one approaches this question from a sustainable business model perspective, we argue there are three fundamental reconsiderations, namely (1) who (that is, finding the right partners or *value contributors*), (2) what (that is, finding with these partners a shared common vision with a shared idea of success or *value proposition*, the ecosystem as leading organizing principle around complex sustainability challenges, and (3) how (that is, agree on a common roadmap with concrete goals and a clear division of tasks or *value constellation*) around a complex sustainability challenge. While traditional business model innovation confines itself to what (value proposition) and how (value constellation), for the ecosystem-oriented business model we argue that it is needed to add a third new dimension, namely who are the 'value contributors', that is, what is the diverse group of actors that are needed to contribute to the issue at hand.

2.2.5 Level 5: Change on an Abstract Higher System Level, such as Region, Society, or World

Finally, how may these new ways of working in ecosystems contribute to impactful innovation for sustainability and impact on a higher systems level? Systemic innovation for sustainability requires a rethinking of the basics of our economic system and its capitalist regulation as we know it. As Paul Polman, Unilever's CEO, argues: "Sustainability requires a systems-based approach to accelerate the transition in business." According to him, "[...] collaboration is key to bring about systems changes. [...] I believe our future leaders must be

system thinkers. It is unthinkable that someone can lead a successful company or country without understanding the interdependencies in the systems we as humans depend upon" (Quoted at the World Economic Forum in Davos; The Guardian, 29 January 2014; Duurzaam Bedrijfsleven, 27 January 2014). Kim (1999) posits that "systems thinking is one of the key management competencies for the 21st century. As our world becomes ever more tightly interwoven globally and as the pace of change continues to increase, we all need to become increasingly "system-wise"" (Kim, 1999, p.1).

Ultimately we need a systems transition to establish a more inclusive and sustainable economy, which means rethinking the tenets of the neoliberal capitalist system and think about a paradigm change to a more sustainable system. There are different political and ideological views on what this system should look like. However, there is a broad consensus that a systems transition for sustainability is 'complex' and it requires rebalancing of the feedback loops existing in the system (Espinosa & Porter, 2011; Frantzeskaki, Loorbach, & Meadowcroft, 2012; Miller, 2013; Wittmayer, Schäpke, Feiner, Piotrowski, Van Steenbergen, Baasch, 2013). Changing the way of organizing and rebalancing the positions of the individual authors may already be the change of and in itself. According to Simons (2015) there are four critical stages of systems change, namely:

1. *the awareness and project phase*, which raises general awareness about the problems and elicits an initial response;
2. *the first mover and competition phase*, which mainly addresses the market failure by creating incentives for the market to compete on doing the right thing;
3. *the critical mass and institutionalization phase*, which addresses the lack of conditions for change and involves governments, and
4. *the level playing field phase*, which addresses the institutionalization and legalization of the new normal and new norms.

Each of these phases takes time, is complex and requires a different mindset from the actors involved. In each of these phases also the process may end prematurely.

In the building of ecosystems for sustainability it is an important first step to, together with the appropriate partners, find and define a common vision and shared idea of success. Therefore, it makes sense to already look at potential *scenarios* on how such a new sustainable economy may look like (even though in

reality it will probably look different). One such a blueprint is a 'circular economy'. Recently the concept of 'circular economy' has received increasing attention as a possible new and more 'sustainable system'. The concept of Circular Economy is, among others, developed and advocated by the Ellen McArthur foundation, which has been officially founded in 2010. The concept of circular economy is, however, not entirely new and has its intellectual roots in a number of disciplines, such as natural sciences, social sciences, engineering, physics, economics and management (see, for example, Sauvé, Bernard, & Slan, 2016). The Ellen McArthur Foundation has developed a 'blueprint' for a new system which brings together various schools of thought. The circular economy is a systems concept as it simultaneously concerns economic, social and ecological approaches to a fundamentally new system. According to the Ellen McArthur Foundation *"a circular economy is an industrial system that is restorative or regenerative by intention and design. It replaces the 'end-of-life' concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models"* (2012, p.7).

In a similar vein Lacy & Rutqvist (2015) argue that in essence, "a circular economy is referring to the decoupling of economic growth from the extraction and consumption of constrained natural resources, i.e., scarce resources with negative footprints, like fossil fuels or hard-to-recycle metals and minerals, where dependency creates a competitive disadvantage over time" (p. xvii). Instead, a circular economy tries to keep resources in productive use in the economy for as long as possible. Lacy & Rutqvist also conclude that "the transition to a circular economy may be the biggest revolution and opportunity for how we organize production and consumption in our global economy in 250 years. It is a radical re-think of the relationships between markets, customers, and natural resources" (p. xv). While the circular economy is still in its infancy from both an academic and a global economic perspective, it is growing in prominence with every passing year. Industries and governments are increasingly recognizing circular principles.

It is beyond the scope of this PhD research to deal with all ins and outs of all levels and therefore this PhD research will focus on levels 2, 3 and 4, respectively. This PhD research takes a *process approach*, and will focus on the *how* in terms of organization of change and transformation, rather than the details of the *what*.

The circular economy will be used as an example of how a more sustainable economic system could look like. It is a question to what extent in the future an economy will come into being that *exactly* fits the descriptions of a circular economy offered by the Ellen MacArthur foundation. Nonetheless, the blueprints that the Ellen Mac Arthur Foundation prepared for the circular economy contain important guidelines for sustainable economic system replacing the existing neo-liberal models. In addition, having a conceptualization of a possible alternative system to our current system may help people and organizations to think beyond the limiting boundaries of current systems and to create a *common purpose* – a common goal far on the horizon to collaboratively work towards–, it is an important start when building ecosystems for sustainability.

2.3 Research Approach

2.3.1. Research Paradigm

Defining one's research paradigm is one of the first and important steps in the researcher's journey and this may especially holds true when deviating from conventional research paradigms. Paradigms may be defined as "the basic belief system or worldview" which has influence on the researcher's point of view on epistemology, ontology, and methodology of research. Epistemology asks "What is the nature of the relationship between the knower (the inquirer) and the known (or knowable)? Ontology asks "What is there to be known?" or "what is the nature of reality"? Methodology is the "strategy or plan of action" which influences the choice of methods and asks the question "How can the inquirer go about finding the known"? Methods refer the "the particular technique or instrument employed in the process of data collection. The research paradigm should fit the research topic at hand and also fits the personal convictions of the researcher about knowledge and truth. Today, the dominant research paradigm is that of positivism, other major research paradigms are the interpretivist and the critical paradigms.

This research – with its systems approach to science – may be best placed in the interpretivist and critical paradigms of science. Interpretivism seeks to understand the researched phenomena from the point of views of the people involved. Unlike positivism, the research in the interpretive paradigm is inductive and emergent and does not seek absolute generalizations as it is context bounded – what works in one context may not work in another context. However, it is the

stance of the researcher that there are certain recurring patterns that may be applied to a variety of situations, such as is the case with natural laws. Among the methodologies used in interpretive approach are phenomenology, grounded theory, ethnography, and case studies (Creswell, 1998). This research will use the case study approach. The interpretivist paradigm fits in the systems thinking approach as described earlier.

Ontology (theory of 'truth')
It is the stance of this PhD research that there is not one absolute 'social' truth, but that truth is coloured and depends on the view of the researcher – "the world looks as we see it". As in wicked problems there are no right-or-wrong solutions, but only contributions to 'problems'. In the natural sciences it is adequate to study universal 'laws' or 'truths' (as in 'tame problem solving') but human living social systems are so complex that it is not adequate to study social sciences as if they were natural sciences. This Phd research does not exclude the possibility of 'absolute truth', but is of the stance that it is outside the human mind to ever grasp this truth and all we can do is approach it. The aim of social research is therefore not to find 'absolute truth', but to find patterns and understanding in a world of chaos.

Epistemology (theory of knowledge)
In line with the idea that an absolute search for truth is not possible nor desirable it is my stance that knowledge is mostly contextual and constructed and that beneath this knowledge are some universal 'natural laws', which may be considered as truth – complex systems may behave according to some universal laws, but because each complex system will be different than the other complex system it is not possible to apply these laws from the one to the other system and expect the same outcomes to happen. It is also beyond the capacity of the human mind to understand complex systems in their entirety. Knowledge should contribute to the improvement of social challenges (which cannot be 'solved' as they are wicked problems).

2.3.2 Overall Methodology

In line with the discussion on scientific paradigm and methodology, this PhD research will use a multi-method approach based on inductive and emerging

research logics in line with the systems thinking approach. The data derive from various case studies in which interviews are key (both, participant interviews as well as expert interviews). The interviews were coded according to guidelines developed by Strauss & Corbin (1998) with open coding procedures. The case studies are analysed and framed based Yin's (1994) case study framework. In the case studies, data triangulation was applied: the case studies consisted of a combination of interviews, internal documentation and the attendance of case company meetings. The rigour of each case study was compared with the framework for an investigation of the methodological rigour of case studies developed by Gibbert, Ruigrok, & Wicki (2008).

Hence, the backbone of this research consists of three case studies, each of them highlighting different aspects of the five-layered systemic model. For the envisioned in-depth and multilevel investigation of interactions, case studies are most appropriate "to understand the nature and complexity of the processes taking place" (Benbasat, Goldenstein, & Mead, 1987, p.370). One of the most widely accepted definitions of a case study is provided by Yin (1994, p.18): "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident". Case study research explores predefined phenomena, but does not involve explicit control or manipulation of variables; the focus is on gaining an in-depth understanding of a phenomenon and its context (Cavaye, 1996). In addition, case studies are useful to build theory. According to Eisenhardt (1989) case study research is independent from prior literature or past empirical observation and that "case study research is particularly well suited to new research areas or research areas for which existing theory seems inadequate. This type of work is highly complementary to incremental theory building from normal science research. The former is useful in early stages of research on a topic or when a fresh perspective is needed, while the latter is useful in later stages of knowledge" (p.548). Thus, case study research fits particularly well to a new field of research.

For the selection of the cases, an information-oriented selection strategy was used, which seeks to maximize the utility of information, drawing on a small number of relevant cases. These case studies were selected on the basis of expectations about their information content (Flyvbjerg, 2006). This concretely means that for the selection of each case study we looked at the potential of

these cases to show new ways of working fitting in the entrepreneurial ecosystem approach. In chapter 3, we have chosen a selection of mission-driven entrepreneurs and sustainability directors that are known to put mission-driven entrepreneurship in practice. In chapter 4 we have chosen a collective of entrepreneurs ('Powered by Meaning') that explicitly aim to bring in practice new ways of collaboration. In chapter 5 we have chosen an initiative that purposefully aims to take an ecosystem approach to positively contribute to local challenges, also highlighting a unique collaboration between a private and a public party. All of the case studies have in common that they explicitly aim to bring new organizational principles in practice from a mission-driven perspective. The purpose of the case studies in general is to gain an in-depth understanding which helps to explore and evaluate the framework developed in the theoretical chapter.

2.3.3 Company and Interviewee Consent

The three case studies were carried out in the timeframe 2014 to 2016 as part of the I4S research programme. At the time of the research, all companies and interviewees were informed about the aim of the research and the usage of the information in line with the academic ethical guidelines. All companies and interviewees gave their consent for the use of the information in this thesis, including the mentioning of their names and the company names. In February 2019, all companies and interviewees have again been approached and again have been explained about the aim of the research and the usage of the information. Again all companies and interviewees gave consent to use the obtained data for the research presented in this PhD thesis.

2.4 Conclusions

This chapter presented and justified the use of the five-layered model that looks at different systemic levels, from micro (the individual entrepreneur) to macro (the society), as a tool to get a deeper understanding of systems change for sustainability. More precisely, the chapter has discussed how mission-driven entrepreneurs (level 1) start and work in enterprises or companies with innovative business models (level 2), who collaborate in various ways and in different settings such as partnerships, coalitions, and entrepreneurial networks (level 3), giving rise to business ecosystems which a wide diversity of actors crossing traditional

boundaries to tackle specific sustainability challenges (level 4), creating impact on a macro-level such as 'society' or 'world' (level 5). In the next chapters, various case studies will be presented in order to deduct patterns and to build understanding. For this, this chapter also presented and justified these research methods that will be used in the empirical research of this PhD thesis.

3

MISSION-DRIVEN ENTERPRISES IN ECOSYSTEMS AS DRIVERS FOR SUSTAINABLE SYSTEMS CHANGE

3.1 Introduction[1][2]

No innovation without collaboration. Innovation essentially is a network phenomenon – arising from interaction between a variety of individuals, firms, knowledge institutes, and public authorities, embedded in local conditions of infrastructure and institutions (Nooteboom, 2000). Studies on clusters, for example, have shown the positive impact of specialized regional clusters with companies from supporting industries, education and institutional organizations on levels of competitiveness. This chapter argues that sustainability should be regarded as an objective that will become a crucial element in the strategy of companies, organizations, the financial industry, governments, municipalities, universities and think tanks, with the potential to re-direct strategies and re-frame business, operations and consumption and the re-thinking of existing business models in organizations.

In order to understand a phenomenon as complex as sustainability, and in particular the road towards more sustainability in organizations and society, it is needed to take a systems thinking approach. In this study we analyze the role of entrepreneurs operating in ecosystems. We argue that at the micro level, sustainability requires entrepreneurship that sees the social objective as a challenge that is simultaneously social and economic. Entrepreneurship that takes into account the triple bottom line of people, planet and profit is especially well-positioned to act as a change agent and to generate innovation needed for sustainability. Enterprises with a clear sustainable objective, and, in particular, entrepreneurs who foster innovation for sustainability are already encompassing these drivers and can be seen as a frontrunners of systemic changes in the world of business, innovation and sustainability. At the meso-level it requires collaborative environments in which networking and exchange between different partners is naturally embedded in newly developed ecosystems. Through this channel of ecosystems this may lead to systems change around a certain issue on a more macro-level, such as region, society, or world.

The focus of the current study is on the question of what kind of ecosystems can elevate mission-driven entrepreneurs that foster innovation for sustainability. More precisely, we look at a) the role and capabilities of the entrepreneur on creating innovation for sustainability that acts as a change maker at different levels, b)

[1] Earlier versions of this chapter have been presented at the 2015 MakeLearn & TIIM conference, (Universita Bari Aldo Moro, Italy); the 2015 PhD Conference Nyenrode Business Universiteit; the 2015 6th Global Innovation Forum (World Bank, Washington DC, USA); and the 2015 PhD Conference of theAnnual Colloquim of the Academy of Business in Society (hosted by SDA Bocconi School of Management, Milan, Italy).

[2] A special word of acknowledgement to Willem van Golstein Brouwers for his early conceptual contributions to this chapter, that are also layed out in the 2014 research proposal written by Roobeek & Van Golstein Brouwers in preparation for the ABIS I4S meeting at Manchester Business School of the University of Manchester, May 7-9, 2014. My PhD starting date was shortly after, namely 1st of July 2014.

the ecosystems the entrepreneurs are operating in, and c) new business models focused on collaboration in mission driven enterprises. The research aims to give a better insight into the interactions between key elements of ecosystem business settings and the impact of mission driven entrepreneurship on the diffusion of triple bottom line thinking in the ecosystem it operates in.

The outline of this chapter is as follows: the second section introduces and justifies the conceptual and theoretical foundations of this research. Section three presents the methods that this study employed. Section four presents the results analyses of the interviews. Section five presents propositions that may serve as input for new theory development based on the case study analysis. Section six discusses the results of this chapter, including limitations and opportunities for future research.

3.2 Conceptual and Theoretical Foundations

3.2.1 From Social to Mission-driven Entrepreneurship

The concepts of social and mission-driven entrepreneurship are related and it is worthwhile to first review the ongoing discussion about these concepts. This helps to justify and define mission-driven entrepreneurship. In their book 'The Power of Unreasonable People', Elkington and Hartigan (2008) provide a useful demarcation of the organizational principles adopted by social entrepreneurs. They distinguish three types of models for *social enterprises*: leveraged non-profits, hybrid non-profits and social business. Elkington and Hartigan explain that *"all pursue social or environmental end that the market have largely or totally failed to address, and they use different means to do so."* (2008, p.31). Thus, currently the concept of social entrepreneurship can be understood in various ways. This is also shown by Brouard and Larivet's (2010) extensive literature review, in which no less than 31 definitions of social entrepreneurship are discussed. As argued by Martin and Osberg (2007), the definition of social entrepreneurship has become so inclusive that all type of socially beneficial activities fit in. The risk of including too many "non-entrepreneurial" efforts in the definition of social entrepreneurship carries the risk that the promise of true entrepreneurship with a social or sustainable objective may not be fully addressed. In order not to add to the existing fuzziness

of the concept, we will use the concept of mission-driven entrepreneurship, in which we want to emphasize both, the *entrepreneurial innovative character* and the *social and/or sustainable mission* of an organization, with this mission being the central driver for the enterprise.

According to Shane & Venkataraman (2000) *entrepreneurship* involves the identification, evaluation, and exploitation of *opportunities*. Opportunities represent occasions to bring new products or services into existence such that individuals or organizations are able to sell new outputs at prices higher than their cost of production. The implication is that the fundamental mission of entrepreneurial activities involves profit generation, and these profits help entrepreneurs to build personal wealth (Certo & Miller, 2008).

Key thinkers in the area of entrepreneurship have already noted that entrepreneurship, in general, is an improvement for society, leading to innovations, fostering employment and resulting in economic growth (e.g., Drucker, 1985; Schumpeter, 1936). The Austrian economist Joseph Schumpeter puts emphasis on the ability of value creation, and sees in the entrepreneur the force required to drive economic progress. In absence of entrepreneurs economies would become static and immobilized. Also, he argues that successful entrepreneurship sets off a chain reaction, encouraging other entrepreneurs to iterate upon (in Martin & Osberg, 2007).

In this line of thinking, we identify the two key elements of entrepreneurship to be *profit generation by exploitation of opportunities* and *improvement by innovation*. We therefore define *mission-driven entrepreneurship* as "seeking to achieve financial viability or growth while pursuing a particular social and/or ecological mission, through a focus on innovative activities fostering sustainability".

3.2.2 Entrepreneurs Operating in Ecosystems

Mission-driven entrepreneurs do not operate in a vacuum, but in a certain business and societal context. The notion of ecosystems builds on the concept of 'clusters' introduced by Michael Porter (1998). Porter defines a cluster as *"a geographically proximate group of interconnected companies and associate institutions in a particular field, linked by commonalities and complementarities"* (1998, p.78). Cluster actors include specialized suppliers, service providers and governmental and other institutions like universities, standard-setting agencies,

think tanks and trade associations (ibid). Porter argues that clusters can enhance competitiveness of a location by increasing productivity, driving innovation and stimulating the creation of new business (1998, p.80). In the literature on clusters one can distinguish five major elements of clustering: geographical agglomeration (co-location), linkages, embeddedness, and competition with cooperation (coopetition) and a perceived shared objective or vision by cluster members (Pitelis, 2012).

While the concept of clusters puts emphasis on geographic location, the ecosystem approach leaves more space to look at the interconnectivity of actors and their surroundings. In ecosystems a larger diversity of companies and non-business partners can collaborate on solutions that contribute to understanding and eventually solving the challenging (societal) questions. Mason and Brown (2014, p.5) define entrepreneurial ecosystems as follows:

> *"a set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organizations (e.g. firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes (e.g. the business birth rate, numbers of high growth firms, levels of 'blockbuster entrepreneurship', number of serial entrepreneurs, degree of sell-out mentality within firms and levels of entrepreneurial ambition) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment."*

In ecosystems, the collective intelligence brought forward by the companies and non-business actors is the feed stock for the generation of innovative concepts to be translated into products, processes, and organizational insights. The access to knowledge, resources and collective intelligence is an essential advantage for participating actors. It is the intangible smart and slow capital that is the glue within the ecosystem that lays the foundation for solid relations of trust and exchange. For entrepreneurs building an ecosystem around them or being part of an existing ecosystem could be a competitive advantage. Besides, for entrepreneurs that use business as a vehicle to contribute to solutions of grand societal challenges, bowling alone is not an option. It is prerequisite to be well embedded in society. Isenberg (2010) states that the face of entrepreneurship is changing and that

entrepreneurial ecosystems may be a jump start for business growth. Esposito (2014) also posits that what Europe needs is an entrepreneur-driven innovation ecosystem (EDIE). Esposito addresses fears and risks of failing and regards ecosystems both as a safety net as well as a platform for growth that enables the exchange of ideas. EDIE would need "a host of investors, public and private supporters, government involvement, and venture capitalists" (Esposito, 2014, p.3). These entrepreneurial ecosystems should be organized in such a way, that they will be succeed regardless if economy is doing well as a whole, according to Esposito. Also, he argues that if an EDIE is to be successful a culture needs to be introduced that allows for "fast failure", regarding failure as an opportunity to learn and constantly develop new ideas.

If we zoom in on the role of conventional companies, we see many benefits of collaboration and ecosystem development for innovation. Many international companies have R&D laboratories with dedicated researchers, even though it should be said that many companies, even very large ones, focus more on the development instead of research: the emphasis is on the 'D', rather than the 'R' of R&D. In addition, during the past decades, universities –as the ultimate knowledge intensive factories generating research output– have made attempts to valorize discoveries into spin-off activities. Around universities, a landscape with incubators and science parks is more often developed, where academic science meets innovative business. Many science-based startups have been developed from these innovation-rich environments. Venture capitalists have been eager to fund start-ups with the best commercial perspectives as independent companies or as promising take-over candidates for global corporate companies. Examples of innovative environments are Silicon Valley, Boston, Massachusetts, Boulder, Colorado (USA), Cambridge (UK), Heidelberg, Aachen and Munich (Germany), Delft and Eindhoven Brain Port (The Netherlands). According to Roobeek (2008), these are examples of 'valorisation hotspots', innovative regions where the local economy and the local university work closely together, where the local economy flourishes due to an abundance of knowledge alongside innovative technologically oriented companies. Roobeek describes that there are four critical elements for regions to become 'valorisation hotspots', namely (1) a strong and diverse talent pool, (2) companies that are at the forefront of technology, (3) specialised support services in the field of marketing, consulting, design and

intellectual property advice and, lastly, (4) universities that deliver talent and initiate strong and innovative research programmes. However, she argues, this is not sufficient. In the end, it is important that there is a culture of collaboration. It is important to work from an explicit network concept, information must be shared and there must be room to learn from others. In line, in order to stimulate entrepreneurship in a certain environment, it is of key importance to invest in the entrepreneurial ecosystem as a whole, focusing on the different elements, and not on entrepreneurship in an isolated way.

For mission-driven entrepreneurs, ecosystems may be even more important, considering that in their efforts to achieve their societal mission different types of collaboration and innovation are needed. As was mentioned before, sustainability is about answering to ecological societal needs, now and in the future. Therefore, connections with societal actors are important. Mission-driven entrepreneurs and other actors in an ecosystem each have their own set of links that cross the ecosystem boundary. As such, the networking dynamics within an ecosystem create an intricate and broad system of interconnections with society. An ecosystem that is well embedded in society and, at the same time, has a high degree of internal interconnections, might prove particularly resilient and flexible in responding to societal needs. Innovation, in particular, can benefit from real-time knowledge about changing social needs, which are yet to be met by new ideas and technologies. It follows that a mission-driven entrepreneur may find that he or she is most successful (that is, meeting societal needs in a financially self-sustainable manner) when he or she is part of a well-functioning ecosystem. From the entrepreneur's point of view, this would entail that ecosystem membership is central to a good business model, especially when his business concerns innovation for sustainability.

In line with this argument, it is the question whether innovation for sustainability fits in the same kind of stimulating environment as we have seen for companies based on ICT, web-based technologies, biotechnology or nanotechnology, or if different types of ecosystems are needed. Sustainability is not a technology, neither an industry, but a larger societal objective. No matter what kind of company, industry, organization or NGO, household or nation state, culture or economy, aiming for more sustainability is imperative for creating a better balance between people, planet and profit (the well-known triple bottom

line coined by John Elkington (1994)). Working towards more sustainability is a challenge for markets and governments, for entrepreneurs, politicians and citizens, and requires a comprehensive approach with involvement of business, stakeholders and many areas of government policy (Elkington, 2004, p.16), as well as technological innovations at a massive scale and new business models (Nicholls, 2008; Bornstein, 2007; Light, 2008; Elkington & Hartigan, 2008; Kickuf & Lyons, 2012). As the mission-driven entrepreneurial goals are multidimensional (multi-stakeholder, multi-timeline, and multi-performance), the ecosystem should fulfil in these multidimensional needs. Therefore, one could state that a key question for mission-driven entrepreneurs is how to become part of an innovation-driven ecosystem or how to co-create an ecosystem in which the benefits of collaboration, networking, exchange and access to market and society are central stage.

Figure 3.1 displays how ecosystems with a diverse set of actors may function as accelerators within the bigger system. Several local ecosystems that are linked together subsequently form a new meta system. Building ecosystems for sustainability is all about building smaller systems around sustainability issues, by taking a systems-in-systems approach, eventually spilling-over the above mentioned advantages to the bigger 'system'.

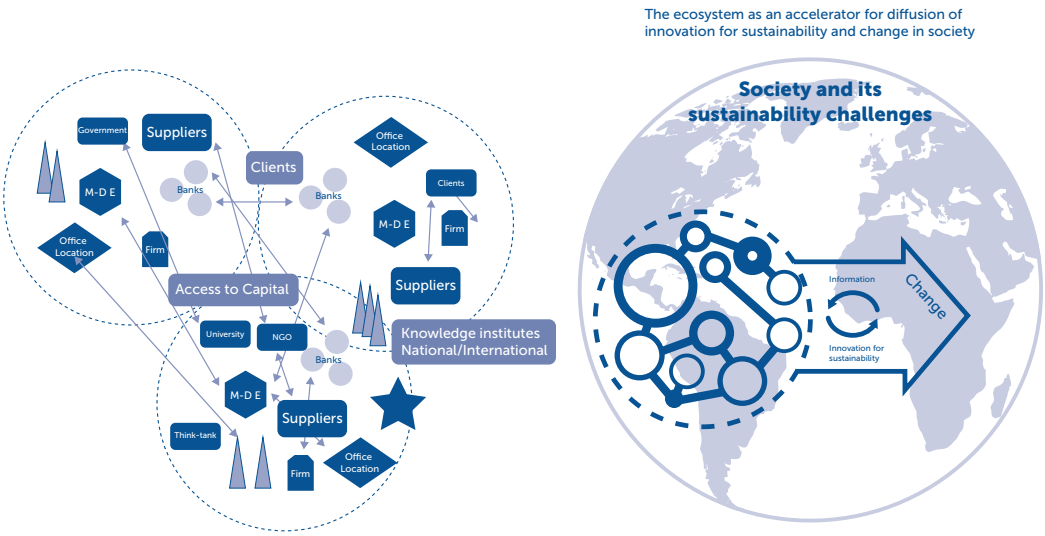

Figure 3.1 From mission-driven enterprises' ecosystems to larger meta systems

3.2.3. Sustainability as a Systems Transition

While there are many definitions of the concept of sustainability, the classic one of "meeting today's needs without sacrificing the ability of future generations to meet their own needs" (Brundtland, 1987) is still mostly used. With this definition in mind, Porter and Derry (2012) highlight three dimensions that fit to a complexity-based approach to thinking about sustainability, which they coin with the term 'sustainability thinking': first, sustainability implies recognizing the widespread interdependence of species and ecosystems, and therefore involves concern for all stakeholder groups. The notion of sustainability widens the actors regarded as stakeholders, by next to including those with direct economic ties to the organization, such as employees, customers and suppliers, also including stakeholders such as communities, civil society, and natural systems. Second, sustainability considers the impact on future generations of global life of our current business practices. Therefore it necessarily involves an expanded timeframe. Third, sustainability involved multiple dimensions of performance beyond simple economic profits. Thus, addressing sustainability literally means taking a *multi-stakeholder, multi-timeline*, and *multi-performance approach*.

Innovation for sustainability requires a rethinking of the basics of our economic system and its capitalist regulation as we know it. As Paul Polman, Unilever's CEO, says: "Sustainability requires a system-based approach to accelerate the transition in business." According to him, "[...] collaboration is key to bring about system changes. [...] I believe our future leaders must be system thinkers. It is unthinkable that someone can lead a successful company or country without understanding the interdependencies in the systems we as humans depend upon." (Quoted at the World Economic Forum in Davos; The Guardian, 29 January 2014; Duurzaam Bedrijfsleven, 27 January 2014).

The holistic character of systems thinking offers an approach to address the complexity and the need to take a multi-layered approach to understand sustainability issues. Russell Ackoff, one of the pioneers in developing the concept of systems thinking, defined systems thinking as following: *"Systems thinking looks at relationships (rather than unrelated objects), connectedness, process (rather than structure), the whole (rather than just its parts), the patterns (rather than the contents) of a system, and the context. Thinking systematically also requires several shifts in perception, which lead in turn to different ways to teach, and different ways to organize society."* (Ackoff, Addison and Carey 2010, p. 6)

During the last years, systems research has emerged as a new interdisciplinary field, combining innovation studies, history, ecology, sociology, political science, and psychology. It is proposed that so-called 'wicked' problems that persist over time require fundamental change in structures, cultures, and practices of a societal system for the system to become sustainable (Frantzeskaki & Haan, 2009). Based on an understanding of reality as complex, uncertain and non-linear, sustainability transitions require an iterative, reflective and explorative way of governing aimed at societal learning (Frantzeskaki, Loorbach, & Meadowcroft, 2012) based on a number of tenets including (1) dealing with uncertainties, (2) keeping options open and dealing with fragmented policies, (3) having a long-term orientation and using this for short-term policies, (4) paying attention to the different levels and scales of change processes and finding solutions on the right scale, and (5) to engage actors from different backgrounds. Sustainability transitions require new ways of thinking and acting and therefore needs a network of frontrunners opening space for joint learning processes. Because systems thinking considers "every issue as a part of a web of interconnected and interacting systems rather than as independent issues with unrelated consequences" (Dzombak, Mehta, Mehta, & Bilén, 2013, p.2), we believe it fits well to study complexity of sustainability and innovation in organizational and societal contexts.

3.3 Methods

3.3.1 Research Approach

Along with an understanding of our society as complex, heading towards an uncertain future undergoing non-linear processes of radical change (the so-called transitions), comes the search for new modes of governance that support the learning process through which our society can become more sustainable. The debate about the nature of science and its role in society has gained new momentum in relation to sustainability (Wittmayer & Schäpke, 2013), with the idea of science being at the service of society, suggesting interdisciplinary, transdisciplinarity and social relevance as key elements of a science supporting sustainability transitions.

Researchers taking a systems perspective strive to understand a phenomenon or program as a whole from a holistic perspective – the so-

called *gestalt*. The strategy of seeking *gestalt* units and holistic understandings in qualitative analysis is different from the logic and procedures of evaluation studies that are conducted in the analytical tradition of "let's take it apart and see how it works". In this research we have employed a case study approach. Case study research focuses on the process of generating theory rather than a particular theoretical content. Case study research is meant to build theory rather than test theory and emphasizes being systematic and creative simultaneously. Case study research is an exercise in interpretivist reasoning that is alternatively inductive and deductive, based on a systematic, continuously reflexive process of data collection, verification, analysis and synthesis. Case study research is well suited for studies that seek to understand human behavior in business contexts (Lazenbatt & Eliott, 2005). It is especially a useful approach to surfacing non-linear, complex causality.

3.3.2 Data Collection Procedures

The case study of this chapter is on the level of the mission-driven entrepreneur. On a more abstract level, the case study can be described as "mission-driven entrepreneurs in the Netherlands". The mission-driven entrepreneur may be regarded as the first level of the five-layered model as presented above. However, we have conducted interviews around themes covering the full model, from the perspective of the mission-driven entrepreneur and the mission-driven leader in companies. Focus in the interviews was on the themes business models, collaboration, entrepreneurial ecosystems and sustainability and systems change. The interviews were semi-structured, that is to say that the main themes of conversation were established beforehand as well as a topic list, but that the flow of the conversation was followed, also to get information and insights that we had not considered before. Also, as this is the first empirical case study of this PhD research, the interviews and approach taken was a broader one.

We have conducted interviews with entrepreneurs of thirteen organizations: nine founders of mission-driven enterprises (Moyee Coffee, Dopper, O My Bag, TTC Mobile Solutions, MudJeans, Marqt, Dick Moby, BioFutura and Dutch Weedburger) and four sustainability directors of large companies where sustainability is integrated in the core objectives of the company (Royal Haskoning DHV, Philips, Van Houtum, and Interface). An overview of the enterprises and

sustainability missions can be found in table 3.1. The sampling method was based on the following procedures: (1) approaching of a wide range of mission-driven enterprises in different sectors and stages in order to get a broad overview of the sector in the Netherlands, interviews directly with the founder of the enterprise, (2) approaching a few multinationals where sustainability is ingrained in the vision of the organization in order to get a picture of their potential driving role in the ecosystem. The sampling method may best be described as *purposeful sampling*, meaning that we have not employed a random sampling.

The interviews were in-depth and varied between 90 and 120 minutes. They were semi-structured, meaning that the high-level themes were set up and a list of key questions, but it was also the idea to come to a conversation with the interviewee and allow for deviations and exploring issues that the researcher might not have thought about before. The interviews contained the following high-level themes: (1) general company objective, (2) business models, (3) ecosystem/business network, and (4) collaboration. We aimed to have in-depth conversations with the entrepreneur and therefore the questions functioned as guideline for the conversations, with freedom for entrepreneur to tell his or her story around the high-level themes. The aim was to allow stories and patterns to emerge in line with the case study approach. All interviews were carried out in 2014.

Table 3.1 Overview of interviewed organizations

Name Organization	Size	Sustainability Mission
Dutch Weedburger	Small	Alternative food solutions; more sustainable food industry
BioFutura	Small	Degradable plastic materials; less plastic pollution
Moyee Coffee	Small	More fair supply chain in coffee; poverty reduction
Dopper	Small	Bottle from degradable plastic in order to promote tap water drinking; less plastic pollution
OMyBag	Small	Bags made from ecoleather; less polluting leather industry
MudJeans	Small	Lease a jeans concept; more recycling of cotton; less pollution from cotton industry
Dick Moby	Small	Sunglasses produced from biodegradable plastic; less plastic pollution
TTC Mobile Solutions for Social Change	Small	Use of mobile technology to reach people in remote areas for health prevention information
Marqt	Medium	Higher food quality and more equality in supply chain; more sustainable food sector, social and ecological
Van Houtum	Medium	Recycling of toiletpaper according to cradle-to-cradle principle, circular economy
Interface	Medium/Large	Recycling of floor solutions, leasing floors, cradle-to-cradle
Royal Haskoning DHV	Large	Consulting and engineering to build social and sustainable solutions
Philips	Large	Diversified health and wellbeing company; offering sustainable solutions through innovation solutions

3.3.3 Data Analysis Procedure and Theory Generation

All interviews have been recorded, transcribed and analyzed in detail. The case study results will serve to generate new theory. For generating new theory there are different important elements, including (1) discovery of important categories and their properties, conditions and consequences, (2) the development of such categories at different levels of conceptualization, and (3) integration of total theoretical framework. An open coding scheme was used for the coding procedure. Open coding can be defined as "breaking data apart and delineating concepts to stand for blocks of raw data. At the same time, one is qualifying those concpets in terms of their properties and dimensions" (Corbin & Strauss, 2008, p.195). Concretely, this means that categories and sub-categories have been based on the data, in which the different codes 'break the data down' and with the coding they are also qualified in certain categories (and not in others). The first step in analyzing the interviews was distilling quotes that contain information to analyze the five-layered model of this study. The second step consisted of

defining appropriate categories fitting these quotes in order to find patterns and 'let the data speak'. An overview of the categories and the subcategories will follow in the results-section. The third step consisted of ordering the quotes in line with the categories as distilled from the data to find meaningful patterns. The coding was carried out in Excel, using the different columns to get from a higher-level coding towards a more detailed-level coding.

3.4 Case Study Results and Analysis

3.4.1 Interview Coding Results

The focus of this study is to find emergent patterns regarding mission-driven entrepreneurship in ecosystems. From the interviews eight different main categories are identified: The first group of categories concerns (1) entrepreneurship & strategies, (2) collaboration in ecosystems, (3) innovation, (4) new business models, (5) financing models in start-up phase, (6) story-telling, (7) new supply chain models and (8) sustainable systems. For each of these categories, we will highlight the most important patterns that derived from in the interviews, illustrated with quotes from the interviews.

The categories that are identified are presented in the figures in the figures 3.2 to 3.9.

3.4.2 Case Study Analysis[3]

Main category 1. Entrepreneurship & strategies

Entrepreneurship & Strategies is the first main category, with subcategories (1) personal drivers, (2) entrepreneurship with a mission, (3) opportunities (in niches), (4) thinking 'pragmatic' as well as thinking 'big', and (5) focus on quality. We will discuss each of them below.

Subcategory 1.1 Personal drivers

Personal involvement and passion as an important driver is seen throughout all interviews, personal drives and motives are often the reason of founding the enterprise, ranging from [Q1] "I very much believe in our concept, I started this enterprise because I have three children and wanted to contribute to something

[3] Please note that the interviews were carried out in 2014. It may be that some of the described situations have changed/ progressed since, even though all interviewees confirmed to still stand behind their interviews of 2014. Also some of the entrepreneurial founders and sustainability directors have changed position; this has not been updated as these interviews describe the reality in 2014. Permission to use the interviews has been re-obtained in 2019.

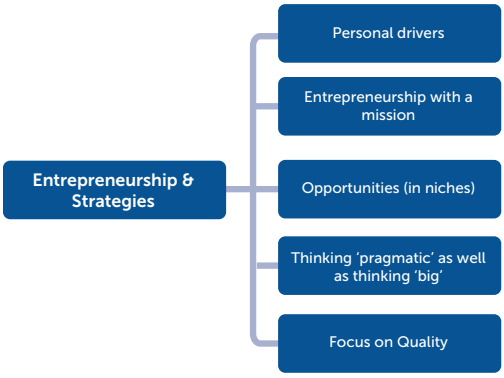

Figure 3.2 Main Category 1. Entrepreneurship & strategies

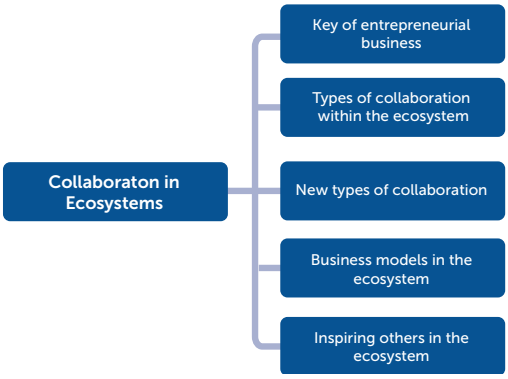

Figure 3.3 Main Category 2. Collaboration in ecosystems

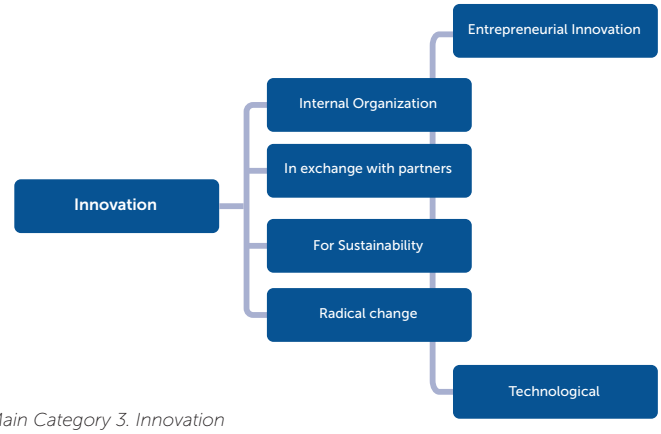

Figure 3.4 Main Category 3. Innovation

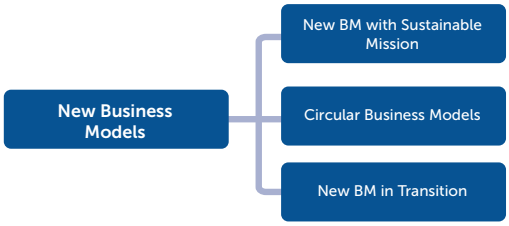

Figure 3.5 Main Category 4. New business models

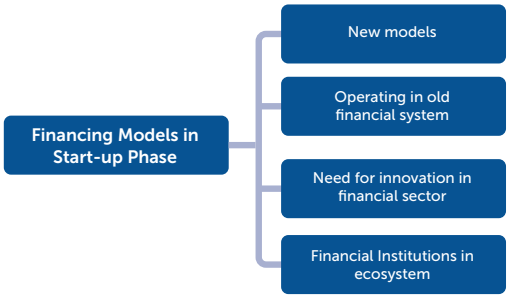

Figure 3.6 Main Category 5. Financing models in start-up phase

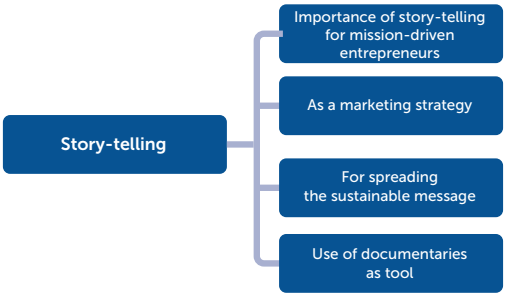

Figure 3.7 Main Category 6. Story-telling

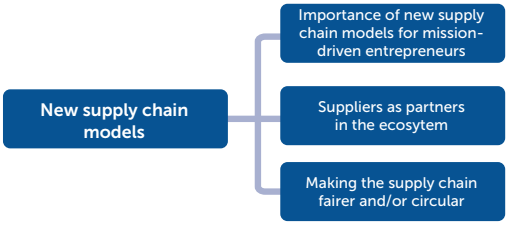

Figure 3.8 Main Category 7. New supply chain models

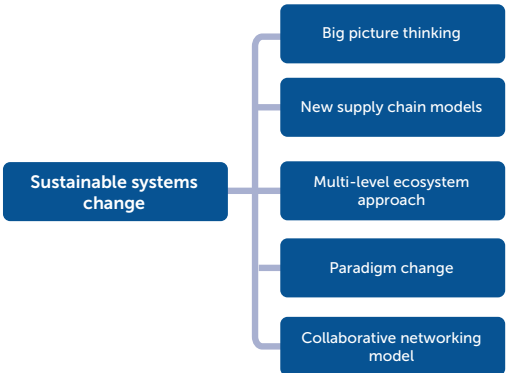

Figure 3.9 Main Category 8. Sustainable systems change

better" (Bert van Son, MudJeans) to [Q2] "I wanted to combine having my own business with doing something meaningful for the society and the world we live in, and I strongly believe in supporting trade versus aid" (Paulien Wesselink, O My Bag). The entrepreneurs generally strongly believe in entrepreneurship as a better solution for social change compared to the non-profit sector, as for example strongly expressed by Bas Hoefman, TTC, [Q3] "NGOs are not making the change. It is in a sense a self-sustaining industry. Billions of aid money are going to countries without good impact measurement. NGOs should focus on disasters and relief, while social enterprises are drivers for innovation", and also expressed by Tim van Holland who expresses a preference to collaborate with other entrepreneurs, [Q4] "I am an entrepreneur, I know what it takes to run a business. I prefer to work with other entrepreneurs, because I know how an entrepreneur thinks and I feel entrepreneurship is a better approach to solving societal issues".

Subcategory 1.2 Entrepreneurship with a mission

Throughout the interviews we have found numerous examples of entrepreneurship with a clear mission. Tim van Holland, the founder of Dick Moby, a producer of sustainable sun glasses, comments that [Q5] "we would like to inspire the industry in how to look at plastics - we are two creative entrepreneurs without knowledge of scientific components of plastic, but we do have a certain vision on where we would like to go with this resource - and by showing that we can produce a high-quality product with recycled plastics may inspire other people who are actually way smarter than us to think of more viable solutions for plastics". There are a three interesting components in this quote namely: first, the strong mission to think of more viable solutions for plastics. Second, a recognition that they cannot do this on their own – they are entrepreneurs without having the scientific knowledge. Third, in this line they specifically define the role they should play, namely inspiring the industry by producing a high-quality product. Thus, they translate their sustainable mission back into a product.

Another example of an organization with the same high-level vision of reducing the plastic soup is Dopper. Merijn Everaarts, the founder of Dopper, producer of a sustainable plastic bottle for water, mentions that [Q6] "Dopper is not just about the bottle, it is an initiative and movement for the reduction of plastic waste, putting tab water on the map in western countries and combat the

issue of clean drinking water by funding and helping projects in Nepal". The vision of the company transcends the product of selling the bottle. The bottle is literally a means to an end, a way to sell the bigger vision and work on a bigger goal.

Subcategory 1.3. Opportunities in niches towards becoming mainstream
Entrepreneurship is also traditionally about finding opportunities and translating them into a viable product or innovation. Van Houtum for example states that [Q7] "we pride ourselves in finding niches - by our positioning as ultra-eco-friendly and luxury design we attract clients like professional and financial services companies, hotels, up-market industry, and hospitals that want to present something in particular". Often, mission driven entrepreneurs operate in niche sectors, but believe their idea has upscaling potential, i.e., that the niche may become mainstream, [Q8] "the coffee market is a mature market dominated by a few big players, we call them Big Coffee. Since a couple of years, however, fragmentation has taken place of upcoming, smaller coffee companies, cultivating the 'specialty scene'. When we could convince 'big coffee' would produce completely sustainable, our mission would be achieved."

Subcategory 1.4. 'Thinking 'pragmatic' as well as thinking 'big'
Mission driven entrepreneurs are both pragmatic and operational and 'think big' with a long-term vision simultaneously. For example, Quirijn Bolle from Marqt comments on high-level change: [Q9] "the system should be more balanced - a fair balance of profit and effort throughout the chain. In the old system it is about how to get most financial value out of your piece of the chain" as well as realizing the importance of daily operational pragmatics [Q10] "success in is the details of execution - we have a lot of good ideas, believe in our model, believe in our direction - but we need to also get it done every day".

Subcategory 1.5 Focus on Quality
The mission-driven entrepreneurs are generally very much concerned with quality. For example, Tim van Holland from Dick Moby mentions that [Q11] "we don't see sustainability as a USP but as our condition to operate - we focus on the quality and design or our product, we have the best pair of sunglasses around which is produced in a sustainable manner" or Van Houtum with its luxurious

Satino black brand in which [Q12] "high functionality and fancy design combined with eco-friendliness is the unique selling point". Here slightly different views on sustainability are reflected, however in both cases the sustainability mission are woven into the product – meaning that selling the product contributes to both the sustainable mission as well as the financial mission of the organization.

Main category 2. Collaboration in ecosystems

Collaboration in ecosystems is the second main category, with subcategories: (1) collaboration as key of entrepreneurial business; (2) collaboration within the ecosystem; (3) new types of collaboration; (4) business models and the ecosystem; and (5) inspiring others in the ecosystem.

Subcategory 2.1 Collaboration as key of entrepreneurial business

From the interviews it appears that collaboration is an important part of the entrepreneur's business and of key importance in for example knowledge, innovation, and supply chain optimization. For example, Quirijn Bolle of Marqt mentions that [Q13] "innovation occurs in collaboration - this is why we take a collaborative approach to our relationships with suppliers - we constantly want to innovate/improve on the products and processes in the supply chain" or Bas Hoefman of TTC [Q14] "we collaborate in order to innovate: we can't do it on our own". Geanne van Arkel from Interface mentions that [Q15] "we have solid relationships with our suppliers, which is needed for our collaborative strategy; they are co-innovators and we don't switch for a penny".

Subcategory 2.2 Collaboration within the ecosystem

Collaboration within the ecosystem happens for different reasons and with different parties. For example, many of the entrepreneurs collaborate in one way or the other with universities. Merijn Everaarts comments [Q16] "Dopper closely collaborates with universities, I often present at universities to sell the story, and also the design from Dopper originates from a winning design from the TU Delft". Large corporations such as Philips also very much work into an ecosystem and value partnerships with smaller entrepreneurs for innovation and for outreach. Simon Braaksma, sustainability director of Philips mentions that he is proud of the open innovation experience, [Q17] "if you go to the high-tech campus you will

find a sign with 'welcome to the smartest squared kilometre of the Netherlands', it is an innovation power house". Specifically with regards to the collaboration with entrepreneurs Braaksma comments that [Q18] "it is a two-way direction – start-ups initiatives often start at Philips but move out when it is too far away from our original mission, or we take ideas from the entrepreneurs around us". Also in terms of research Philips actively organizes collaboration, also in their local market overseas: [Q19] "we have established research hubs in Africa, India, and China - we don't think we can invent everything for the whole world out of Eindhoven".

Subcategory 2.3 New types of collaboration

Collaboration is often deliberately organized in order for new ideas to come to existence, Wouter Moekotte from Biofutura mentions that [Q20] "a recent phenomenon is the 'open coffee' informal gatherings on themes such as raw materials and bio-based economy, which are suitable for finding new ideas and partners". Pauline Wesselink notices a difference in collaboration style comparing traditional organizations and more sustainability-oriented organizations: [Q21] "I believe in the traditional industry, organizations tend to be more secretive about their organization, while in sustainable-oriented organizations there is more transparency". Often entrepreneurs are willing to collaborate in order to achieve their sustainable goal together, which they see as a higher goal than just selling their product, Tim van Holland from Dick Moby says in this respect that [Q22] "in the social sector there is probably more openness to collaboration, because there is a common goal - promoting of sustainability". As a last point it was mentioned that the new generation is generally more open for collaboration, both Paulien Wesselink from O My Bag as well as Quirijn Bolle from Marqt mention that the younger generation that is coming out of university is naturally more geared towards collaboration – and young entrepreneurs use more and more business models focused upon collaboration.

Subcategory 2.4 Business model and the Ecosystem

All interviewed entrepreneurs mention the importance of the ecosystem they are operating in, albeit in different manners. Generally, it is recognized that the very business model of the company is dependent on the ecosystem. Bas Hoefman of TTC comments [Q23] "our business model heavily depends on our ecoystem,

you cannot operate in a vacuum. We need partners. We are not a technology organization as such, but we touch upon so many subjects, ranging from HIV Aids to Agriculture, to socio-economic development, that you need partners for both content as well as technological developments. Without partners we cannot survive". Also a big corporation like Philips recognizes the importance of the ecosystem: [Q24] "we don't think we have all wisdom, we believe we have to cooperate with academics, small entrepreneurs, start-ups - and are open to collaborate with other parties".Paulien Wesselink from O My Bag notes that [Q25] "all important steps in founding of our organization would have been impossible without the network - also for finding the right suppliers".

Subcategory 2.5 Inspiring others in the ecosystem

Apart from relying on the ecosystem, many organizations also wish to play an inspiring role in their ecosystem or would like to inspire colleagues in their branch. Paulien Wesselink from O My Bag remarks that [Q26] "my goal is to inspire other actors in the ecosystem in order to improve the whole leather industry. I want to put eco-leather on the agenda and hope that many other brands will start using eco-leather and I hope to contribute to an accreditation of eco-leather". Thus, the sustainable goal of eco-leather transcends the organizational goal of selling as many bags as possible and collaboration is mostly taking place at this higher level. In this respect she also mentions that [Q27] "intellectual property rights are not an issue so far, as I would rather see that all bags are produced in a sustainable manner, this is not a point of competition". The ecosystem is actively used to spread the sustainable message.

Main category 3. Innovation

Innovation is the third main category that appeared from the interviews. The subcategories here are: (1) entrepreneurial innovation; comprising internal organization, in exchange with partners, for sustainability, radical change, and (2) technological innovation.

Subcategory 3.1 Entrepreneurial innovation

Entrepreneurs are most of the time innovators, whether it is with a focus on the product or new business models. Apart from the need to have a new innovative

idea it is also important to keep abreast on the technological developments in the field in order to stay competitive and to improve the product further. Many of the organizations have internal initiatives in order to make sure innovation is part of daily business – for example, Quirijn Bolle from Marqt comments that [Q28] "we are starting a 'food lab', with the aim to enhance and help our suppliers to develop new healthy products". Quirijn Bolle says it is important to follow the developments as [Q29] "in food there are a lot of technological developments, new ways of producing foods – for example GPS-technology that helps farmers to track their producs and technology in good weahter forecasting". Moreover, technology and innovation are used to support the business model supporting a new system: [Q30] "we have also new technology in-house to support our business model of profit-sharing with all stakeholders across the system – we also call it the Marqt system". Quirijn Bolle believes in the power of innovation to create higher level change: [Q31] "Traditional supermarkets have been economically very successful, but I believe now we are in a time of change, they are at the end of their business model. I believe in the process of creative destruction. They are tailored for past and maybe still current consumer demand, but we are tailored for future consumer demand".

Simon Braaksma establishes a direct link between innovation and sustainable impact: [Q32] "Philips aims to make the world healthier and more sustainable through innovation. We need a huge innovation drive in order to meet the needs of the people we have not reached yet. The more innovative we are, the more advanced products we can produce, and the more people can be reached through those products". Guido van Staveren van Dijk from Moyee Coffee does not only want to innovate through its own concept of coffee with a fair supply chain, but also wishes to act as a facilitator for radical change: [Q33] "We see ourselves as radical change makers, but we also want to facilitate radical change in other sectors, we introduced the radical change award and I want to create a platform for people who want to realize change".

Subcategory 3.2 Innovation with a focus on technology

In terms of technological developments, Bas Hoefman from Text to Change mentions that they have developed their own technology platform. Here he notes as well that [Q34] "developments are so fast that we need strategic partners rather

than developing everything ourselves in order to keep abreast of the technological developments". Similarly, Tim van Holland from Dick Moby stress the importance of technology for constant sustainable product innovation: [Q35] "Technological development are very important, the bio-acetate that we use does not use oil and is degradable and we are trying to improve recycling of materials - we are also always following the developments". In the same line, Bert van Son from MudJeans comments: [Q36] "in terms of technological innovation there is still a world to win in the field of cotton recycling – at this moment new products cannot contain more than 30% of recycled cotton". Also Simon Braaksma, sustainability director from multinational Philips gives an example of technological innovation with immediate social impact: [Q37] "Technological innovation is needed to find off-grid solutions. One example of a recent development is a 'hospital-in-the-box', that we can ship as a whole to African countries, including solar power. This we could use for disaster relief in remote areas in Africa and India".

Main category 4. New business models

New business models is the fourth main category that appeared from the interviews. The subcategories here are (1) business models supporting a sustainable mission; (2) circular business models; and (3) business models in transition.

Subcategory 4.1 Business models supporting a sustainable mission

The entrepreneurs interviewed often employed new innovative business models that support the sustainable mission of the organization. Quirijn Bolle from Marqt explains that it is the business model that sets him apart from traditional supermarkets: [Q38] "We are a food retail company, but not in a traditional way of retail, we are more of a market place with a new business model". He also emphasizes the importance of collaboration: [Q39] "the uniqueness of our business model is in the way we connect and work together with our suppliers - instead of being just an entity within the chain we create a system in which we all participates - we all put in effort and share the benefits". Collaboration plays an important role in the business model, unique is the way Marqt is connecting suppliers with consumers: [Q40] "we provide the suppliers who make real food with a platform to meet the consumer, and the consumer the opportunity to meet the supplier and backgrounds of the products". In line, Paulien Wesselink from

O My Bag also emphasizes the importance of the ecosystem for the business model: [Q41] "Our business model depends heavily on our ecosystem, without right partnerships it is impossible to operate".

Subcategory 4.2 Circular Business Models

Bert van Son from MudJeans employed a business model in line with the ideas of the circular economy by introducing their "lease a jeans concept", where customers lease instead of buy a product, while at the same time the product being organically produced and recyclable. The business model is innovative and supports the sustainable mission of "using and returning" versus "owning and throwing". Also Van Houtum aims to be fully circular in its production of toilet paper and plastic toilet utensils, and is one of the early birds on this area. Concretely this means finding a model that 'closes the loop': "Cradle-to-cradle is about loops. The newly produced products need to be of the same quality of the previous material, so no *down*cycling, minimum of *re*cycling and preferably *up*cycling of products". This creates new relationships with suppliers and clients: [Q42] "in order to achieve this circularity and improvements in technology it is very important to closely collaborate with the partners in the chain - without deep collaborations we cannot set up circular supply chains".

Subcategory 4.3 Business models in Transition

Marjolein Demmers from Royal Haskoning DHV admits that their business model is still quite traditional and puts this in a bigger perspective: [Q43] "I believe in a more general transition of business models. In the industrial sector we are still doing a lot that is not sustainable, such as using shale gas, oil platforms, etc. However, people simply still drive in cars. However, this does not create a better world, at most it is increasing wealth". It is also harder for large corporations to radically change their business models than it is for small entrepreneurs. However, also Simon Braaksma from Philips recognizes that ultimately a new business model is needed in order to make the transition: [Q44] "the biggest hurdle is that in order to reach our sustainable targets we need to change our business model".

Main category 5. Financing in start-up phase

The fifth main category is financing models for entrepreneurs that are in the start-up phase. Key codes that have come up are new models, still operating in the

old financial system, need fo innovation in the financial sector, and the role of financial institutions in the ecosystem.

From the interviews it appeared that many of the mission driven entrepreneurs use new ways of financing their organization. Crowd-funding is often used which has the advantage that you already have a buy-in from future consumers and spread/test your brand before launching. For example, Tim van Holland from Dick Moby comments that [Q45] "we launched our brand through a crowdfunding/marketing campaign – we needed to sell our brand but we also needed money to launch our production". One reason for finding these new models is also related that many of them have found it difficult to get loans with their new business models, which are often not very well understood by traditional institutes like banks. Quirijn Bolle from Marqt says [Q46] "it has appreared we are often too ambitious for the financial institutions, we need to pick our battles when it comes to selling our business model, still we would like to improve our relationships with financial institutions". A similar sentiment is expressed by Bert van Son from MudJeans who states that [Q47] "I regret we do not really have financial institutions or banks in our ecosystem, they are still sleeping when it comes to innovative business models and concepts". Quirijn Bolle also takes action in order to improve the system from within: [Q48] "I joined the member council of Rabobank in order to think about innovative banking". Also a big corporation like Philips looks into its financial model: [Q49] "what we try to do from a sustainability point of view is to attract sustainable investors". Thus, it appears that finance/ financial institutions play an important part in the ecosystem for entrepreneurs, however, often feel the institutions are still too traditional. Therefore they often look for other models but also would like to collaborate to make the institutions themselves more innovative.

Main category 6. Story-telling

The sixth main category that appeared from the coding is story-telling. Story-telling plays an important role in organizations for establishing an organizational narrative. In the context of systems change stories play an important role to change the overall thinking and narrative. Also practitioners are beginning to consider how they can integrate sustainability stories into daily activities in their enterprises and into the entrepreneurial ecosystem. The following subcategories have been identified: (1) importance of story-telling for mission-driven entrepreneurs;

(2) story-telling a marketing strategy; (3) story-telling to spread the sustainable message; and (4) the use of documentaries as tools for story-telling.

Subcategory 6.1 Importance of story-telling for mission-driven entrepreneurs
Although the topic of story-telling was initially not included as a topic of the interviews, repeatedly the mission-driven entrepreneurs emphasized the importance of 'story-telling' as a means to achieve the sustainable mission of the organization. Because, more than in traditional retail, the mission-driven business is not so much about the product as such, but about the story behind the product. A bottle is not just a bottle (Dopper), a pair of sunglasses are not just a pair of sunglasses (DickMoby), a jeans is not just a jeans (MudJeans), and a bag is not just a bag (OMyBag). All of these products have their own unique sustainability story to it. And exactly this story, is what their products makes different from other products in the same segment. Story-telling then serves a double function, namely both promoting the product in order to sell it but also to promote the sustainable mission of the organization, and aid with their product/story to the sustainability narrative. Creating awareness is often an important goal and seen as an important first step to create change on larger scale. When looking at the website of Moyee Coffee, this is even very explicit with the most important section being called "discover our story". Often, with their sustainability stories, the mission-driven entrepreneurs also are actively challenging the status quo. For example, Moyee Coffee aims to challenge the supply chain model that is currently in place in the coffee industry with their fair chain concept, therewith creating awareness of the unfairness in the system, creating an alternative, and challenging the 'big coffee players' to do the same. Also Bert van Son from MudJeans has explicitly the goal to challenge how the fashion industry works by introducing a circular model, which fits in the greater narrative of circular economy. Sustainability stories often connect to the greater sustainability narratives of systems change.

Subcategory 6.2 Story-telling as marketing strategy
According Tim van Holland from Dick Moby [Q50] "marketing is all about story-telling, it is about identity, and for identity you need a story to tell". He also explains how the story-telling resulted in a supplier agreement with a top producer of lenses (normally they produce only for top brands sun glasses): [Q51] "we got accepted through a pitch of our unique story and vision". Also in order to get his

product sold in the shops he want he says [Q52] "we pitch our story by explaining our vision and 'ethos' behind our product - our client retailers enjoy that they have a product with a story they can sell to their customers, this is something that really drives our brand". Marketing has always been about story-telling, however, the difference with mission-driven entrepreneurs is that their story-telling has a double purpose, in line with the mission-driven entrepreneurs business model based on the triple bottom line.

Subcategory 6.3 Story-telling to spread the sustainable message

Bert van Son from MudJeans comments: [Q53] "in all sectors (social or not) collaboration is extremely important – however, with a new business model that is not yet known, you need more effort to sell your story and this requires different forms of collaboration and networking". Also MudJeans employs a wide range of story-telling activities ranging from documentaries to the creation of an engaged community of clients who participate in the story-telling. The product is also part of the story and spreading the story is not only a means to better sell the product, it is a means in itself as part of the sustainable mission of the organization. The sunglasses from Dick Moby spread the story about the plastic soup and offers an alternative and the jeans of Mudjeans spread the story of polluted cotton industry and offers an alternative.

Some entrepreneurs see their product even as a means towards an end to spread the story. The slogan from Dopper is for example "the bottle is the message". Dopper is an initiative to promote tap water and to reduce plastic waste. In order to achieve the sustainable mission, Dopper developed an ecological plastic bottle that is suitable for tap water, there with reducing the need to buy bottled water. Merijn Everaarts says the Dopper bottle should be seen as a gadget, a nice to show, facilitating the spreading of the sustainable story to create awareness and a explicit incentives create behaviour change (e.g., not buying bottled water).

Subcategory 6.4 Use of documentaries as tool for story-telling

Entrepreneurs use different tools to tell their story, such as website, interviews, and articles. One means of communication that stood out specifically for mission-driven entrepreneurs is the documentary, which is less seen with 'traditional' entrepreneurs. The reason is that the story of the product plays such an important

role and that the creation of awareness is part of the double purpose (or even triple bottom line) business model. According to Tim van Holland: [Q54] "if you have a substantial message, a documentary is a good means of communication: we inspire through documentaries and I also got myself inspired to start this enterprise by a documentary about the plastic soup". He mentions that a new documentary is in the pipeline, in which together with partners in the ecosystems, he will show production of new plastic materials. Also Guido van Staveren from Moyee Coffee says he got inspired by a documentary and emphasizes the power of documentaries or shorter videos to spreading the story: [Q55] "we work with ambassadors who spread our story, they enable new ways of sales and distribution".

Main category 7. New supply chain management models

New supply chain management models is the seventh main category that identified by coding the interviews. The sub-categories here are: (1) importance of new supply chain management models; (2) suppliers as partners in the ecosystem; and (3) realizing more fairness in the supply chain. These will be explained below.

Subcategory 7.1 Importance of new supply chain models

While the topic of supply chain models was not within the initial focus of the interviews, this subject appeared to be a vital subject for the mission-driven entrepreneurs. The mission-driven entrepreneurs all emphasized the need to organize the supply chain differently compared to traditional organizations, and that this was key in achieving their sustainable mission. This was well summarized by Albert van Mey of Van Houtum: [Q56] "the biggest challenge for sustainability is to manage the supply chain – it is an ongoing challenge to select the right suppliers and to keep motivating them for more transparency and sustainability – we constantly push suppliers to move into the direction of more eco-friendliness". Many entrepreneurs also emphasize that the collaboration with suppliers is a key factor in order to reach the business goals, for example reflected in Paulien Wesselink (OMyBag) statement: [Q57] "The biggest hurdle for success is effective supply management - getting our producers to make the quality we want and to meet our deadlines", but this also counts for a large multinational like Philips, according to Simon Braaksma: [Q58] "If we want to achieve our targets we need

to work closely together with our suppliers, this is needed to ensure quality and innovation central to our business model".

Subcategory 7.2 Suppliers as partners in the ecosystem

Generally the entrepreneurs mention that it is very important to work with suppliers that support the sustainable mission of the company. For example Bert van Son from MudJeans explains that [Q59] "we have a fixed supplier in Italy, who fully support our concept and allow us to place small orders so we don't need to have too much stock". Thus in this case, the supplier helps the entrepreneur in his sustainable mission. In the other direction it also happens that the entrepreneur helps the supplier to become more sustainable. Merijn Everaarts from Dopper for example mentions in this regard that [Q60] "the supplier in China used to produce the Dopper Steel will receive support so the production process of Dopper Steel will run on solar power - the company should become an example to other companies to effectively implement solar power". Paulien Wesselink from OMyBag comments that [Q61] "we work in principle with accredited fair trade suppliers or we help small ambitious suppliers to get accredited, because this is often not so easy".

Subcategory 7.3 Making the supply chain fairer and/or circular

In many cases realizing a fairer supply chain is part of the entrepreneur's sustainable mission. Quirijn Bolle from Marqt explains that he aims for [Q62] "a fair balance of profit and effort throughout the chain", he explains that [Q63] "in order to make the new system work you need to connect with everyone in your chain. In the old system, it is about how to get most value out of your piece of the chain, this value being measured in dollars and euros, and I believe this is wrong". Quirijn Bolle believes the problem is that [Q64] "means and goals are mixed up – most money can be made with 'cheap food' – if you follow the money you get a system where less people are working with less quality of food – only a few benefit and only in a financial way". Thus, traditional supply chains, as traditional business models, are focused on profit only and are not being triple bottom line – in order to be truly sustainable the whole supply chain system needs to be more balanced.

Van Houtum with its focus on cradle-to-cradle also shows something different when it comes to supply chain organization: [Q65] "in the circular logic,

we are both the starting point and the end point of the supply chain, and therefore need to be in control over the whole chain". Optimizing the supply chain in this scenario means to making it as "circular as possible".

Also Moyee Coffee aims to achieve a more balanced supply chain for the coffee market by adding value locally where possible. Guido van Staveren explains that [Q66] "there is a big difference between FairTrade and FairChain" and that "we aim to change the unequal division in the chain". The problem, according to Van Staveren is that [Q67] "almost all profit, the added value in the chain, is made outside the supplying country – this profit keeps on rising whereas the local farmers who actually grow and sell the beans deal with a descending profit line". As a concrete action in order to change this inequality [Q68] "Moyee coffee seeks to add value in the country of origin instead of exporting the added value – therefore we are going to roast the coffee beans in locally Ethiopia, increasing the amount of money that stays in the producing country by 300%".

Main category 8. Sustainable systems change

The eighth main category is 'sustainable systems change' with the sub-categories: (1) big picture thinking; (2) new supply chain models as a means to change the system; (3) multilevel approach to sustainability and upscaling; (4) paradigm change; and (5) collaborative model to systems change. Without specifically asking any questions about systems change it was remarkable that many of the entrepreneurs directly pointed towards the need for a systems change for sustainability. During the interviews many of the entrepreneurs shared their visions about sustainability and systems change and how they want to contribute to this larger goal.

Subcategory 8.1 Big picture thinking

Geanne van Arkel from Interface quotes the founder Ray. C. Anderson: [Q69] "the only way the Earth can change is if business, the most pervasive and influential force on the planet, is willing to lead". Big picture thinking about sustainability is translated in pragmatic solutions. For example, Sander de Jong from the Dutch Weedburger says that [Q70] "the only way to have big impact and change customer behaviour is to create a sustainable alternative that is just as good (or better) than the traditional product". The 'big picture' influences the strategy of an organization. It is about finding a connection between the larger sustainability

narrative and the organization. Marjolein Demmers from Royal Haskoning says [Q71] "I am very proud of the program 'enhancing society together', containing among others our strategy towards the four challenges: the urban, water, transport and industrial challenge".

Subcategory 8.2. New supply chain models as a means to change the system
Quirijn Bolle from Marqt did not just choose the food sector because he saw a business opportunity, as he says: [Q72] "the food sector is one of the most important sectors in which we need to drive sustainability, because it is the fuel that drives us, we need it every day. Besides, food has a big impact on the natural environment". He formulates systems change as the ultimate drive: [Q73] "the drive of Marqt is to change the system of corporate retailers, which only focuses on money and increasing profits by lowering prices, which means to buy and produce cheaper and unhealthier products", an important focus here is the supply chain.

Subcategory 8.3. Multilevel approach to sustainability and upscaling
Guido van Staveren from Moyee Coffee sees a multi-level approach to sustainability, which he also addresses in his own business model: [Q74] "I think you could divide sustainability by looking at the level of the source (chain improvement, farmers, development), company (social aspect, CO2, etc), and consumer behaviour (recycling, footprint)". Wouter Moekotte from Biofutura believes in the importance of niches initiatives leading to change on a bigger level, [Q75] "we believe that our sustainable packaging products will turn from a niche market into a mass market that will replace the traditional oil based products". A multilevel approach based on ecosystem thinking plays a crucial role.

Subcategory 8.4 Paradigm change
Marjolein Demmers from Royal Haskoning DHV says [Q76] "We are trapped in a complex system that is moving towards the wrong direction. Everybody is trying in their own system to turn on some switches in order to create change. We must be smarter and know which switches have to be turned on in order to create permanent change, towards a new model, a new system". She thinks this systems change is difficult to achieve, but that there is movement in the right direction: [Q77] "it is hard to convince more traditional companies of the need to innovate,

but Al Gore's documentary and the Cradle-to-Cradle movement have changed the scene a bit, the paradigm is changing". Also she emphasizes the importance of ecosystems in order to create change "you have to dare to innovate in a system, we try to consciously investigate who are the right people, institutes, and ecosystems to connect with in order to stimulate innovation".

Subcategory 8.5 Collaborative model to systems change
Guido van Staveren, from Moyee Coffee, says about systems change: [Q78] "eye opener was for me the book Cultural Strategy by Douglas Holt - creation of new world in which old institutions are no longer valid, they will have to be replaced for new ones". He emphasizes the need of collaboration: [Q79] "since we are in a stage of discovering and experimenting, collaboration is the right tool – all new business are working with sustainable models need this collaboration" and "new types of collaboration will be all around because we will see on big modular economy arising".

3.5. Contributions to Theory Development

The identification of main- and subcategories in the interviews of the case study is the first step in the contribution to theory development concerning the role of mission-driven entrepreneurs in ecosystems as drivers for sustainable change. Additionally, from the analysis of the interviews several patterns have been identified in which the relationships between categories are identified and described. These patterns are translated in theoretical propositions that may be used for further testing and research in follow-up research concerning mission-driven entrepreneurs in ecosystems and change.

Proposition 1: Personal drivers and motives play key roles in the founding of new mission-driven enterprises; often stemming from a personal pain or feeling of injustice regarding a certain theme; in combination with the belief that non-profit organizations are not making the required change.

Proposition 2: Mission-driven enterprises may be effective vehicles for change and act as inspirational change agents in the system; their sustainable mission is

translated into a service or a product and therewith mission-driven entrepreneurs try to contribute to change.

Proposition 3: Mission-driven entrepreneurs often operate in niches, but have the goal to become mainstream.

Proposition 4: Mission-driven entrepreneurs need to both think in terms of the 'big picture' and at the same time be pragmatic for day-to-day operations of their business.

Proposition 5: Mission-driven entrepreneurs often focus in their products or services on high quality (rather than pricing, and not only on sustainability), because sustainable products and high quality products often come together.

Proposition 6: Collaboration is key in entrepreneurial business and even more so for mission-driven entrepreneurs, for example for supply-chain reorganization, based on more fair or and/or circular principles.

Proposition 7: Mission-driven entrepreneurs tend to engage in collaboration in order to achieve their sustainable goal together, which goes beyond just selling their products, in line, business models from mission-driven entrepreneurs are based more on collaboration than on competition, and is dependent on the ecosystem.

Proposition 8: Mission-driven entrepreneurs not only 'need' the ecosystem for their business, they also use the ecosystem to inspire, influence and change, and therewith achieving their sustainable mission.

Proposition 9: Technological innovation is an important driver for change, for example in making materials more ecologically sustainable or by utilizing the potential of big data and communication.

Proposition 10: Mission-driven enterprises are characterized by both product innovation as well as business model innovation. The business model of the enterprise needs to fit in the larger ecosystem in which it is operating.

Proposition 11: Financial institutions, investors, and other investment providers play an important role in the ecosystem of the mission-driven entrepreneur, the entrepreneur also actively encourages the financial part of the ecosystem to adapt to the needs of the mission-driven entrepreneurs.

Proposition 12: Strategies to spread the sustainable message, such as story-telling, are of key importance for mission-driven entrepreneurs.

Proposition 13: New supply chain models, with focus on more fairness or on more circularity in the supply chain, are essential – in fact the traditional 'supply chain' become 'supply networks' or 'supply ecosystems' in which new type of relations between the traditional 'supplier' and 'buyer' come into place.

Proposition 14: Structural change towards more sustainability requires a multilevel approach in which smaller initiatives of mission-driven entrepreneurs get connected to each other and on which on a higher level several networks or ecosystems also again get connected to each other.

3.6. Discussion

The aim of this study was to analyse mission-driven entrepreneurs operating in ecosystems from a systems perspective, connecting individual drive, new business models, innovation, and ecosystems. Looking from a holistic way to certain events or patterns means trying to understand the context and interconnections between different themes. The most distinguishing findings that derive from our research include the following.

First, the entrepreneurs have a clear sustainable mission and regard this mission as de *raison d'être* of their enterprise. They have founded their enterprise because they wanted to make societal or ecological impact and turned this into a business opportunity. The entrepreneurs also regard entrepreneurship as having most potential to contribute to the global issues of our time and are often critical of the non-profit sector.

Second, the entrepreneurs employ new business models with a focus on collaboration for innovation. It is often stated across the interviews that collaboration is needed in order to realize the mission of the organization. The

entrepreneurs think strategically about collaboration and have partnerships with a range of organizations, including universities, NGOs, financial sector, but also employ new type of collaboration models with suppliers and clients, which are often seen as partners in the movement towards the sustainable mission. The entrepreneurs employ business models that support the double or triple bottom line of the enterprise, which mostly meant to have a focus on a sustainable product and supply chain.

Third, the entrepreneurs collaborate in ecosystems with a wide range of organizations that help them to achieve their sustainable mission. Collaboration occurs with a wide range of stakeholders. For example, traditional stakeholders such as suppliers and clients still play a central role in the business model, but mission-driven entrepreneurs see these parties more often as collaborative partners. Suppliers are often partners needed to make the products as sustainable as possible and also needed for product innovation. The entrepreneurs are often the driving force behind these partnerships but also suppliers take initiatives. Clients on the other hand often participate as ambassadors of the product and the sustainable story, through traditional story-telling and social media. The financial institutions are not always as present in the ecosystem as one would expect. The entrepreneurs often feel that the financial sector is not open for new ideas and business models and try to find alternative ways to finance their starting organization. However, they do see the importance of financial stakeholders and hope to improve relationships and hope also financial sector will recognize the potential of the mission driven enterprises. Collaboration partnerships are also important for the exchange of knowledge and practices, and can take place with other mission driven entrepreneurs, NGOs, and universities or research institutes. Collaboration is needed in order to stay abreast on the market developments and entrepreneurs also would like their products to constantly improve, for example better ecological plastics, more recycled cotton, higher quality food and more fair supply chains. This constant focus on high quality and product improvement is characterizing the entrepreneurs and they are aware that on their own they cannot do it. Many of the entrepreneurs are creative and see market opportunity, but lack technical knowledge on their products, for which they need to rely on their suppliers. For this reason the collaboration part is of utmost importance, without strong partnerships the business cannot exist. It is part of the entrepreneurial spirit to be a networker and they are generally very skilled. They recognize the

important role of personal network and informal networks in order to build an organization.

Lastly, one particular skill that mission-driven entrepreneurs need to have is the ability to think strategically and being operational at the same time. Some of the entrepreneurs have developed visions on the current system and how the system should be changed in order to become more sustainable, while at the same time they indicate the need to get it done every day. Many believe they are operating in what is today a niche, but what will one day become 'the new normal'. All believe in the power of business to be transformative. The need for collaboration and transparency is acknowledged, also in the belief that this fits the current *Zeitgeist*, with people more easily connected to each other as ever before. Another point that strongly came through the interviews was the importance of supply chain partnerships, both in order to achieve innovation and realize sustainable products and for transforming the system as we know it as the fundamental inequality is often reflected in the supply chains. At the very moment their products are often unique and the sustainable story behind it may still be a unique selling point, but the entrepreneurs focus on the quality of their products as distinguishing factor, as sustainability is generally not seen as point of competition but a mission to achieve together.

Limitations and recommendations for future research

It should be acknowledged that the sample of this study is relatively small and limited to one country, while the theoretical scope in this chapter is broad. The aim of this chapter was to offer insight into how sustainability transition can be approached with particular attention for the role of entrepreneurship. In line with the chosen qualitative case study approach, this means not to narrow a research focus up front, but inductively analyse the case study data. Many business and entrepreneurship studies analyse one particular area of attention at a risk of losing overview of how the overall system within which the area of attention is part of.This chapter offers a systems perspective offering a systematic case-based overview of the elements and dynamics of mission-driven entrepreneurship.

4

ENTREPRENEURIAL BUSINESS MODEL INNOVATION FOR ACHIEVING SYSTEMIC SUSTAINABLE CHANGE

4.1 Introduction[4]

Business as usual is not an option for a more sustainable future. A systems approach is required to tackle the challenges of a sustainable future. Routes to a sustainable economy may include the transition to a system with some of the following characteristics: minimizing unnecessary consumption of goods and energy; maximizing societal and environmental benefit rather than only focusing on economic growth; reducing fundamental inequality present in today's system; a closed-loop system in which waste is diminished but products are re-used with a focus on functionality and experience of products rather than product ownership; a system designed to provide fulfilling and rewarding work experiences for all, enhancing creativity and skills; and last but not least, a system built on collaboration and sharing rather than aggressive competition only.

These types of systems transitions require a change about the role and function of business in society, including almost every aspect of how it is conducted. Business model innovation offers a potential approach to deliver the required change through rethinking the purpose of the firm and the value creating logic and therewith also rethinking the perception of value. The premise in this line of thought is that continuous business model innovations can support a systematic ongoing creation of new business cases that enhance sustainability, both by means of mainstream business that due to the business model innovations more readily integrate sustainability into their business (Schaltegger, Lüdeke-Freund, & Hansen, 2012) as well as by means of new start-ups that design and pursue sustainable business from the outset (Stubbs & Cocklin, 2008; Porter & Kramer, 2011).

Successful businesses cannot evolve in a vacuum, they must be able to draw upon capital, partners, suppliers, and customers to create cooperative networks. Business strategist James Moore first imported the concept of ecosystem to the increasingly dynamic and interconnected business context in a 1993 HBR article (Moore, 1993). He argues that a company should be viewed not as a member of a single industry but as part of a business ecosystem that crosses a variety of industries. In this way, he argues, (1) companies may co-evolve capabilities around new innovation, and (2) they may work cooperatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations. The chapter argues that in the current

[4] An earlier version of this chapter has been presented at the OMT discussion paper session at the 2016 Annual Meeting of the 2016 Academy of Management (Anaheim, California, United States).

age, ecosystem thinking and new business models supporting a cooperation/competition mixture is especially of relevance for entrepreneurs who wish to achieve sustainable impact. Entrepreneurship, and especially entrepreneurship driven from a certain sustainable mission (e.g., social entrepreneurship), holds promise to address some of today's most urgent sustainability issues, such as climate change and social inequality of all sorts. A distinctive characteristic of an ecosystem is that together something can be achieved beyond the effective scope and capabilities of any individual actor. This relates also to large societal problem that no individual organization is able or incented to resolve.

The aim of this chapter is twofold, namely (1) to further conceptualize business model innovation for sustainable purposes by showing the importance of a multi-layered approach to business model innovation (enterprise level and ecosystem level) and (2) testing some of the theoretical assumptions of business model innovation in an ecosystem setting with an embedded case study approach.

The outline of this chapter is as follows: the second section introduces and justifies the conceptual and theoretical foundations of this research. Section three presents the methods that this paper employed. This will be followed with section four that presents and elaborates on the case study results. Section five presents the propositions that derive from the case study results and that serve as a stepping stone towards the development of new theory concerning entrepreneurial business model innovation for systems change. Section six presents the discussion of the results, also including limitations and opportunities for future research.

4.2 Conceptual and Theoretical Foundations

4.2.1 Business Model Innovation

The literature presents various perspectives on business models. For example, Magretta (2002) and Zott and Amit (2010) describe business models as a holistic description of 'how a firm does business'. Generally speaking, a business model refers to a description or model that represents a firm's logic to create, provide and capture value from and for its stakeholders (Chesbrough and Rosenbloom, 2002; Magretta, 2002; Weill and Vitale, 2001). Thus, it could be said that *value creation* is at the heart of any business model; businesses typically capture value by

seizing new business opportunities, new markets and new revenue streams (e.g., Teece, 2010). According to Yunus, Moingeon, & Lehmann-Ortega (2010) three central premises may be distinguished, namely (1) the product/service proposed to customers (*value proposition or what*), (2) the way the company is organized as to deliver this product and service to its customers (*value constellation or how*), and (3) the revenue model (*profit equation – combining what and how*). A *value proposition* answers the question 'who are our customers and what do we offer to them what they value'; a *value constellation* answers the question 'how do we deliver this offer to our customers' – this does not only involve the company's own value chain but also its value network with suppliers and partners, and thirdly a positive *profit equation* which is the financial translation of the other two, including how value is captured through the value proposition and how costs are structured and capital used in the value constellation. Business model innovation could be defined as generating new sources of profit by finding novel value propositions/value constellation combinations (Yunus et al., 2010).

Business model innovation should be regarded as a radical form of innovation, as it entails questioning the models that have previously led enterprises to success, which involves revising a number of basic assumptions. Business model innovation is about creating new strategies that modify the rules of the competitive game in an industry. Based on their literature review, Yunus et al. (2010) distinguish three important lessons that are always needed for business model innovation, namely (1) challenge conventional wisdom, (2) find complementary partners, and (3) undertake continuous experimentation. Roobeek, De Swart, & Van Der Plas (2018) also highlight the importance of making business model decisions based on both 'data and dialogue' (for which they developed an advanced business modelling tool), which according to the authors leads to more robust, sustainable decisions, increased transparency in business dynamics, and increased insight in potential trade-offs between financial and non-financial objectives.

Finding partners to leverage expertise and resources is a crucial element to business model innovation, as has been elaborately discussed by Chesbrough (2007). Collaboration allows organizations to gain access to new resources they would otherwise need to develop alone or purchase. One of the main advantages of collaborative agreements from a competition point of view is the pooling of resources and knowledge, which in turn may lead of a development of a broader

portfolio of resources for the firms in the network. Continuous and strategic experimentation is needed as changes need to be radical and will question the firm's conventional way of doing business. Therefore the classical strategic approach, in which diagnostic tools, analyses of business results, and consultancy reports are used, is not always the best approach as it lacks in flexibility and speed. Using surveys or classical research may not always give the right picture, as people may not be able to put up with the 'radical newness' (Kim & Mauborgne, 1999).

As the notion of 'value' is central to the business model concept, it is important to define what value exactly means. While traditionally, the value proposition would be concerned with the product and service offering to generate economic return, in a sustainable business model, the value proposition would also provide measurable social and/or ecological value in line with economic value (Boons & Ludeke-Freund, 2013). Yunus et al. (2010) describe that in their view there are many similarities between 'conventional' business model innovation and business model innovation in the social realm. The three lessons as discussed above do also apply to sustainable business innovation. However, they also distinguish two complementary lessons, namely (1) having a broader focus on stakeholders, customers, suppliers, partners, beneficiaries, and shareholders who understand and support the social mission of the company; in other words a specification of targeted stakeholders and the provision that the value proposition and constellation are not focused solely on customer but are expanded to encompass all stakeholders, and (2) the need to clearly define the social impact objectives or social mission. Enterprises need to consider what exactly 'creating value' means for them.

4.2.2 Entrepreneurs as Business Model Innovators

Business model innovation happens all the time and is by some being regarded as essential for survival of any firm (Chesbrough & Roosenbloom, 2002). However, the notion may be especially relevant to entrepreneurs, who may be the best suited to bring the three lessons in practice that Yunus et al. (2010) described, (1) challenge conventional wisdom, (2) find complementary partners, and (3) undertake continuous experimentation. According to Mazzucato (2013, p.58) "entrepreneurship, like growth, is one of the least-well-understood topics in economics", because they do not fit in traditional models. According to Austrian

economist Joseph Schumpeter (1949), an entrepreneur is a person, or a group of people, who is willing and able to convert a new idea or invention into a successful innovation. It is not only about setting up a new business, but doing so in a way that produces a new product, or a new process, or a new market for an existing product or process. In more recent literature, Isenberg (2011) describes an entrepreneur as a person who is continually pursuing economic value through growth and as a result is always dissatisfied with the status quo. It is the role of entrepreneurs to see and exploit potential new opportunities, without knowing for sure they will succeed. Entrepreneurship employs 'the gale of creative destruction' to replace, in whole or in part, inferior innovations across markets and industries, simultaneously creating new products including new business models, and in so doing destroying the lead of the incumbents (Schumpeter, 1949). Therefore, a focus on entrepreneurs as business model innovators to generate positive change in the societal system is an interesting ally to explore.

Entrepreneurs may drive innovation. However, at the same time it is important to realize that innovation is a highly 'cumulative', innovation today builds on innovation yesterday (Mazzucato, 2013). Innovation cannot be pushed without the efforts of many, and it cannot proceed without a long-term vision that sets the direction and clarifies objectives (see also figure 4.1 for an overview of actors that participate in the innovation process). Schumpeterians emphasize the 'systems' component of technological progress and growth. *Systems of innovation* are defined as "the network of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies" (Freeman, 1995, p.1) or "the elements and relationships which interact in the production, diffusion and use of new economically useful, knowledge" (Lundvall, 1992, p.2). The system of innovation can be interfirm, regional, national or global. The network consists of customers, subcontractors, infrastructure, suppliers, competencies or functions, and the links or relationships between them. The point is that the competencies that generate innovation are part of a collective activity occurring through a network of actors and their links or relationships (Freeman, 1995). Innovation networks are full of feedback loops existing between markets and technology, applications and science. These networks and interactions leading to certain outcomes are often not 'linear' and therefore difficult to comprehend. This is why to get a bigger understanding of

the potential of entrepreneurs to generate change we need to take a holistic and systemic point of view.

4.2.3 Business Model Innovation for Sustainability

Fostering social change towards more sustainability is complex. Taking entrepreneurial business model innovating as a starting point of greater systems transitions is daring but it fits in the discourse of the need to change 'business as usual'. As argued above, collaboration is of key importance to foster the innovation process, as innovation is cumulative in nature, one innovation builds on the other. A second reason for the need for collaborative business models is that sustainability issues are *complex* and often sustainability problems are *wicked*, which makes a multi-stakeholder approach unavoidable.

Porter and Derry (2012) distinguish three dimensions that have implications in the sustainable business model innovation reign, namely (1) sustainability implies recognizing the widespread interdependence of species and ecosystems, and therefore involves concern for all stakeholder groups, (2) sustainability considers the impact on future generations by current business practices, resource use, and waste disposal practices, therefore involving an expanding timeline, and (3) sustainability involves multiple dimensions of performance beyond simple economic profits, such as social and environmental performance. This translates into business models that are *multistakeholder, multitimeline*, and *multiperformance* oriented. These new type of mission-driven enterprises are by definition already breaking with 'business as usual' by taking another approach to what 'creating value' means and therefore its definition of success: success of an enterprise is not only defined in terms of the creation of profit or shareholder value, but also in terms from achieving the self-set social and/or ecological mission and therewith creating value for the stakeholders and targeted beneficiaries.

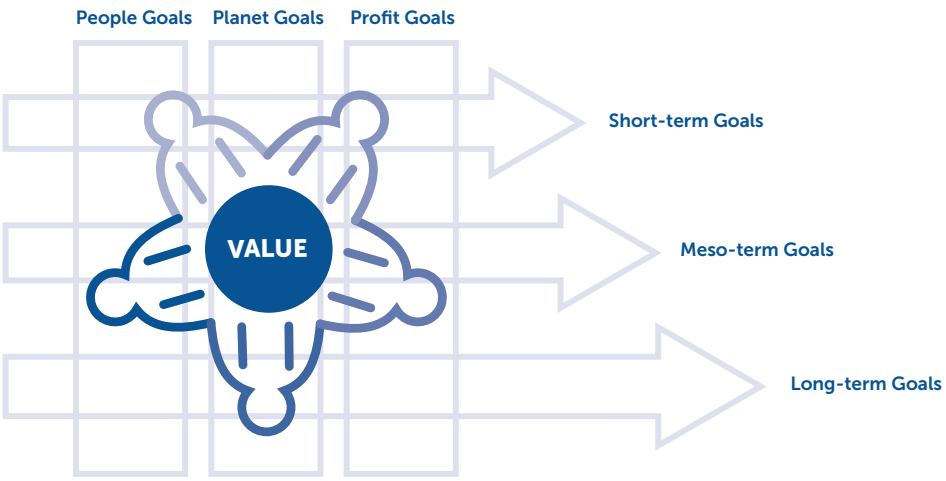

Figure 4.1 Multipurpose business model
Source: adapted version from Porter & Derry (2012)

A business model is about making trade-offs in decision-making, central to keeping a certain focus. Redefining business models means redefining the limits of what is possible. By using technology new business models may have potential to produce better results for lower costs while solving deep-seated social problems. Eggers & McMillan (2013) take the argument even further by saying that innovative business models may provide a base for a new type of economy by enabling a whole set of social and economic relationships and opportunities for knowledge sharing. Executing a social-impact agenda requires a strong and innovative business model, because of the numbers of stakeholders, that all need to be served well, which pushes the whole idea of innovation to a new level.

Therefore, arguably, complex sustainability problems are best tackled in an ecosystem setting connecting stakeholders and creating a new innovative business model around the issue at stake. According to Simons (2015) for creating systemic change there are three key issues that need to be addressed, namely (1) overcoming fragmentation and isolation in the system, (2) creating transparency about everyone's role and contribution, and (3) having actors work together.

One concrete way to go about this is to form 'solution ecosystems', the intentional building of stakeholder networks around one specific societal questions. One could also regard the purposefully building of these platforms as creating a meta-business model around a certain issue at stake, overarching the individual business models of the participating actors. The term business model innovation is easily interpreted in a way that is too narrow. In a broader understanding business model innovation could also be interpreted as being about finding fundamentally different operating models that enable new relationships between services and clients, between government and citizens, between manager and worker, between neighbours and between strangers. As a metaphor, just as a computer's operating system provides foundation for all software to be installed, these new operating models enable a whole new set of relationships and networks that break through existing limitations. In this line of discussion, the concept of ecosystem and business models on the unit of analysis of ecosystem may be regarded as the new 'building block' of the new economy.

4.2.4 Deploying an Entrepreneurship Ecosystem Strategy to Tackle Societal Problems

In biology ecosystems represent a community of living organizms interacting as a system. The word was coined in the 1930s by Arthur Tansley to refer to a localized community of living organizms interacting with each other and their environment. The organizms compete and collaborate, share and create resources and are subject to external disruptions to which they adapt together. James Moore imported the concept to an increasingly networked business context, as he writes in 1993 HBR article: "in a business ecosystem, companies co-evolve capabilities around a new innovation: they work cooperatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations" (p.77). The definition that we use in this chapter is: "ecosystems are dynamic and co-evolving communities of diverse actors who create and capture new value through increasingly sophisticated models of both collaboration and competition" (Kelly, 2015). From this definition three elements can be distinguished, namely:

1. "ecosystems are co-evolving communities of diverse actors"; ecosystems typically bring together a diverse set of actors in order to create, scale and serve markets in ways that are beyond the capacity of any single

organization or even any traditional industry. Their diversity and collective ability to learn and innovate together are key determinants of longer-term success;

2. "who create and capture new value"; ecosystems develop new co-created solutions addressing societal challenges, while ecosystems also increate the importance of discovering new individual business models to capture that value
3. "through both collaboration and competition"; participants in the ecosystem recognize the growing need to collaborate in order to invest in the long-term health of their shared ecosystem, competition is still essential but not the sole driver of sustained success

Three important characteristics for the functioning of ecosystem settings are (Adner & Kapoor, 2010; Iansiti & Levien, 2004; Nambisan & Baron, 2012; Teece, 2009):
(1) the dependencies established among the members (members' performance and survival are closely linked to those of the ecosystem itself),
(2) a common set of goals and objectives (shaped by the ecosystem-level focus), and (3) a shared set of knowledge and skills (complementary set of technologies and capabilities).

As research on business ecosystems is relatively in its infancies, the term ecosystem is sometimes used in different ways and creates different understandings in different contexts. The ecosystem analogy has been widely used for describing different kinds of structures and processes, these analogies emphasize different aspects of the natural ecosystem and may be applied in different fields (Peltoniemi & Vuori, 2004). Terminologies used include business ecosystem (e.g., Moore, 1996), entrepreneurial ecosystem (e.g., Isenberg, 2011), industrial ecosystem (e.g., Korhonen, Wihersaari, & Savolainen, 2001), solution ecosystem (e.g., Eggers & McMillan, 2013), innovation ecosystem (e.g., Adner, 2006) and even entrepreneurial driven innovation ecosystem (Groth, Esposito, & Tse, 2015).

The adjective preceding the word 'ecosystem' refers to the perspective on the center of the ecosystem. For example, the notion 'entrepreneurial ecosystem' recognizes the importance of different actors in the bigger innovation system, but positions entrepreneurs as the central drivers of innovation. Sometimes the word

'ecosystem' is used to describe a certain entrepreneurial hotspot, for example 'Sillicon Valley', and sometimes it is used in the context of 'solution-oriented' ecosystem and then the issue at stake would be the center of the ecosystem map around which relevant actors are approached from a certain perspective to together solve the problem at hand. Different perspectives on ecosystems recognize that ecosystems are partly naturally occurring, but they can also be build, steered and influenced. In this chapter we focus on deliberate efforts on building ecosystems as to create and capture new value.

The ecosystem approach also signifies a certain way of thinking. Inherent to the ecosystem approach, in line with the biological ecosystem, that there is a need for a natural diversity of actors to keep a balance in the system. Working and thinking with an ecosystem approach in mind means valuing diversity, inclusiveness, collaboration with other parties, and taking of more holistic (versus analytic) perspectives. Ecosystem thinking fits in the tradition of systems thinking and the believe for true lasting change this change needs to by systemic; i.e., certain elements or parts in the system need to be structurally changed in order to come to more structural and lasting solutions (e.g., Eggers & Macmillan, 2013). We argue that it is the shift of mindset and the adoption of certain principles that characterizes the 'working in ecosystems' and subsequently the approach to business model innovation.

Deliberate ecosystem building or development is complex, but not impossible. It is however needed to realize that attempts to build 'ecosystems' are in reality attempts to build up networks that aim to operate as in an ecosystem setting. Deliberate entrepreneurship ecosystem approaches are still not very common and not much research has been done about these deliberate efforts, especially not when these ecosystem approaches are specifically geared towards reaching sustainable impact for society. When deliberately building an ecosystem, it logically follows that some party would take responsibility for building it up, and afterwards it may exist naturally. However, since few leaders have an entrepreneurship ecosystem perspective, it should not be surprising that there are few examples of such responsible people or entities. One of the implications could be that you need to invent a new organization that has the mandate, competence and motivation to enhance the entrepreneurship ecosystem in order to achieve a self-sustaining amount of entrepreneurship. Leaders need to create a team of "entrepreneurship enablers".

In order to build up an ecosystem setting around a certain value proposition we argue that there are three fundamental reconsiderations:

1. What is the problem to be tackled; that is, the value proposition,
2. How can impact be realized; that is, the value constellation, and
3. Who is needed; that is, the value contributors.

While traditional business model innovation confines itself to what (value proposition) and how (value constellation), for the ecosystem-oriented business model we argue it is needed to add a third new dimension, namely who are the value contributors.

Members of an ecosystem network are bound together by common goals (or value propositions, or market objectives) and the need to leverage one another's knowledge and capabilities to achieve those goals. The nature and extent of these dependencies, common goals, and shared capabilities vary and give rise to different types of networks. One type of ecosystem network model that is most prevalent is referred to as the hub-based ecosystem network, wherein a single firm establishes and leads the ecosystem – also comparable the the platform-based network (Gawer & Cusumano, 2002), the orchestra model (Nambisan & Sawhney, 2007), or the keystone model (Iansiti, & Levien, 2004). Being connected to a powerful platform leader may help new ventures with challenges arising from their newness and inexperience. In this type of ecosystem network, the leader is defining the common goals or core value proposition and offering the basic innovation platform that incorporates the shared knowledge and capabilities.

4.2.5 Challenges for Entrepreneurs Working in a Network Setting

One particular challenge for ecosystem entrepreneurs may be the need to relate to other ecosystem partners both as competitor and collaborator. An entrepreneur in an ecosystem setting needs to look at the other members as potential innovation enablers and collaborator. At the same time, the other members often compete in similar niche markets. This may enhance a potential risk associated with sharing knowledge, technologies, and assets with other members in the ecosystem. Therefore, an entrepreneur needs to continuously adapt the new venture's approach vis-à-vis its partners as to optimize the opportunities to collaborate but also compete effectively with them inside the ecosystem and perhaps outside as well.

Also survival can be seen in two different contexts, namely (1) survival as a valued member of the ecosystem and (2) survival as an independent enterprise. This means that ecosystem entrepreneurs both need to seek out exploit opportunities both within the ecosystem setting as well as outside it, which is also called "entrepreneurial ambidexterity" (Bryant, 2009) – i.e., pursuing an exploitation strategy within the system and an exploration strategy beyond it – which may present considerable challenges for entrepreneurs. This notion is of relevance to both maximize the benefits from ecosystem membership and manage the dependency on the ecosystem.

In summary, the central question of this chapter is how an ecosystem network creates and delivers value in a sustained way. Literature suggests that the concept of business model is important to understand how to create value. However, the business model literature until now mostly had a focus on the firm instead on the overarching ecosystem setting in which the enterprise operates. Also what is new about this study is the focus on an ecosystem setting that aims to create value in the broader sense of the word of creating value for a broader set of stakeholders, both financial stakeholders (shareholders) and societal stakeholders.

4.3 Methods

The field of ecosystem thinking and sustainability are guided by complexity, complex transitions to sustainability that are not easily captured. It is *ex ante* not completely clear which factors need to be considered and how they affect each other. In line with the research objective of understanding how in an ecosystem setting value is created in new ways, we chose for a qualitative research approach with an in-depth multilevel investigation of the interactions between the ecosystem level and the individual participants. For the purpose of our research and in order to answer our "how" research question, a case study is most appropriate "to understand the nature and complexity of the processes taking place" (Benbasat, Goldenstein, & Mead., 1987, p.370). One of the most widely accepted definitions of a case study is provided by Yin (1994, p.18): "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident". Qualitative case study research explores

predefined phenomena, but does not involve explicit control or manipulation of variables; the focus is on gaining an in-depth understanding of a phenomenon and its context (Cavaye, 1996; Lee, 1989). The findings of the case study with interviews are patterns that may enhance further theory building.

For the selection of the information-oriented selection strategy was used, which seeks to maximize the utility of information, drawing on a small number of relevant cases. This case study was selected on the basis of expectations about their information content (Flyvbjerg, 2006). The purpose of the case study is to gain an in-depth understanding which helps to explore and evaluate the framework developed in the previous chapter.

Most suitable for the research question is an embedded case study approach, given the multiple layers of analysis involved. We have studied a collective consisting of six independent mission-driven enterprises named 'Powered by Meaning' (PbM) Collective. Each of the enterprises have their own mission and vision (for an overview see Table 4.1), but the Powered by Meaning (PbM) Collective has also an overarching goal, namely co-creating social enterprises. We have conducted interviews with the founders of each of the enterprises, a total of six in-depth interviews. In addition, this study applied data triangulation, i.e., an analysis of several documented data sources, such as official strategy documents, blogs of the entrepreneurs, and the content of strategic meetings within the network with the aim to give a more detailed and balanced picture.

The open, in-depth interviews lasted on average 1,5 hours and were semi-structured. Each of the interviews was recorded, transcribed after they were coded with an open coding scheme based on Corbin & Strauss (2008): coding occurred in three distinct steps, namely (1) abstracting of new concepts, (2) analyze codes and defining of new categories of codes, and (3) micro-analysis of the transcripts based on the coding. The coding procedure was carried out in excel.

Table 4.1 Powered by Meaning (PbM): enterprises and characteristics

Enterprise	Characteristics
Enterprise 1	Strategic consulting firm, biggest company (70 employees), other enterprises often spin-off of Enterprise 1. Areas of expertise include new economy, HR & Change, Customer Excellence, Procurement & Partnerships.
Enterprise 2	Small Enterprise (3 fulltime, 5 freelance, 2 interns) with the mission to accelerate sustainable innovation by entrepreneurship and growing of impact ventures; a focus on both the development of intrapreneurship programmes (or corporate social entrepreneurship) as well as growing new enterprises
Enterprise 3	Platform enterprise (6 core team members, 101 'freelance' entrepreneurs) connecting individuals with entrepreneurial ambitions to big companies in order to match 'young entrepreneurial minds' with big companies looking for renewal and innovation
Enterprise 4	Medium-sized enterprise focused on recruiting and supporting graduate trainees (9 core team members, 43 graduate trainees) in a two year programme for several clients in consulting, medicine and IT organizations, both 'in-company' as well as 'intercompany traineeships', mission is to educate and train 'future leaders' as well as generating change in culture in the client organizations
Enterprise 5	Small Enterprise (2 founders, 2 freelancers) with the mission to create new business models tackling societal issues, with special focus on technology to find smart solutions. Focus areas are 'healthcare' and 'neighbourhoods'.
Enterprise 6	A small more classical 'social enterprise' (2 founders) with the mission to use 'garbage' to create new products, creating producing and selling products made of recycled material

4.4 Case Study Results and Analysis

Based on the open coding of the interviews statements of the interviewees were structured along the following patterns as depicted in Figure 4.2, which are reflected by the sub-sections describing the findings. The coding was carried out in Excel.

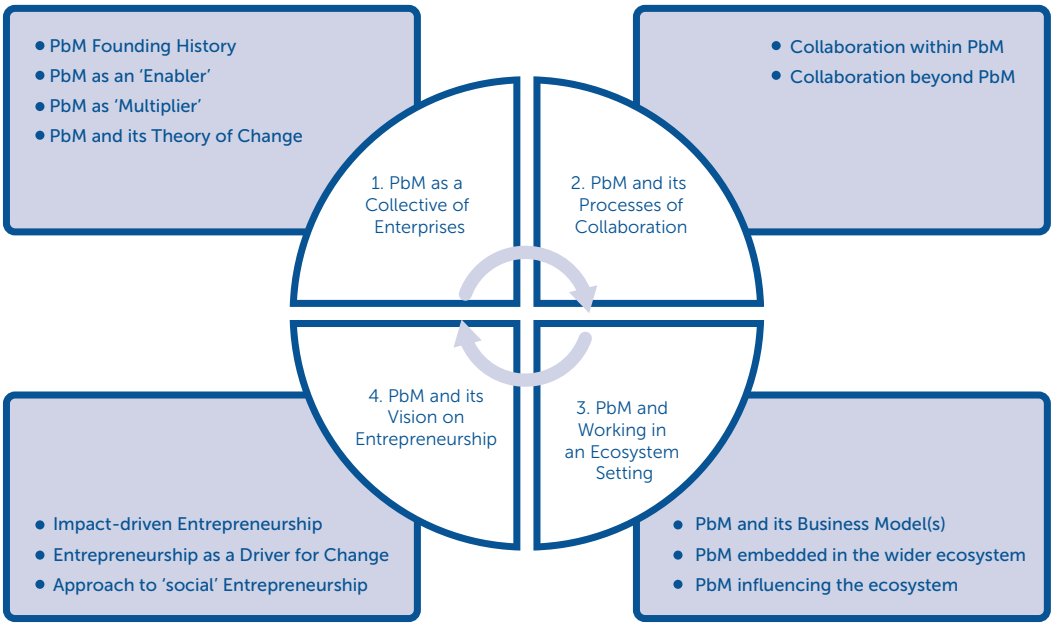

Figure 4.2 Main patterns arising from the data analysis: Powered by Meaning as a collection of enterprises

4.4.1 Powered by Meaning as a Collective of Enterprises

a) Powered by Meaning Collective and founding history

Powered by Meaning is a collective of 6 enterprises that choose to work together in an ecosystem setting, because there is a belief that by working together they can achieve more than when they would all be separate. They did not team up by coincidence, in fast most of the other enterprises (with the exception of 'Enterprise 5') are spin-offs of 'Enterprise 1', the biggest among the enterprises. The different spin-offs have always collaborated and before the 'collective' was formalized it used to be an informal network, simply because the people working in the different enterprises know each other. The enterprises are not all completely independent, as the owners of Enterprise 1 also have shares in some of the other enterprises, they rather refer to themselves as being 'loosely connected'. At the same time, they function as independent enterprises and are run separately from each other.

There is a strong shared mission, which has also been written down in a special pamphlet, also used to lobby amongst policy makers. Every enterprise has a unique approach, but the goals are similar, namely to enhance businesses 'making meaningful impact' in various ways. The mission slogan of the Powered by Meaning Collective is 'Co-Creating Social Enterprises'. In addition, the collective aims to inspire others by the way they work together. Initially they have presented themselves as an 'ecosystem', later recognizing that the word 'ecosystem' is not adequately describing their entity (as a full ecosystem is based on a wider variety of actors) and changing to the word 'collective'. However, they explicitly state they aim to work together as in an 'ecosystem-setting', also with the idea to better optimize the wider ecosystem as well as influencing the ecosystem to inspire for change.

The emphasis on collaboration is well-reflected in the remarks of interviewee 3: [Q1] "The idea is that we all work together, towards the shared mission 'every organization a social enterprise'". Interviewee 3 comments that this is something that [Q2] "needs to be created together: just grouping the enterprises together will not do the deal, finding the balance between individual positioning and shared working towards a common goal does have potential". In addition, he mentions that the Powered by Meaning collective is useful to collectively approach the market. [Q3] "Now we are all with clients, sometimes different clients, but sometimes also the same, it makes sense that you want to strengthen each other in client acquisition, and you can also really help the client to introduce the client to one of the 'brothers or sisters'".

Interviewee 1 explains the background of the collective. According to him it is not always needed that networks are formalized, like the Powered by Meaning Collective: [Q4] "informal networks can also be very powerful, however in case of Powered by Meaning we saw a clear added value in formalizing the network to show it to the outside world we work in a certain way and also to inspire others to think in networked ways".

Interviewee 1 explains that at this moment all enterprises but one are direct spin-offs of Enterprise 1, but also notes that [Q5] "we would like to change this, we are looking for more diversity in our collective, there is an opportunity for us. We are also working on our investing vehicle that may help other parties that would like to join us". According to interviewee 1 the Powered by Meaning

Collective has a right balance and diversity at the moment, but there are also some 'blind spots', in which new additions would be welcome, such as an enterprise with a focus on products rather than services, and also media and gaming would be interesting. He also comments on the strength on the network as it is: [Q6] "our network has grown organically, by taking up another approach to business we have not had difficulties during the financial crisis, we have grown despite the crisis, this is because we work in new innovating ways".

b) Powered by Meaning Collective as an 'enabler'

One of the unique characteristics of the Powered by Meaning Collective is that they 'sell what they are'. They are a collective of mission-driven enterprises working together in an ecosystem setting and their goal is to create more mission-driven enterprises by setting up collaborations, they enable, facilitate, accelerate, or advise other organizations in order to either generate new enterprises generating impact or to help organizations through the strategic transition in order to create new type of more inclusive business models.

According to interviewee 2 [Q7] "our mission is to generate impact-driven enterprises – we see the corporate world as the starting point and we create connections to the 'outside', we create connections between entrepreneurs and intrapreneurs, from big too small".

The differences between the enterprises is foremost the different approaches in order to reach the goal 'every organization a social enterprise', be it target group, be it type of program on offer, or be it specific focus. There is some overlap between enterprises, which can be challenging at times. However, as interviewee 2 says [Q8] "it is all about where we can strengthen and complement each other".

Interviewee 3 describes the philosophy of his platform and its enabling potential by drawing an analogy to being a contractor: [Q9] "to build a house you need to think about many aspects, you may hire a contractor so you do not need to do it all yourself. This is what we do as well, to start a new enterprise you need developers, designers, entrepreneurs, and scaling-up potential by matching with a bigger organization with a reputation and access to the market. By offering this service we make it easier for people to start their own enterprise. We leverage the potential in others".

c) Powered by Meaning Collective as multiplier – collective within collective
Powered by Meaning functions as a collective, but explicitly recognizes its role in the bigger ecosystem and the separate enterprises are often also in turn creating their own 'collectives' and 'networks'.

Interviewee 3 mentions that his enterprise could be seen as a [Q10] "small version of the Powered by Meaning Collective". He mentions that the main reason for starting his platform is because he believes [Q11] "entrepreneurs have the key to make the world a better place". He believes creating networks and utilizing the diversity is key for change on bigger scale, he specifically focuses with his enterprise on matching young entrepreneurs to bigger organizations: [Q12] "big organizations do not have the entrepreneurial execution power, but they do have the financial means. Young entrepreneurs have the execution power, but not the financial means. Therefore we bring those two together and this creates new value, from which we as a platform can again profit".

d) Powered by Meaning Collective and its Theory of Change
The collective has a strong rational for working together which is represented in their'theory of change': [Q13] "Social entrepreneurs are connectors, focused on the long-term and able to bring together partners to start new coalitions where governments, corporate life, non-profits, financial institutions and science come together to deal with wicked problems" (internal documentation).

Interviewee 1 outlines that [Q14] "we need frontrunners to make fundamental change, and the front runners should not only be the small actors, but rather the bigger actors and corporates". Interviewee 3 describes that the ecosystem-setting offers opportunities to realize bigger scale impact and sees it as fitting in the 'new world of work': "today this is simply the best way of organizing work. It is highly flexibly, you can adapt easily to the market, you can upscale and downscale quickly, you bind people on the basis of intrinsic motivation". He sees it as a trend happening on a larger scale: [Q15] "it is not only a niche from entrepreneurs, a friend of mine who is an architect also works in a cooperative of architects. It is the way to organize yourself, because as an entrepreneur you reduce risk and increase flexibility".

Interviewee 3 has the opinion that the focus should be on organizing yourself in a entrepreneurial way and creating networks, where social change and

creating impact are natural consequences. In other words, [Q16] "the change is in the process itself": "the world is changing, so you need to work in a different way. You need to become 'serial master' (concept of Lynda Gratton), and you need to be flexible, both as an organization as well as an individual. If you can't do this, you will not exist as a company or lose your value".

Social change is a complex process and many are afraid of the rapid changing world. On the one hand, you need to adapt to the changing world, but you can also try to play an active role in the change. Interviewee 3 illustrates his vision and goals with an analogy: [Q17] "You need to create, you are part of the change instead of only passively undergoing the changes. If you compare a canoe, a rowing boat, and a raft, you could say that a raft just goes with the flow, the rowing boat settles against what is behind, and the canoe is looking forward and is going faster than the flow. We want to be the canoe, we want to be in control".

Interviewee 1 puts the mission of the collective Powered by Meaning also in a more long-term perspective. [Q18] "Our mission of 'co-creating social enterprises' is a means to create a 'new normal'. Our long-term aim is to at one point delete the 'social' in 'social enterprise', by which I mean that it has become the norm that an enterprise is relevant for all stakeholders. A time in which people look back and will not understand anymore that there has ever been a distinction between 'entrepreneurship' and 'social entrepreneurship', a time that 'social entrepreneurship' has become a pleonasm."

4.4.2 Powered by Meaning and its Processes of Collaboration

a) Collaboration within Powered by Meaning

Collaboration is key for the way the enterprises within the Powered by Meaning collective want to function. Individual business model adaptation towards maximizing the network potential and to leverage effect they want to achieve are key to understand the weaknesses and strengths of the Powered by Meaning collective as presented.

Interviewee 2 describes the other enterprises as being [Q19] "brothers and sisters in a family". This wording shows both the 'closeness' that is experienced towards the other enterprises in the network and the feeling of being a collective. Still every 'sibling' also has a unique character and own way of approaching and

tackling issues. Interviewee 3 notes that one of the core values is 'togetherness', [Q20] "because we believe in 'alone you are faster, together you achieve more', doing everything on your own is point one not so nice, and point two much more difficult, everything goes in partnerships of at least two".

For collaboration in a formalized network as the Powered by Meaning collective, both informal and formal aspects of collaboration occur and they are equally important, according to interviewee 2. The formal part includes collective meetings and strategy days, in which common opportunities are being discussed. The informal part is being stimulated, for example by the availability of a physical meeting space in which members of all enterprises are welcome, especially on Fridays this happens frequently. Also ad hoc collaboration on projects or on the spot e-mails to exchange information are common. At the same time is noted that there is still room for improvement, for example interviewee 3 notes that [Q21] "collaboration occurs mostly on partner-level, if we manage to bring collaboration to even a higher level, our collective will become even more powerful. If we can create the same dynamics for the whole group we are definitely on the right track".

Also interviewee 4 is positive about the potential of the Powered by Meaning Network, but still sees a lot of opportunity for improvement. [Q22] "I think there is a lot more we can do. At this moment we are separate enterprises and then from time to time we organize a session or an evening. However, to promote knowledge sharing and collaboration there is much more we could do. However, we are just starting, we are in our infancies, I do have the conviction we will be very successful".

Interviewee 5 mentions that the Powered by Meaning collective has developed a wide range of tools, accompanying the different approaches we have to our common goal. Sometimes more knowledge sharing on all tools and approaches available could be improved, according to interviewee 5: [Q23] "What is in your portfolio, what you can offer to clients, is not only relevant for you, but also potentially for your colleagues, sometimes we could increase mutual awareness on this".

Mostly the organizations work independently from each other, although sometimes they also take up projects together. Interviewee 1 outlines [Q24] "for this project we closely work together with another Enterprise within the collective,

we have a mixed project team, the partner is more focusing on the technical side, the platform, and we focus more on the relationship with the client and the strategic goals of the project". Tensions between individual positioning of the enterprises and far-reaching collaboration do exist, however this is an issue that is actively dealt with. Interviewee 1: [Q25] "it can sometimes be confusing for the outside world if some of the enterprises have similarities, however in the end the benefits weigh out the difficulties in this respect". Interviewee 1 dwells upon this further saying [Q26] "we need to think in terms of abundance, since there is so much to do on this world, let us not make the mistake to think that with relatively small company we are 'competitors' to each other, I don't believe in the world 'competition', it is an old-fashioned word not fitting the 'new normal'". I believe 'competition' is just overrated, you can collaborate with 'competitors', especially when there is a common goal, a drive, something you want to achieve a message. When you would like to achieve something, it will always be bigger than yourself".

It is recognized that in order to maximize the potential of the ecosystem-setting diversity needs to be valued, while also finding the shared identity. For example, interviewee 5 says that for internal collaboration it is both important to have a shared 'frame of reference', but also to collaborate with people who are new to you: [Q27] "A shared frame of reference is helpful for collaboration, for example on which topics speak to your heart, which contribution you could deliver, and which approach you would take. However when you want to scale up you always need to attract professionals from outside for a fresh view that may challenge your assumptions".

b) Collaboration beyond Powered by Meaning

Entrepreneurs within the Powered by Meaning Network have a strong believe that collaboration in different settings is of key importance for a new way of doing business. This is not only something how they would like to work themselves, it is also they want to propagate in a wider circle.

Therefore, collaboration is central to the business model of the different enterprises. All of the enterprises somehow foster collaboration or bring parties together that would not work together before, such as entrepreneurs and big companies; entrepreneurs and government; young people and more senior people; or creation of networks within organizations connecting people in a new

way around a challenging assignment. In a way they would like to put in transition a movement that is enhancing a new way of organizing and working together altogether.

The process to realize more collaboration is not always a straightforward, interviewee 1 describes [Q28] "you sometimes really need to push people, often people prefer that things stay as they are". At the same time interviewee 1 indicates that he also anticipates a countermovement: "we are at times of transition, or actually in transition of times. It is all about creating deep connection, meaningful relationships. We have a lot of superficial connection as a result of the digital communication. Therefore I expect a countermovement 'unplug', in which people get annoyed by being 'superficially connected', but are looking for 'silence' and 'time on your own'".

One good example of a collaborative project that is centered around a certain societal issue, but goes beyond the Powered by Meaning Collective is 'Our Ocean's Challenge'. Our Oceans Challenge provides an online co-creation platform for entrepreneurs, offshore experts, scientists, and engineers to share and enrich ideas for a clean and healthy ocean. The platform provide the means to realize the best ideas by connecting entrepreneurs and start-ups with corporations financial resource and expertise. The aim is to shorten the time to market of ocean ventures and thereby tackling pressing environmental and social challenges. Interviewee 2 describes that by these type of projects [Q29] "highly valuable collaboration occurs, the first step is to bring the people together and then things happen from themselves". By bringing on the right people with the right skills it is possible to bring the project a step further.

Another specific type of collaboration that is highly valued within the Powered by Meaning Network is with universities. Interviewee 2 says they try to achieve mutual exchange, [Q30] "we for example give guest classes, and the universities also share knowledge or we have interns. We can share practice experience and they share new knowledge, together we can strengthen each other, also we are in a special network with the goal of knowledge exchange about sustainability and innovation". Also interviewee 3 sees the importance of collaboration, especially with the University centers on entrepreneurship. [Q31] "It is still on a more exploratory level, but we would like to build further upon this potential that knowledge exchange may bring. It has both interesting opportunities

for universities in terms of knowledge valorization as well as for us to have good connections both in terms of education and research".

4.4.3 Powered by Meaning Collective and Working in an Ecosystem Setting

a) Powered by Meaning Collective and its business model(s)

Operating in a collective means to think fundamentally different about competition and will have implications on how to organize the individual business of the enterprises participating in the Powered by Meaning Collective. Collaboration is a network is not anymore a 'add-on' or a 'nice to have', but it may become a necessity to survive.

The idea about Powered by Meaning is that all enterprises should be able to function as independent entities and therefore should also be able to make it by themselves. Especially in the starting phase however Powered by Meaning enables the 'young' enterprises and gives them the necessary network and contacts. Interviewee 2 notes in this respect [Q32] "on several levels the network is important, for the clients, for inspiration, for exchange of ideas. It has been essential to get where we are now. Collaboration and the network are in that sense deeply embedded in our business model".

Interviewee 4 says that the operating in a collective is a distinctive unique selling point in their enterprise: [Q33] "because of the collective and the way we organize ourselves you naturally attract people that 'think and act outside the box and dare to challenge the status quo'. The trainees that we deliver bring change to the organization by their attitude and way of thinking, they change the team dynamics where they are located. We purposefully recruit trainees that are able to do this. We do not think in terms of competition, we focus on our own strength. However, being part of a bigger whole is already something unique, this sets us apart from our 'competitors' who also are in the market of trainee recruitment".

According to interviewee 2 the benefits of operating in a collective for his enterprise includes (1) having contact with people with similar views and interests and (2) the collective spreading of the message and vision. Sharing vision with 'the outside world' is more effective with a collective than as an individual entrepreneur therefore the network plays an essential role, which in the end also benefits the own enterprise".

b) Powered by Meaning Collective embedded in the wider ecosystem

Individual enterprises in the Powered by Meaning collective also foster new 'ecosystems' and partnerships that go beyond the Powered by Meaning collective. According to interviewee 1 [Q34] "it definitely goes beyond Powered by Meaning, I don't believe in Powered by Meaning as an isolated entity". According to interviewee 3, all independent projects have their own 'network'. Parties in the networks around the project include universities and other knowledge institutes, start-ups, corporates, (local) government and financial institutions.

Sometimes mini-ecosystems are build up around a specific theme, as for example in the 'Our Ocean's Challenge' (project to improve quality of ocean's). Local government is an important player in many of the projects, there is a lot of attention for public-private partnerships, where the government may either play a more enabling role or they are participating as a full partner in the project. According to interviewee 2, [Q35] "especially the 'Our Ocean's Challenge' project symbolizes the building of a mini-ecosystem, as connections are being made and a community is created to generate change on a specific topic".

Interviewee 3 notes that there are also other networks he is participating in next to Powered by Meaning, for example 'Entrepreneurs' Organization', a worldwide network of entrepreneurs, by entrepreneurs for entrepreneurs, to help each other with scaling and challenges we all have. He mentions that one of the limitations of Powered by Meaning Collective is that it is not so internationally oriented (all enterprises are Dutch) and this is why the Entrepreneurs' Organization plays an important role for the more international contacts.

c) Powered by Meaning Collective Influencing the Ecosystem

The idea of working in a collective is not only to make better use of the ecosystem around the organization, but also to be able to influence the ecosystem. According to interviewee 2 [Q36] "inspiring others is an important part of our work, especially around the concept of social entrepreneurship, both in developing and enhancing new concepts, but also by working from networks and bringing people together".

As a collective you can also influence the ecosystem by showing an example. Interviewee 4 mentions that it [Q37] "helps a lot to give an example to clients, otherwise you only say how they should do it, but it works the best if you do it yourself, this is leading by example".

Interviewee 4 also talks about the power of networks in the long-term: [Q38] "many of the trainees stay in the organization of the client and many go abroad because they get a job or a partner elsewhere, we try to keep in touch with these people, we invite them at least 2 times a year to events, in this way you create a natural network spanning across different organizations and countries, but very much based on personal connections. By creating these type of networks you are in itself also influencing the wider ecosystem in which we are embedded".

Interviewee 5 says [Q39] "they are trying to influence the ecosystem by develop new business models that stretch beyond profit-driven values and societal values". He explains that in the changing world also the traditional strategic consultancy will get a new role, companies are not interested in "long strategic reports", but "they want to do things fast": [Q40] "you could say that with Powered by Meaning we would like to initiate a certain 'craziness', fundamental change in a positive way".

4.4.4 Powered by Meaning Collective and its Vision on Entrepreneurship

a) Impact-driven entrepreneurship

A defining feature of the entrepreneurs in the Powered by Meaning collective is that they are focused on the 'impact' side of business. In the Powered by Meaning vision every organization should consider the impact they can make on society and one important feature is the creation of alliances. Interviewee 2 says [Q41] "our mission is to generate impact-driven enterprises – we see corporates as a starting point to create connections. We create connections outside-in and inside-out. We create connections between entrepreneurs and intrapreneurs from big to small".

Most of the enterprises within the Powered by Meaning Collective define themselves as an *impact-driven enterprises*. They are not the usual type of social enterprises as Powered by Meaning Collective has more an enabling role and are driving a movement: "the goal is more to 'enable', [Q42] "we are enabling others to realize impact-driven business models" (interviewee 1).

Achieving the goal of 'making every organization a social enterprise' is a long process. Interestingly there is also a lot of attention to spill-over effects of their activities which can set in motion the movement: [Q43] "most important achievement for our mission are embedded in outcomes of programs, business

plans, ideas to develop further the business plans, but also spill-overs, networks that come into being, enthusiasm of people, mindset shifts, enhancing awareness, seeing the business side of sustainability, also the soft side, stakeholders, and inspiration".

Interviewee 1 describes the ideal type of entrepreneurship as delivering "value for all", value for all stakeholders including shareholders and societal stakeholders. He defines social enterprises as [Q44] "organizations that achieve social impact in an entrepreneurial way and aim to achieve 100% relevance for all their stakeholders, by which I mean clients, business partners, employees, environment, society, and as a result also for shareholders/investors. I believe if you are relevant for the first five groups of stakeholders I mentions, you automatically create financial value; this is not a goal in itself".

Interviewee 1 does recognize in practice there may sometimes occur tensions between the stakeholder groups, but he argues that in any business there are tensions and you need to make decisions, you need always to make considerations, strategy is about the choices you make on everyday basis. Companies that start with a social goal need to be financially healthy, otherwise they will cease to exist, this is not per se 'commercial', but rather 'financially sustainable', [Q45] "we always want to match a healthy earning model to a social goal or challenge, otherwise this goal or challenge will become dependent from subsidies that may stop anytime, which is very insecure".

b) Entrepreneurship as a driver for change

In the Powered by Meaning Collective there is a strong shared belief that entrepreneurship is a driver for change. Social entrepreneurship is approached as an inclusive concept. Interviewee 2 notes that [Q46] "in the collective it is stimulated to think 'big', not only about social entrepreneurship in start-ups, but also bigger corporations that move towards a more sustainable strategy".

Interviewee 3 is with his enterprise more focused on creating new start-ups by connecting them to bigger corporates. He believes entrepreneurs and start-ups are also very interesting for corporates, [Q47] "big corporates have the need to reinvent themselves, to innovate. Today it is a trend in the market that you innovate together with start-ups and we take this opportunity in the market to exploit our platform".

Interviewee 1 believes in entrepreneurship as driver for change because [Q48] "an entrepreneur always needs to be resilient and to be adaptive to the situation at hand, while in policy making, when within two weeks it is clear things are not working, we still need to wait for four years and an effect report to see if it has contributed, therefore politics and bureaucracy are too slow to adapt to real-life changes". Entrepreneurship is a powerful force, because it is in a way a bottom-up movement, people create something out of nothing. For long-lasting change, interviewee 1 says he believes in a combination of top-down and bottom-up processes, [Q49] "it is about finding the right mixture between giving direction and giving freedom".

c) Approach to 'social' entrepreneurship

In academic literature there are a lot of definitions on social entrepreneurship available and also in the practice of social entrepreneurship not everyone always means the same. In the Powered by Meaning Collective there is a lot of emphasis on the 'entrepreneurial character' of social entrepreneurship, e.g., including the seeing and reacting to opportunities, taking risks, and a strong commercial profit-oriented side.

Interviewee 3 notes that [Q50] "there is a lot of talk about social entrepreneurship, but I don't find it so interesting. In my view 'entrepreneurship' and 'social' are the same things. Everyone that comes here has a certain desire, because we are young, because we are a new generation, to do something good, this is natural". He also adds that there are just so many opportunities in the social realm: [Q51] "it is all about new creation, entrepreneurs need to fill the gaps in society, also how we deal with our fellow human beings, our natural resources and our earth. There are tons of opportunities and entrepreneurs take these opportunities. This is what entrepreneurship is all about, therefore I would not distinguish with 'social entrepreneurship'".

According to interviewee 4, social entrepreneurship is about making "the right choices": [Q52] "in my opinion, social entrepreneurship is also about honesty towards your clients, working from an intrinsic value to deliver the best you can for the client instead of only thinking from your own profit perspective. Still it is not always easy, imagine a big organization in fossil energy comes to us; this can be a difficult dilemma, you could also think we can help them to become more 'social' instead of excluding them, the answers are not straightforward".

According to interviewee 1, it can be quite hard for non-profits to transform to (social) enterprises, because they have long been used to subsidies or donations, while as an entrepreneur you need to make a business case, often people are not able to make the mindshift. At the same time, their legitimacy to exist will reduce without earning models, I think in some time, non-profits will cease to exist, I rather believe in common investment funds for emergency situations, I see a transition to a whole new society, simply because the way we have organized it now, it not financially viable in the long-term"

Interviewee 2 notes that he thinks that [Q53] "the whole discussion on social entrepreneurship that exclude a whole lot of organizations can be dangerous and very normative, not inclusive, while I am very much in favour of inclusive thinking, I also find it not pragmatic to exclude the large organizations, as they have big potential to make impact". Also interviewee 1 notes that he doesn't believe in social entrepreneurship as a new fourth sector, [Q54] "the legal entity does not say anything about whether you are social entrepreneurial or not, also government, small start-ups and large-corporates can all behave in entrepreneurial ways".

4.5 Contributions to Theory Development

From the analysis of the interviews several patterns have been identified. These may be translated in theoretical propositions that offer the steppingstone towards the development of new theory for the role of business model innovation in systemic change and which may be used for further testing and research in follow-up research.

Proposition 1: Entrepreneurs are key business model innovators. Business model innovation for sustainability is a radical form of innovation, because it challenges models that have previously been successful. It means breaking with 'business as usual', by taking another approach to what 'creating value' means and its definition of success.

Proposition 2: Business models for sustainability are shifting towards more collaborative and networking models compared to traditional business models.

Mission-driven entrepreneurs operate in networks and ecosystems to create 'shared value', ideally the profit as well as sustainable/social missions of an enterprise are mutually reinforcing each other.

Proposition 3: Entrepreneurial networks can be utilized for several purposes, such as sharing resources, sharing information, even sharing customers (where each of the enterprises can focus on its core business and refer customers for other 'problems' to its 'sister' enterprises).

Proposition 4: Working in entrepreneurial networks within ecosystems has potential to have an effect of 'leverage', meaning generating outputs that are disproportionate to the level of input and have the potential to both benefit the individual entrepreneur as well as the common good.

Proposition 5: Entrepreneurial networks are part of bigger entrepreneurial ecosystems with a wider range of actors; collaboration takes place at various levels (note: in this chapter of the dissertation the analysis has been on the 'network level', the next chapter will go towards the 'ecosystem' level).

4.6 Discussion

This chapter explores how mission-driven entrepreneurs in an ecosystem setting create value. We first theoretically conceptualized the construct of entrepreneurial business model innovation in an ecosystem. Subsequentially, we tested some of the assumptions with a qualitative case study.

The findings indicate that enterprises within the Powered by Meaning Collective have both, distinct goals and networks as well as collaborative goals and networks. Across all enterprises there is a strong belief in entrepreneurship as a driver for change. In all individual enterprises, business models are set up in such a way that they stimulate more entrepreneurship and collaboration both for themselves, but also for their stakeholders. To give a few examples, the biggest and oldest enterprise transformed from a traditional consultancy organization to strategic consulting with a focus on triple bottom line thinking. Another enterprise has built an enabling entrepreneurial platform, where they are matching

corporations with young entrepreneurs for projects. A third focuses on enhancing corporate social entrepreneurship, by developing corporate entrepreneurship programs for corporations.

Each of the enterprises have their own goals and slightly different approaches to reach their goals, also the target groups for desired impact are different per enterprise (e.g., some focus more on big corporations while others more on entrepreneurial individuals). At the same time, the enterprises collaborate in such a way that they complement each other and strengthen each other's business. They regularly refer clients to one of their peer-enterprises, if they think that is the better match. Sometimes there are also tensions between competition and collaboration, but they are mostly solved quickly, as the enterprises do not see each other firstly as competitors. Suggestions for improvement that occurred during the interviews are to improve collaboration further through use of technology facilitation and to focus more on international collaboration and networks, at the current moment it is still mostly focused on the Netherlands.

Interesting about this particular case study is that they employ the 'practice what you preach' philosophy. They wish to inspire others in the ecosystem and therewith generate long-lasting social impact. For this they enable others to do the same what they try to do and also multiply themselves by starting off other platforms or projects where they connect people to each other. Also, they deliberately try to create an entrepreneurial spill-over effect as to make long-lasting impact with new entrepreneurial business models.

The interviewed entrepreneurs see value in the network for several goals, both to present them as a collective to the outside world as well as exchange information and resources internally. It is also recognized that they are not using the network yet to its fullest potential. The enterprises are 'loosely coupled', the common manifest is an important part of the shared vison and goals, but there is not yet a big strategic plan for the collective as a whole, at this moment it is more a network that has organically grown into a formalized collective in which many of the enterprises are spin-offs of the biggest enterprise. In terms of diversity it is not a fully developed 'ecosystem', as it lacks the diversity of actors and more of a collective of like-minded enterprises that together may utilize the wider ecosystem in which they operate in a more effective and efficient manner.

Key to understanding entrepreneurial ecosystems is the concept of *leverage*, which means that mechanisms exist to generate an output that

is disproportional to the size of the input (e.g., Borgh et al., 2012). The most important types of leverage include innovation, production, and transaction. Entrepreneurial ecosystems for impact have a high focus on innovation and transactions, entrepreneurial ecosystems allocate resources through creation of innovative new enterprises. Thus, entrepreneurial ecosystems tend to create new organizations, whereas traditional business ecosystems tend to focus on maximizing the potential of what is in place. Innovation bottom-up self-organizing is key to the entrepreneurial ecosystem concept.

In sum, the Powered by Meaning collective provides an interesting and relevant illustration of a new way of value creation in an ecosystem setting, both benefiting the individual entrepreneurs and potentially an interesting ally to explore in research and in entrepreneurial practice as a gateway to more systemic sustainable change.

Limitations and recommendations for future research

It should be acknowledged that this study is based on one case study of an entrepreneurial network, while the theoretical scope is broad. The aim was to offer offer insights into how we may approach the role of entrepreneurial business model innovation for sustainability transitions. In line with an inductive theory approach this implies not narrowing research foci up front, but to inductively analyse data. Inductive reasoning, by its very nature, is more open-ended and exploratory, especially for a first analysis of a new and complex phenomenon. Our case study analysis offers an in-depth perspective an alternative way of collaboration in an entrepreneurial setting. We recommend the further studying of such alternative ways of organizing in different case study settings offering opportunities to identify commonalities and differences. Even though it is important to explore and identify underlying organizational principles, it should also be recognized that different (case study) contexts need different (case study) context specific approaches and therefore the mere 'copying' of a certain approach to another context may be insufficient. Nonetheles, studying different case studies has potential to increase both scientific as well as practical insights into how new business models may contribute to sustainable systems change.

5

ECOSYSTEMS AS BUILDING BLOCKS IN AN ENTREPRENEURIAL ECONOMY

5.1 Introduction[5]

The study to entrepreneurial ecosystems is important in the context of sustainability transitions, as systems changes materialize in systems. Ecosystems are an important starting point to implement systemic solutions. The question is whether such systems can be designed in the first place. The main research question of this chapter therefore is: How may ecosystems be designed that have as explicit aim to contribute to systemic sustainability transitions? This introduction presents the context for this research question reviewing first observed changes in economic systems. An extensive historical review of economic systems is outside the scope of this chapter and introduction. However, a brief review of systems changes helps to understand the positioning of the research question at hand. Subsequently this introduction explains the potential importance of entrepreneurs in ecosystems as building blocks in an entrepreneurial economy.

The context of the research question addressed in this chapter concerns the shift from the managed to the entrepreneurial economy. That is, in the last decades, many economies in Western Europe and elsewhere have already undergone a fundamental shift from so-called *managed economy* towards an *entrepreneurial economy* (e.g., Baumol, 2002; Wennekers, Van Stel, Thurik and Reynolds, 2005; Baumol, Litan & Schramm, 2007; Audretsch, 2007; Audretsch & Thurik, 2004; Audretsch & Thurik, 2010). This change of systems is ongoing enhanced by the continuing technological advancement and as an additional factor the strong need for innovation in regards to sustainability challenges. This ongoing change in systems offers the context for the research in this chapter.

The model of the managed economy revolves around stability, specialization, homogeneity, scale, certainty and predictability on the one hand and economic growth on the other hand. The model of the entrepreneurial economy, in contrast, revolves around flexibility, turbulence, diversity, novelty, innovation, networks on the one hand and economic growth on the other hand. In the model of the managed economy, production results from the inputs of labor and capital (Solow, 1956), whereas in the model of entrepreneurial economy, knowledge is the most important input factor. The comparative advantage of the entrepreneurial economy is built on innovative activities for which knowledge spillovers are of important, among others. While the model of the managed economy focuses on *continuity* (Chandler, 1990), the model of the entrepreneurial economy thrives on *change* (Audretsch & Thurik, 2004).

[5] An earlier version of this chapter has been presented at the 2016 Annual Colloquium of the Academy of Business in Society (Brussels, Belgium).

The managed economy flourished for the most of the 20th century and has brought welfare and prosperity. Large firms dominated this economy often characterized as *"[...] hierarchical and bureaucratic organizations that where in the business of making long runs of standardized products. They introduced new and improved varieties with predictable regularity; they provided workers with life-time employment; and enjoyed fairly good relations with the giant trade unions"* (The Economist, December 22nd, 2001, p.76). Small firms and entrepreneurship were viewed as luxury, obtained at the cost of efficiency. Stability, continuity and homogeneity were the cornerstones of the managed economy (Audretsch & Thurik, 2001). Audretsch & Thurik (2010) identify various factors that explain the shift from the managed to the entrepreneurial economy. One first important catalyst for the shift from the managed to the entrepreneurial economy is technological change, and in particular ICT. ICT has shifted the competitive advantage away from larger scale organization to smaller scale organizations (Brock & Evans, 1989; Nooteboom; 1999; Nooteboom, 2000). However, it is not technological change only, there are a few supporting factors that Audretsch & Thurik (2010) identified. A second factor involves the process of globalization (which also has been facilitated by ICT). Also broader political factors have played a role, such as the major events of the fall of the Berlin Wall in 1989 and the demise of the Soviet Union, which was an example of a highly planned and managed economy. Changes in the external organization affect the type of organization that is successful. Lawrence and Lorsch (1967) show in an early contribution to the field of organization studies that the more homogeneous and stable the environment, the more formalized and hierarchical the organization.

Increased globalization has shifted the comparative advantages from costs towards knowledge-based economic activities, explaining the shift towards an entrepreneurial economy. Entrepreneurship does not operate in a vacuum but takes place in a certain societal context, and is shaped by a number of forces and factors (Audretsch & Thurik, 2001). In a similar vein, Thorton and Flynne (2013) argue that entrepreneurial environments are characterized by thriving supportive networks that provide the institutional fabric linking individual entrepreneurs to organized sources of learning and resources. Saxenian (1990) emphasizes the communication between individuals because this facilitates the transmission of knowledge across agents, firms and industries, and not just high endowments of human capital and knowledge per se in the region. Audretsch & Thurik (2004)

offer an insightful comparison between an entrepreneurial and a managed economy (see Table 5.1). One could say that the entrepreneurial society refers to contexts where knowledge-based entrepreneurship has emerged as a driving force for economic growth, employment creation and competitiveness in global markets (Audretsch & Thurik, 2010). It is the pervasive socio-economic mindset of thinking in terms of knowledge rather than resources as a source of competitive advantage (Audretsch & Thurik, 2004). It is based upon ideas and knowledge rather than investments in something which creates more of the same. It is based upon persons rather than on organizations.

Table 5.1 The entrepreneurial versus the managed economy
Source: Audretsch & Thurik (2004)

Category	Entrepreneurial economy	Managed economy
Underlying forces	Localization Change Jobs and high wages	Globalization Continuity Jobs or high wages
How firms function	Turbulence Diversity Heterogeneity	Stability Specialization Homogeneity
How firms function	Motivation Market exchange Competition and cooperation Flexibility	Control Firm transaction Competition or cooperation Scale
Government policy	Enabling Input targeting Local locus Entrepreneurial	Constraining Output targeting National locus Incumbent

Table 5.1 reports that the economic systems differ fundamentally in terms of underlying forces, the external environment and the roles of firms and of government policy. In so doing, Audretsch & Thurik (2004) indicate the substantial changes and forces that are needed to shift from one economic system to another economic system. This brings us to the aim of the research that is presented in this chapter. This chapter analyzes the role of entrepreneurs in ecosystems as crucial elements in establishing new, entrepreneurial economic systems.

This chapter studies the role of entrepreneurs in ecosystems as building blocks in an entrepreneurial economy. An entrepreneurial society among others is based on individuals advocating individual values that promote innovative

venturing as desirable career options. The question arises: how to create such an entrepreneurial society? Entrepreneurship does not evolve in a vacuum. Therefore it is important for policy makers and others who have an interest in establishing entrepreneurial economies to perceive the environment from an holistic perspective and to take a so-called *ecosystem* approach. The ecosystem approach highlights complex interlinkages among a variety of participants in an entrepreneurial society (e.g., entrepreneurs, educators, corporations, media, and government). An ecosystem approach suggests that a system is not fixed and given but evolutionary and changing; growing and evolving according to new needs and new circumstances. One therefore could say that ecosystems are important building blocks for an economy based on innovation and entrepreneurial opportunities.

In the process of moving towards a more 'sustainable economy', i.e., an economy that serves both humanity and planet in the longer term, we argue that it is needed to rethink contemporaneous systems and move towards an 'entrepreneurial economy'. Change happens through innovation. At the heart of rethinking the current system we could position the 'mission-driven enterprise', that is innovative almost by default. As has been indicated in the previous chapters, innovation is a *collective, cumulative* and *uncertain* process. It is *collective*, because it takes the application of skills and efforts of large number of people in different roles across organizations and institutes. It is *cumulative*, because the process of innovation builds upon what exists already and must occur over an extended period of time by a diverse group of actors. And it is *uncertain*, because a firm that seeks to be innovative may not be instantaneously able to bring new types of products, processes and technologies to the market that is either of higher quality or at lower costs than their competitors. Hence, the return on investment of innovation is not always linear and cannot be guaranteed. As a consequence, the innovative activities may first burden the company with high fixed costs and expose the firm to the possibility of substantial losses in the short term (Lazonick, 2014). This may result in a premature end of innovations.

Mission-driven entrepreneurs therefore need to find specific 'routes', i.e., structures and environments that enable them to make their mission-driven enterprise a success. What distinguishes mission-driven from mainstream entrepreneurs is that they actively want to contribute to a more sustainable

economy, which represents a different way of thinking and moving forward. In this 'business paradigm', finding a buy-in for a new story and finding relevant partners has greater management attention than simply outperforming competitors. Mission-driven entrepreneurship concerns finding partners that work jointly towards the same vision. This approach requires a rethinking of business and stakeholder relationships. It can be argued that in the route towards a more sustainable economy based on circular principles, various relationships change. Systems change essentially is about the change of relationships between the players in the system. Systems change is also about changing the interests of the players in the system. In systems change towards sustainability a shift from (all) players following their individual interests by means of competition towards a model with collaborating players towards an overarching common vision is central stage.

In sum, in systems changes from managed systems to sustainable entrepreneurial systems, thinking in terms of 'competitive advantage' gets replaced by thinking in terms of 'collaborative advantage', with the central question being how to organize collaboration such that common goals can be achieved. Fundamental uncertainty gets replaced by a common vision that is guiding and informing when important decisions need to be made. It comes with a realization that firms are not only passive players in a complex world but active actors that may help shape new systems. This chapter builds further on the theory on the shift from managed towards entrepreneurial economy, as introduced by Audretsch and Thurik, as described in the first section of this chapter. There are two new lines of thinking introduced, namely that (1) entrepreneurial ecosystems are at the heart of the entrepreneurial economy, and (2) that sustainability is a very important driver for the next change of system and that a more sustainable economy requires also an economy that is more entrepreneurial.

The outline of this chapter is as follows. Section two will discuss the design and development of new ecosystems and how this can be applied specifically to innovation for sustainability. Section three justifies and elaborates upon the case study research methods of this chapter. Section four presents the case study results from the Social Impact Factory. The Social Impact Factory was founded in order to change existing economic systems and as such offers a best practice example for the role of entrepreneurs in systems change processes.

Section five presents the propositions that derive from the case study results and that serve as a stepping stone towards the development of new theory concerning entrepreneurial business model innovation for systems change. Section six discusses the results of this chapter, including the limitations and recommendations for future research.

5.2 Conceptual and Theoretical Foundations

Entrepreneurial ecosystems are at the heart of entrepreneurial economies and may be regarded as the level intermediating between the individual entrepreneurs and the economy as a whole. But what is exactly the function of these ecosystems and can they also be designed and developed in such a way that they are contributing to sustainable systems change? The debate concerning the question whether and how ecosystems can be purposely designed and implemented continues. In contrast to 'natural ecosystems', 'business ecosystems' contain "intelligent" actors (human beings). This means that these human beings are able to purposefully look at the system and change its parameters, or the 'principles' upon which these ecosystems are build.

A business ecosystem is a concept that has been introduced by Moore (1993), who describes it as an organization group crossing many industries working cooperatively and competitively in production, customer service and innovation. Peltoniemi, Vuori, & Laihonen (2005) define ecosystems as "a dynamic structure which consists of an interconnected population of organizations. A business ecosystem develops through self-organization, emergence and co-evolution, which help it to acquire adaptability. In a business ecosystem there is both competition and cooperation present simultaneously". A business ecosystem is located in a certain environment that consists of many different aspects, including political, cultural, social and legal dimensions (Peltoniemi et al., 2005). An ecosystem represents the co-evolutionary meso-level of an economy. This means that first, the entrepreneur has impact on the ecosystem, but that the ecosystem has also an impact on the entrepreneur. Second, the larger environment (i.e., a society) has an impact on the business ecosystem, but the business ecosystem has also an impact on the environment.

Especially in the context of an entrepreneurial economy we argue that the concept of business ecosystems is gaining importance. One of the features of

this economy is the large number of high technology firms and high technology workers (see, for example, Liedtka, 2002, p.3). There is a change in capabilities that an organization must possess (and therewith also in capabilities of individuals that work in these organizations) in order to survive in this new economy, including the ability to cope with the important role of technology and its catalyzing effect. The concept of a business ecosystem has been developed based on insights that derive from complexity thinking and evolutionary economics, drawing an analogy between ecological ecosystems and populations of organizations. Certain phenomena that are observed in nature, such as competition, cooperation and evolution, can also be found in socio-economic systems. Already in the 1990s, Rothschild (1990) introduced the analogy of "an economy as an ecosystem", with speed as the main difference between ecological and economic systems meaning that economic change potentially goes faster than biological change.

Where Rothschild (1990) refers to the analogy with the capitalist economy, more recently Scharmer and Kaufer (2013) talk about 'ecosystem economies' in which he emphasizes the shifting locus of leadership: "What do you do when you are part of a system whose vital components operate in separate silos? Answer: You connect them. You shift the locus of leadership from the center to the periphery – that is, from one place to many places. You connect these places in ways that facilitate sense-making in more distributed, direct, and dialogic ways" (Scharmer & Kaufer, 2013, p.191). They further speak about new structures, in which the source of power moves from the top of an organization to lower levels and originates beyond traditional boundaries of an organization, with a flattening of structures and networked types of organizations as a result. The ideal end-result is "a distributed, direct dialogic system that operates by connecting to and empowering its citizens to co-shape the whole" (Scharmer & Kaufer, 2013, p.197). They also connect this to a new way of government and democracy, which is "participatory direct, distributed, digital, and dialogic" (Scharmer & Kaufer, 2013, p.197). Thus, according to Scharmer and Kaufer, the "ecosystem economy" represents a shift from a managed to a new entrepreneurial economy based on networking structures.

The question arises how these kinds of new ecosystem structures can be designed and implemented. A relevant line of thinking derives from Simons (2015). Simons (2015) analyzed how the "food game" can be changed with market transformation strategies. One could argue that 'food' is one of the most urgent

sustainability issues of our time, because it encompasses ecological, cultural and social dimensions. It is a challenging sustainability theme, comparable to a theme such as climate change. According to Simons (2015) "our global food producing systems, are probably the most important, most critical and most unsustainable systems we have" (2015: p.5). The way we produce and trade our food has become an example of failing systems, with unprecedented implications for more than a billion people, for many economies, and for our planet. Producing enough food for the growing world population is an important challenge. Simons argues that *system failure* often takes place because of three principles: (1) the system consists of self-serving actors who seek to optimize their own short-term gains; (2) this self-serving behavior negatively affects others or has an adverse impact later in time; and (3) there is no overarching effective authority or enforcement mechanism between the actors to ensure the common or public good. The result is an accelerating race to the bottom, leading eventually to the collapse of the whole system. Since everyone is participating, individual actors feel they have no choice but to participate, and no-one feels responsible for the end result.

The paradox is that when systems fail, the conditions that are necessary to change are often not present. Therefore, Simons maintains that systems change is all about creating the best conditions, so that the rules of the game can change. It is not possible to do this individually because individual short-term interests need to be overcome and collaboration needs to take place. Creating these 'best conditions' is, in other words, about finding the best 'organizational principles' that underlie the functioning of the system.

Kahane (2007) in this respect argues that an approach is needed in which the actors who are part of the problem (i.e., the ones who create and benefit from them) work together creatively to understand the situation they are all caught in, and then collaboratively improve it. In other words, we need to agree how the game should be played and change the rules and incentives in the system to reward appropriate behavior and to punish deviating behavior (note that often it is precisely the other way around). The basis of systems change is to align the interests of individuals with the interests of the common good.

This chapter analyzes elements of systems change following the framework and guidelines from Simons (2015) who proposes distinctive steps and organizing principles that are key in the design of systems change. The distinctive steps in this process include the following:

First, an issue of importance to tackle needs to be defined. This can be done by a central organizing party or by a group of founders that function as 'ecosystem builders' and create a neutral environment/hub/hotspot.

Second, relevant individuals ('influencers') and organizations that participate in the theme at hand need to be invited. The actors ideally have a stake in the issue and diversity is preferred.

Third, the problem or issue at hand need to be jointly analyzed taking a systemic approach. This entails discussing solutions at appropriate 'symptom levels' such that an in-depth understanding of the problem and its root causes is obtained.

Fourth, based on the joint problem analysis, an overarching vision of the problem and a shared solution needs to be defined.

Fifth, based on the shared vision, an implementation action plan towards this common vision needs to be designed; involving the division of tasks, roles and responsibilities, among others.

Sixth, to safeguard future-proof solutions and continuity, it is important to create an environment in which the actors are rewarded for playing the new role and for contributing to the overarching vision, rather than aiming for individual, short-term benefits.

Following Simons (2015), these six steps of systems change can be translated into five main organizing principles that define successful ecosystems. First, a successful ecosystem is characterized by a higher, overarching purpose or mission that goes beyond the immediate self-interests of the actors. Second, the individual actors that are part of the ecosystem are connected and have active relationships based on mutual trust. Third, the participating actors are different; they are from different sectors and ideally all stakeholders relevant for a certain theme are participating (including competitors). Fourth, during the brainstorm phase everyone needs to equally participate unrelated to roles or functions. During the action plan phase, the actors have clearly defined roles and responsibilities such that free-riding behavior is avoided. Fifth, the ecosystem provides incentives for appropriate behavior for all actors, individually and jointly. It stimulates behavior that is in line with the shared vision and the newly defined roles and responsibilities. In so doing, new added value is provided for all its stakeholders that are doing 'the right thing'. In addition to this, and crossing all steps as described above, Roobeek (2005, 2018) emphasizes the role of what she calls 'webbers' for the design and

building of ecosystems. The webbers have strategic insights, have influence and have mandate to take decisions. They can also take the role of process facilitators. Roobeek refers to webbers as "the movers and shakers in networks in ecosystems who take care that change will be realized". These webbers play a crucial role throughout the different steps as described – at the stage of vision creation as well as finding the diverse participants as keeping the process going and coming to concrete results.

5.3 Methods

As the aim of this chapter is to analyze the process of ecosystem design, we are applying the theoretical framework presented and justified in the previous sections to study a real-world case, enabling the identification of which of the steps of the theoretical framework are being taken and which of the organizational principles are being applied.

This study aims to collect and analyze empirical evidence of stakeholders involved in systems change. The evidence derives from the thoughts, opinions, and experiences of the stakeholders and written data sources of the subject of analysis. In accordance to the research objective, a case study is proposed to be suitable "to understand the nature and complexity of the processes taking place" (Benbasat, Goldstein & Mead, 1987, p.370). One of the most frequently cited and well- accepted definition is provided by Yin (1994, p.18), who defines a case study as "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident". A case study explores predefined phenomena, but does not involve explicit control or manipulation of variables. The focus is on gaining an in-depth understanding of a phenomenon and of its context. According to Eisenhardt (1989), case study research is independent from prior literature or past empirical observation when she concludes that "case study research is particularly well-suited to new research areas or research areas for which existing theory seems inadequate. This type of work is highly complementary to incremental theory building from normal science research" (Eisenhardt, p.548-549).

In order to ensure reliability in case study research, a case study protocol needs to be designed and followed. The case study protocol serves to guide the

researcher to collect and report case study data in a systematic way. According to Yin (2009), such a case study protocol includes (1) the purpose of the study, (2) study selection, (3) data collection, and, eventually, (4) case study analysis. This study aligns with this research method.

First, the purpose of the case study in this chapter is to gain an understanding on how the meso-level (that is, the ecosystem) functions in relation to and facilitates the relationship between the micro-level change (that is, the entrepreneurs) and the macro-level change (sustainable systems change). Specifically we look at the processes that take place at the level of the ecosystem. We take an inductive approach based on a systems thinking paradigm. This means that we identify and analyse relationships and processes holistically rather than in isolation. The ecosystem may form an enabling organizational infrastructure for systems change that the entrepreneurs aim for. For this, we studied the processes that occur in a situation of active efforts of 'ecosystem design'. A process may be defined as the ongoing action/interaction/emotion taken in response to situations, or problems, often with the purpose of reaching a goal or handling a problem. Processes are often described in a linear sense, such as in phases or in stages. Processes, however, can also be chaotic with complex feedback mechanisms.

Second, for the selection of the case, we used an information-oriented selection strategy, which seeks to maximize the utility of information, drawing on a small number of relevant cases. The case study of this chapter was selected on the basis of expectations about their information content (Flyvbjerg, 2006). The case study presented and analyzed in this chapter is one of the most important efforts in the Netherlands of ecosystem design by a private-public partnership.

Third, to obtain insights into the processes and dynamics of designing ecosystems that contribute to sustainable systems change, an inductive research approach is followed. As a way to scrutinize stakeholders' thoughts, experiences and opinions semi-structured interviews were carried out. A total of six in-depth interviews were carried out, that took on average 1.5 hours. The interview data were combined and complemented with various data sources including published interviews, company documents and blogs. This gives opportunities to apply data triangulation, which is one of the proposed research methods to safeguard the internal validity of case study data (Yin, 1994).

Fourth, as a way to scrutinize stakeholders' thoughts, experiences and opinions semi-structured interviews were carried out. A total of six in-depth interviews were carried out, that took on average one and a half hours. Each of the interviews was recorded, transcribed and subsequently coded with an open coding scheme based on Corbin & Strauss (2008). The coding occurred in three steps, namely (1) the abstracting of new concepts, (2) the analysis and definition of new categories of codes, and (3) a micro-analysis of the transcripts based on the coding. The process of coding was carried out in Excel. Concerned with internal validity, the interview data were combined and complemented with various data sources, such as blogs, articles and internal documentation.

5.4 Case Study Results and Analysis

5.4.1 Case Study Description

The Social Impact Factory, a non-profit organization, was founded by Kirkman Company and the Municipality of Utrecht to bring social, sustainable initiatives and societal challenges together in one platform. The objective of the Social Impact Factory is to inspire and to connect organizations and to create an empowering environment for social enterprises. In order to do so, the Social Impact Factor has established three focus areas: the Social Impact Market, the Impact Challenges, and the Change-Making.

The Social Impact Market is a platform that connects supply and demand in social products or services. The platform function of the Social Impact Factory is important to enable social entrepreneurship. This is also reflected in the Impact Challenges. The challenges are very diverse, ranging from the need for more sustainability in housing to customised transportation for certain groups in society. The Social Impact Factory connects initiatives with entrepreneurs in the Utrecht region. Entrepreneurs submit questions and initiatives, which are meant to challenge others to come up with creative solutions and business plans.

The idea of Social Impact Factory came into existence during the Social Enterprise Day 2014 in Utrecht. The participants in this event wanted to achieve social impact with their project or enterprise. Their motivation was primarily to find solutions for actual problems in society. During this event, according to the founders of Social Impact Factory, the added value of bringing this heterogeneous group of participants together became clear and the participants were looking for

a more permanent form for collaboration. As a result, the non-profit foundation 'Social Impact Factory' was founded. The Social Impact Factor is a platform where different actors can meet and collaborate around social issues. Unique about this collaboration is that the two founding partners of this platform consist of a public party (that is, the municipality of Utrecht) and a private party (that is, the Kirkman Company). As Han Hendriks, co-founder of the Kirkman Company, Powered by Meaning, and Social Impact Factory Utrecht concludes "With the Social Impact Factory foundation we took the initiative for a new way to approaching social impact. We have developed several products that later have also been copied by other municipalities".

The Social Impact Factory is a relevant case study for our research because it offers new perspectives of how public and private partners may work together on societal issues. What is unique about Social Impact Factory is that it is not a network with the same type of actors (e.g., only entrepreneurs), but a mix of different actors, such as private consulting company, a municipality, social entrepreneurs, banks, and lawyers. The collaboration is initiated beyond traditional boundaries of public and private enterprises.

The Social Impact Factory is relevant because it is a combination of mission-driven entrepreneurs. As has been concluded elsewhere in this thesis, mission-driven entrepreneurs have business models that aim to combing 'doing well', with 'doing good'. On ecosystem level, the assets of the various companies/ actors may be strengthened by collaboration. It therewith propagates a model that is shifting from competition only to competition and collaboration. We argued earlier that all enterprises function as separate units in the overall system and both, may distinguish themselves as well as form a dynamic network. The idea is to shape the system in such a way that it by 'default' moves towards the appropriate direction. Thinking in ecosystems is therefore important in a systems change paradigm. The Social Impact Factory meets these conditions.

5.4.2 Interview and Document Coding Results and Analysis

The results of the case study are presented in three different sections, which each represent key insights that derived from the case study: (1) ecosystem organizing, (2) collaboration and (3) multi-level impact / systems change. These results are based on the coding of both, the interviews as well as blogs and articles.

HIGH-LEVEL CATEGORY I: ECOSYSTEM ORGANIZING

The first high-level category that derives from the case study is 'ecosystem organizing' with sub-categories a)'network with a goal', b) 'learning experiment', c) 'enjoyment of collaboration and creation', d) 'frontrunners', e) 'bringing parties together/bridging mindsets', f) 'ecosystem designer/builder', and g) 'compelling vision'.

Figure 5.1 Social Impact Factory: Ecosystem organizing

Figure 5.1 presents the interview coding results around the first feature of the Social Impact Factory, that is, ecosystem organizing.

a) Network with a purpose

The case study revealed that ecosystems may be seen as a special type of network, but with systemic characteristics. A key characteristic of a system is that the parts are interdependent and that the "sum is more than its parts". This means that all participating actors have a specific dedicated role in the network. Characteristic of a system is that it moves towards a certain outcome. Relevant in the ecosystem organizing in the context of 'innovation for sustainability' is that it needs to be 'action-oriented', in other words, the network creation part is not an end, but a means towards a goal. This is for example reflected in the remarks of interviewee 1 [Q1] "Kirkman Company as one of the organizers always focuses on creating real action, in starting up new projects out of the network. So we say 'yes, it's a network, but an active network'. So the goal of the network is creating new projects and not just creating a network for the sake of it".

In addition, in the news article "Flywheel gets speed", written by Hans Hajée, and published in Utrecht Business (2015), Wouter van Twillert, Social Impact Connector is quoted [Q2]: "The network of the Social Impact Factory is powerful and diverse, with a mix of expertise and backgrounds. That's why we like to be challenged by Challenges, social or sustainable issues where our combined efforts are of value. Such a Challenge leads within a fixed period of twelve weeks to a pilot, prototype or plan of approach, depending on the subject. So far, the municipality of Utrecht has introduced three Challenges: around making housing construction more sustainable, more efficient use of customised transport and offering a perspective in the case of poverty". This example show how to make efforts concrete around a real-life issue, that is in this case mostly defined and brought in by the municipality.

b) Learning experiment

The case study revealed the importance of learning and experimenting throughout the process. One characteristic of systems is also that they are 'emergent'. An emergent property of a system is one that is not a property of any component of that system, but is still a feature of the system as a whole. These emergent

properties are due to the interactions with the different elements in the system. For this reason, in the organization of ecosystems for change, you can try to create the right conditions and bring together the right actors, but you cannot foresee or micro-manage all parts of it, also simply because a system's complexity is too high to manage all parts. This was also reflected in the case study. Interviewee 2 speaks in this regard about how he was influenced by his past experience in starting another initiative ("We Beat the Mountain") and how he used this experience later for Social Impact Factory [Q3]: "Back when we started 'We Beat the Mountain', this was more like a learning experiment, thinking and talking a lot about social entrepreneurship, we just decided to build one and see what happens. We picked a societal theme, waste recycling – and see if we could build a social organization around that. Also with Social Impact Factory we were not sure in the beginning about all details. We were successful with our 'Social Enterprise Days', a joint initiative of the Municipality of Utrecht and Kirkman Company', and we saw more potential here, and hence Social Impact Factory was born". So while certainly a lot of organizing and planning can be done, it should never become too rigid, as this would stand in the way of the exact innovation we are looking for. Constant learning and adaptation are hence key.

c) Enjoyment of collaboration and creation

From the case study it appeared that inspiring and being inspired are important drivers in the building of ecosystems. Key words that have come forward in all interviews are "enjoyment", "pleasure", "fun" and "enthusiasm". People need to be inspired and feel they belong to something that they intrinsically want to contribute to. If people do not feel inspired or at ease, they will not be open and not think in terms of opportunities. Especially in the light of big sustainability challenges, it is easy to be overwhelmed or to think that we cannot make a difference. Interviewee 2 mentions that [Q4] "if you adapt an inclusive model, where you try to work with other people, and stimulate other people, that's a founding assumption, you need to be able to build something which really makes a difference. We just enjoy working with entrepreneurial people and we enjoy creating things and it is just fantastic to see so many inspiring initiatives".

d) Frontrunners

The case study showed that in order to create change, especially in the starting phase, frontrunners are of key importance. This is corresponding with the notion of 'critical mass: generally, change in the beginning is slow, until a critical mass is reached, then a snowball effect could take place. For a critical mass to be reached, it is suggested that once typically needs between 5% and 25% of the population, the point where critical mass is achieved is often called the 'tipping point'. At this point the change becomes self-sustaining (Ball, 2005). Because of these principles, there need to be individuals, or a group of individuals or organizations, who are driving this change; that is, people who are frontrunners and pioneers. These could be entrepreneurs or business leaders. Interviewee 2 comments on the role that Kirkman Company plays in the unique constellation of Social Impact Factory [Q5]: "I think that as Kirkman Company, compared to some of the more traditional consultancies, we are fairly lean and small, and easily adapt, I think we really try to be frontrunners, whereas the more traditional organizations, could maybe – and this is an assumption – lean back and see if the market is big enough and then maybe step in a bit more conservatively. When we started talking about the importance of social entrepreneurship, 5 or 6 years ago, it was a lot less well-accepted terminology compared to today, and today we have even moved beyond the terminology of social entrepreneurship, as we believe 'social entrepreneurship' should be the new normal, in that sense that it becomes a tautology because all entrepreneurship needs to have a side based on purpose and values".

e) Bringing parties together and bridging mindsets

The case study revealed that one of the central characteristics of an ecosystem is the diversity of actors – whereas a network could theoretically also exist out of like-minded individuals or organizations. It is exactly this diversity which brings the added value, but it also brings unique challenges. In the Social Impact Factory it is attempted to bring parties together around three main themes, namely 'mobility', 'sustainable building', and 'poverty', and as a fourth theme that is crossing all other themes, 'unemployment'. Interviewee 3 comments that he sees two main challenges to work on in the municipality [Q6]: (1) "the municipality already has a lot of contact with important stakeholders in the city, but often all separate

somewhere here in the municipality building, divided by organizational units – so we have to collect all those contacts and organizations and put them together" and (2) [Q7] "the mindset of social entrepreneurs is very different from the people who work for the municipality – often the people working at the municipality still don't really understand the concept of social entrepreneurship and this is why the collaboration is not effective. So the main challenge we have as organizers is to both bring the relevant parties together, but also play a role in bridging the mindsets of these people. Because for effective collaboration you need both diversity, but also some common ground." Interviewee 5 mentions that the [Q8]"unique selling point of Social Impact Factory is the diversity of actors that have the same goal – there are already a lot of organizations that are supporting entrepreneurs, but often they only focus on the entrepreneurs, while we focus on creating the connections between a great diversity of parties".

In addition, a blog on consultancy.nl (2017) titled "High ranking visit for Social Impact Factory Utrecht" quotes Han Hendriks (one of the main founders and administrator Social Impact Factory): [Q9] "the synergy between independent professionals, startups, companies and organizations, who work together on innovative and entrepreneurial solutions for social issues, has not been without results, as 75 direct and indirect jobs have been created". Also the 'commissioner of the king' Willibrord van Beek (main governmental representative for the province of Utrecht) is quoted in the blog: [Q10] ""Hopefully the Social Impact Factory will succeed, through creative public-private partnerships, in solving social issues in a sustainable way and strengthening the economic growth and attractiveness of our region".

f) Ecosystem designer/builder

In order to understand the dynamics of our case study, Social Impact Factory, it is important to understand how it came about. As described in section 5.4.1 It was initiated from the successful 'Social Enterprise Days', a common effort from Municipality of Utrecht and Kirkman Company, that formed the very first start of Social Impact Factory. During his day, social enterprises were invited to share their story and there were awards for the so-called Social Enterprise of the Year in several categories. The first step in the process was the founding of the "Social Impact Factory Foundation". This foundation, in turn, is now one of the

founding partners of the Social Impact Factory Utrecht, together with the Kirkman Company, an accountancy organization and a lawyer company. From a legal point of few, the municipality of Utrecht officially is not one of the founding partners, because this is not possible for a municipality in the Netherlands. The network is larger than the founding partners and, for example, also includes the University of Utrecht and Utrecht's University of Applied Sciences (Hogeschool Utrecht) as well as Triodos Bank and local social enterprises. The Social Impact Factory has a clear mission, namely: "to accelerate the movement towards social entrepreneurship" in which the activities of the Social Impact Factory support social enterprises in their mission. From all these different parties, the real ecosystem design and building comes from Kirkman Company. Even though legal structures and which partner joined when will be beyond the scope of this paper, it is important to have a little bit of background.

Interviewee 1 notes on the role of Kirkman Company, the party that can be regarded as the ecosystem designer/builder [Q11]: "What we try to do in every initiative carried out by the SIF, we try to make it sustainable, so there is a financial model underneath every initiative, and we focus on execution instead of just connecting people, so in the services that the SIF provides, one of the things is "Agenda Setting", which is about communication and spreading the message, about networking. The other one is about measuring the impact, but the other one is actually creating new connections resulting in employment or social impact. So it is really about the result and not necessarily about just connecting people, and I think that's also what Kirkman Company usually does, it's about doing things instead of just enabling them".

g) Compelling vision

The case study showed the importance of a compelling vision. The Social Impact Factory has a mission described on its website, namely "to accelerate the movement towards social entrepreneurship", which is still fairly general. However, in the interview it came forward that there is still more to it in combination to the municipality, in which they have defined 'reducing unemployment' as the common 'grand theme', which has a clear reason, as interviewee 4 explains [Q12] "employment creation is a very important driver, because in the Netherlands it is municipalities which pay unemployment benefits, so every unemployed person

who gets a job, is a direct revenue (saving) for them. So they have to pay less. It's a saving. That makes the business case so attractive to invest in this group. So this is the main driver (generating employment) we are using to address new municipalities. The other positive issue about this driver is that it is also politically safe: left and right wing agree on it, they both want to create employment using entrepreneurship. So the right wing will be much interested in helping the bigger companies from an employer perspective, and the left wing wants to reduce poverty, to get people that are vulnerable into stable jobs. It's a good political story that we have to tell. It's actually something people find difficult to disagree with. It's not controversial. Whoever we talk to, that's the main idea we bring into discussion. If you have different or other kind of ecosystems, different topics could be controversial or non-beneficial for the parties that you're talking with, but this one is a very safe discussion".

So what we can derive from this story is that the vision is compelling from different perspectives: (1) it is a theme that many people feel connected with and want to do something about, (2) the vision also stands for a clear business case, and (3) the vision is not controversial and not (very) dependent on political preferences, which in the case of public-private collaboration may be a very good theme to start with (even though it should be said that for bigger sustainability transitions, sometimes controversies cannot be avoided altogether – however it is always important to find a vision that is compelling for a wide range of stakeholders and not benefiting one group of stakeholders over the other).

HIGH-LEVEL CATEGORY II: COLLABORATION

The second high-level category that derives from the case study is 'collaboration' with sub-categories a) 'collaboration with competitors', b) 'public-private collaboration', c) beyond discussion – action-oriented d) 'collaborative advantage', and e) 'long-term collaboration'.

Figure 5.2 Social Impact Factory: Collaboration

Figure 5.2 presents the interview coding results around the second feature of the Social Impact Factory, that is, collaboration.

a) Collaboration with competitors

The case study revealed the emphasis of collaboration, also with competitors. One aspect about collaboration in ecosystems is that it entails working with a lot of different actors and sometimes even competitors in the traditional sense, going towards a model with both competitive and collaborative elements. Interviewee 2 notes in this respect [Q13]: "of course if there is a customer with a challenge and we have a proposition and our competitors have a proposition, we try to win the challenge, but then again if the challenge is big enough, we will take them in and do it together". Interviewee 3 mentions [Q14] "Besides, I don't really believe in not being in contact with your direct competitors: "keep your friends close, but keep your 'enemies' closer". We also agreed for the Social Enterprise Day, that it shouldn't be a Kirkman Company show. We should give the platform to other

people and organizations to tell their story and if it is a big success, then people will remember that Kirkman Company was one of the organizers."

b) Public-private collaboration

The case study showed the importance of public-private collaboration. According to interviewee 2 [Q15] "for municipalities it is very important to join these new entrepreneurial networks, as they have traditionally been the main stakeholder of social issues – however nowadays, municipality funding and resources have dropped a lot, so they also have to co-create or work together with other organizations to try to solve these problems – "collaboration creates direct value". Interviewee 6 sees also a parallel to the 'right to challenge', which already exists in the United Kingdom and which is also being introduced in the Netherlands: [Q16] "the core of the approach is that a group of (organized) residents can take over tasks from municipalities if they think it could be different, better, smarter and/or cheaper. The relationship between government and residents changes with the RtC in the relationship between client and contractor". This 'right to challenge' could be an excellent opportunity for mission-driven entrepreneurs who put social or sustainable challenges at the heart of their business model.

In addition, in the article "Flywheel gets speed", written by Hans Hajée, and published in Utrecht Business (2015), the marketing manager of Rabobank Martijn Laar is quoted: [Q17] "Rabobank supports numerous social, societal and entrepreneurial initiatives. All these themes come together in the Social Impact Factory. A distinctive feature is that social issues are approached with an entrepreneurial approach. In addition to having a positive effect on society, there must also be a healthy business case. This strengthens the economic dynamism in the region and leads to more jobs".

Moreover, in the newsletter item "Utrecht Refugee Launch Pad & Social Impact Factory" Newsletter Social Impact Factory July 2017, a concrete example is provided of a public-private initiative around a current theme, namely the refugee crisis [Q18]: "Utrecht Refugee Launch Pad is an extensive project with many participants and implementing partners.[...]. We provide a practice program related to entrepreneurship and enterprising skills.[...]. Our approach is future free: Participants obtain skills that are useful in the Netherlands or elsewhere. There are no entry requirements regarding language, status or education".

c) Beyond discussion – action-oriented attitudes

The case study revealed the importance of action-oriented attitudes. Interviewee 2 emphasizes the need of 'action', the slogans for municipalities Utrecht and Den Bosch respectively are "we are making it together" and "together acting". This 'acting' element is crucial. Also he mentions that they are all [Q19] "in this search for partnership and collaboration that could benefit all". Regarding collaboration, interviewee 2 notes that [Q20] "collaboration is important, but it is not a goal in itself but rather a means to an end". And "the end" here is a "new normal" in which businesses don't operate at the cost of society, that they make profit but make that profit in order to benefit society.

d) Collaborative advantage

In this case study, the concept of "collaborative advantage" was highlighted and the goal of trying to create 'collaborative advantage'. Interviewer 3 makes an analogy with "changing the course of the ship": [Q21] "you need to make sure that all the parties are pushing the ship at the same side, because if you're pushing on opposite sides, there's not much point or effect". At the same time, interviewee 3 mentions that [Q22] "the challenges that we face are so big, that there is a necessity to cooperate". Also here he goes on with an analogy [Q23] "it's not about how you divide the cake, but about how you make the cake larger, this is in essence what we try to do". So there is a strong feeling of the need to be inclusive, there is space for everyone to contribute, we should not 'fight for resources' but 'fight to make the resources bigger so that there is space for everyone". This indicates a shift from 'competitive advantage' towards 'collaborative advantage'.

In addition, in a website article "Partnership between 'Alfa Accountants and Consultants Social Impact Factory" on alfa.nl, 2017, Fou-Khan Tsang (chairman of the board of directors of Alfa) says the following: [Q24] "A number of employees at our Alfa branch in IJsselstein now work at SIF Utrecht. This means that social entrepreneurs can easily contact them with their questions within the walls. For Alfa this is an easy way to get in touch with like-minded (potential) customers, but we also see the higher goal of SIF Utrecht. That is to build a network with all kinds of companies, which collectively have a lot of thinking power and innovation power". This is a concrete example of 'collaborative advantage', the creation of such a situation in which collaboration offers advantage for both parties involved in the collaborative relationship.

e) Long-term collaboration

The case study showed its emphasis of long-term collaboration. Important for structural systems change is that new collaborative partnerships are not only action-oriented, but also long-term focused. The challenge is to move from incidental collaboration to long-term collaboration. Sustainability means having a long-term perspective, which is inherent in the concept of sustainability itself. The Social Impact Factory is also born from the idea to make collaborations more long-term. Interviewee 1 mentions [Q25]: "The Social Impact Factory was born out of the success of the Social Enterprise Day, that had the same goal, namely connecting people and creating a platform for social entrepreneurs. The Social Enterprise Day, jointly organized by the municipality of Utrecht, proved a great success, and we started looking for a way to make this more permanent". Therefore, it could be said that Social Impact Factory was founded in order to perpetuate the collaboration towards a long-term effort. At the same time, it remains flexible and collaboration can occur there where it most needed (for example in the form of 'challenges').

HIGH-LEVEL CATEGORY III: MULTILEVEL IMPACT / SYSTEMS CHANGE

The third high-level category that derives from the case study is 'multilevel impact/systems change' with sub-categories a) 'jointly increasing impact', b) 'local impact', c) 'connecting local initiatives to scale' d) 'thinking big but being happy with small steps', and e) 'Systems change for innovation'.

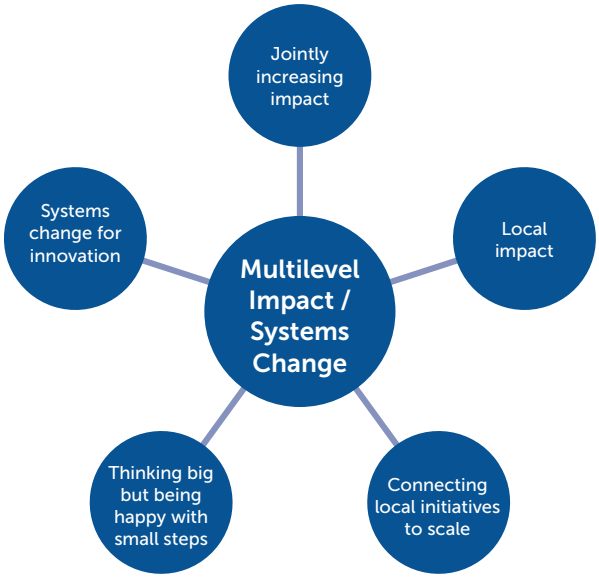

Figure 5.3 Social Impact Factory: Multilevel impact/systems change

Figure 5.3 presents the interview coding results around the third feature of the Social Impact Factory, that is, Multilevel Impact/Systems Change.

a) Jointly increasing impact

In this case study, a lot of importance was assigned to what they referred to as "jointly increasing impact". An important aspect of ecosystem is the idea of creating 'impact' together, and that together one can achieve more as alone. Interviewee 4 notes, on the collaboration between the municipality and social enterprises [Q26], "Usually the municipalities have questions about how they can integrate social innovation and social enterprises creating social impact in their governance and we are providing them with a way of doing it through Social Return. And Utrecht is also integrating social enterprises in their procurement process". Interviewee 2 notes, when speaking about the history of the Kirkman Company and how Kirkman Company became so focused on collaborative entrepreneurship [Q27]: "what we found is that within our organization we have a

lot of entrepreneurial people who actually had the same urge to do and develop things. In the early days, we thought of that more as a threat, of losing people and tried to stop that. At some point we understood that it's much more useful and productive to actually stimulate that and to see if we could jointly develop new initiatives. And also, I think when we decided to focus on societal impact, it made that if you want to maximize your impact, you need to be able to expand and offer different services and products rather than just classical organizational change or organizational consultancy".

b) Local impact

Remarkable about the case study Social Impact Factory is its local focus for impact creation. It is locally oriented, a collaboration with the municipality of Utrecht and also aims to generate change in the municipality of Utrecht. Interviewee 3 notes [Q28]: "I think a lot of municipalities want to have their own social enterprises working with them, because then you create impact in your own city, local impact." Therefore it could be remarked, the goal of Social Impact Factory Utrecht is to create local impact in the municipality of Utrecht.

c) Connecting local initiatives to scale

Next to the emphasis on local impact in this case study, a next step is to connect these local initiatives in order to scale. Even though the Social Impact Factory has now its main focus on the municipality of Utrecht, the idea is in the future to also replicate this idea in other Dutch municipalities and then on a larger level to create interconnections between these different Social Impact Factories. Interviewee 3 notes [Q29]: "[...]so I can make sure that the SIF in Utrecht can be an example to replicate. And in that way, I'm talking with a lot of other municipalities and trying to sell the SIF as well".

In addition, in the article "Flywheel gets speed", written by Hans Hajée, and published in Utrecht Business (2015), Wouter van Twillert, 'Social Impact Connector' is quoted: [Q30] "To further increase the impact, we are also open to activities outside Utrecht. By using our experiences and best practices, other municipalities do not have to invent the wheel themselves".

d) Thinking big but being happy with small steps

The case study revealed the importance of taking small steps for progress. When speaking about big 'notions' as systems change, it is easy to be overwhelmed, or to become too pretentious. However, the case study showed that it can be an important driver to have big dreams and visions, as long as it remains realistic. This is also about seeing your role in the bigger whole. This is also reflected by interviewee 3 [Q31]: "So I think within our very limited organization, we try to do what we can, and definitely in some fields it makes an impact. It's still just a small ripple in a large system, but it's happening".

e) Systems change for innovation and sustainability

The case study revealed the importance of systems change for innovation and sustainability. The ecosystem organizing is put in connection with systems change. Interviewee 3 mentions that more system awareness is very important. He mentions that [Q32] "the system of the past is creating problems which we cannot solve with the system of the past". The case study indicates that problems are sometimes symptoms of a failing system. Instead of 'symptom management' we should focus on the root causes. At the same time, according to interviewee 3, we need to take into account the limited influence of actors [Q33]: "within our very limited organization, we try to do what we can, and definitely in some fields it makes an impact. It's just a small ripple in a large system, but it's happening".

When looking at the theme of systems change, interviewee 3 emphasizes the all-encompassing change that systems change entails [Q34]: "the world economic system over the past 50-60 years has been very much focused on profit optimization, optimizing shareholder value at the cost of societal issues which are solved by governments through tax payments or solved by NGO's. In order to really change the system, a lot has to change, it's the mindset of the investors, it's the way organizations are financed, it's the culture of leadership, it's legal issues, it's a lot". This indicates the importance of changing an economy based on linear principles to an economy based on circular principles.

5.5 Contributions to Theory Development

From the analysis of the interviews and documents several patterns have been identified. These may be translated in theoretical propositions that offer the

steppingstone towards the development of new theory about the role and characteristics of entrepreneurial ecosystems in systemic sustainability transitions and which may be used for further testing and research in follow-up papers.

Proposition 1: Ecosystems enable participation of diverse range of organizations, both from private and public sectors, large and small organizations, that are crossing the boundaries of traditional industries and instead are organized around a specific theme that unites these different actors.

Proposition 2: In an ecosystem the collective intelligence brought forward by the different actors is the feed stock for the generation of innovative concepts to be translated into products, processes and organizational insights. The access to knowledge, resources and the collective intelligence is an essential 'collaborative advantage' for the participating actors in both public and private domains.

Proposition 3: As sustainability challenges, like climate change, are collective action problems ('tragedy of the commons'), the only way to address these problems is by organized collective action. Ecosystems that are based on organizational principles of entrepreneurial effort, collaboration and networking, are a way to organize this collective action that is needed for setting in motion a sustainable systems change such as a transition to a circular economy.

Proposition 4: In order for ecosystems to function well, they need to be fuelled by efforts of frontrunners, entrepreneurs and sustainability leaders, that act as 'webbers', who play a role through all stages of ecosystem build-up and design, such as working on the common vision, bringing together the right actors, facilitating the process, dividing tasks and responsibilities – they are not hierarchical leaders but rather networkers and process facilitators that keep the overview and keep the energy throughout the process.

Proposition 5: Well-organized ecosystems may be considered the building blocks of an entrepreneurial and sustainable economy, creating the necessary leverage effect for the efforts of frontrunners such as mission-driven entrepreneurs and sustainability leaders needed for systemic change.

5.6 Discussion

In this chapter we have highlighted how ecosystems can be considered as important building blocks in a shift from a managed towards an entrepreneurial economy. That is, we analyzed how ecosystems may be designed in such a way that they have potential to create sustainable systems change. We have argued that there are different ways of designing an ecosystem for sustainability with important organizational principles such as diversity, mutual trust, diversity, responsibility, and based on the common interest.

We have also discussed that in an entrepreneurial economy, dealing with uncertainty plays an important role. Both, leadership and entrepreneurship are important to deal with this uncertainty. Leadership is important to choose direction, and entrepreneurship is important to take steps into the unknown and an unknown future. To some extent, institutions (money, legal systems, culture) and language help to deal with uncertainty. A social system is complex and open-ended, precisely because of the uncertainty. It has no known endpoints to work towards. Therefore, it is also impossible to calculate risk. There is no ultimate equilibrium to be reached; things are in constant flux and change. The more so, in light of the sustainability challenges we are facing now.

If one considers all inventions and innovations that have taken place over the past century, one may argue that it was not possible to know beforehand which innovations would have lasting impact and which one would not. It is impossible to know all future contingencies. Moreover, decisions that are taken today, may be influenced by decisions in the past, and will influence new decisions in the future. This again shows that the future cannot be predicted, it can only be imagined. With uncertainty, probabilities are difficult to calculate. In this line of thought, it has little added value to make predictions based on linear sequential models.

This chapter argued that the theory about complex systems is helpful in order to come to grips with how to deal with the uncertainty that comes with the grand sustainability issues such as, for example, climate change. It is true that mainstream economists have paid attention to climate change. The current state of affairs indicates that this may be insufficient. Tackling climate change requires major shifts in economic systems, and, as a result, economic thinking requires a broader perspective, involving the understanding of the path-dependent nature

of innovation and technological change. It requires an understanding that climate change – as one example – is caused by carbon and that carbon, specifically that retrieved from fossil resources, is the energy source that has powered almost all of the economic activity over the last 200 years, starting with the industrial revolution. Even though other energy resources become available, the contemporaneous economy still highly dependent on oil, gas and coal, making up approximately 80% of primary energy use (Zenghelis, 2016).

This example shows why a shift towards a sustainable economy requires multi-level transformations. This means shifts in patterns of production, distribution and consumption. Digital technologies may be used to enhance such change. However, the shift towards a sustainable economy is not just a question of technological change. Technologically speaking, already a lot is possible today. The problem is that sustainable challenges such as climate change is both, a collective action problem (as a 'wicked problem'; it is a problem of the commons) as well as a short-term versus a long-term orientation problem (also coined as the 'tragedy of the horizons').

Using this example, one can say that capitalism is challenged by sustainability problems such as climate change and that for addressing it, thinking in line with neoclassical traditions falls short. Eliminating carbon emissions from our capitalist system is about reshaping of a system of production, distribution and consumption. For this, we argued that it is essential to understand innovation and the role of path-dependence in system transformation. Innovation is one way to move forward. Unlike material resources, knowledge never depletes and knowledge is sequential: knowledge builds on knowledge. Path-dependence means that it builds upon what was there before, or sometimes also that it is constrained by which was there before. Lock-in situations are examples of constraints. The QWERTY keyboard, for example, was designed for old-fashioned typewriters but is still in use today despite innovations in texting (Zenghelis, 2016). Existing infrastructure often remains in place, even though we no longer need it. One explanation is the complexity to change existing structures. The same is true for many other underlying processes in our current system: they are often not needed anymore, or even are contra-productive, but since we often are collectively used to their existence, it is difficult to change. An important way to realise change lies exactly in the collective and requires other organizational principles.

This precisely is the aim of this chapter, that is, to analyze whether and how ecosystems may function as the building blocks of this very entrepreneurial economy. We argued that ecosystems may function as the 'systems glue' and that they can be the inspiring subsystems that serve as an example of application of new organizational principles, that may have a spinoff effect to society as a whole. Change needs to start from somewhere, also systemic change. The ecosystems form an example of how this systemic change my start. This chapter introduced several steps that show how the ecosystems for change may be designed, even though there are different ways and logics for designing and building ecosystems, depending on its purpose.

From the case of the Social Impact Factory we concluded that there are various sides to ecosystem building – which we found to be subdivided in three main themes, namely how to organize, how to collaborate, and how to create impact. One of the most important shifts is from competitive models towards collaborative models. This collaboration should not only take place with actors that are similar or like-minded, but with a great diversity of actors, big and small, public and private. For the organizing part we have seen that it is important to have a clear ecosystem builder/designer who is a frontrunner and who takes other ones on board in the process. The case study indicated that at all times the network creation does have a clear action-component, because otherwise one runs the risk to organize discussion groups, without actual change occurring. These actions need to be coordinated and for this, there needs to be an overarching vision that is compelling. Different actors need to be brought together and mindsets need to be bridged; having one compelling vision helps to bring individuals that are heterogenous in backgrounds together and work towards a goal. Frontrunners, with a clear vision and entrepreneurial drive, that can take a function of 'webber', connecting actors and facilitate the process, is crucial in order to start the process and keep it going. With reference to collaboration the case study reported recurring themes, namely the importance of developing ad-hoc collaboration to long-term and enduring collaboration, and to collaborate in such a way that it creates 'advantage' to all parties involved. The case study specifically shed light on public-private collaboration, and working together with a specific goal. Creating multi-level 'impact' is center stage in the systems change paradigm. The Social Impact Factory aims to do this by first starting local and in later stages connect

local initiatives again with each other. The case study indicated that it is important to 'think big' but accept progress in small steps. Thinking big should not lead one to become pretentious or to consider that one single initiative can change the world.

The question arises whether or not the case study of the Social Impact Factory is a stand-alone unique case in the Netherlands. There is evidence for other, similar system changing entrepreneurial activities. One of these examples is the so-called 'Holland Circular Hotspot' campaign. This campaign organizes individuals around an overarching theme, namely transforming the Netherlands from a linear to a circular economy. A first assessment of this campaign shows similar features and trends that align with the ones reported in the case of the Social Impact Factory. Igniting a movement to transition towards a circular economy and setting an example on a global scale, the campaign indicates that the Netherlands is to a greater or lesser extent considered as a "living lab" and aspires to become the world's first circular hotspot. Holland Circular Hotspot campaign highlights the Netherlands as a frontrunner for circular economy initiatives and innovation. The core of the campaign revolved around the creation of a shared vision which was launched at the national innovation exhibition on April the 14th, 2016. The circular exposition provides a stage for scalable circular projects and trade and press campaigns highlighting these forward thinking, circular initiatives within the campaign.

An in-depth analysis of the case of Holland Circular Hotspot is beyond the scope of this chapter but a first assessment is worthwhile mentioning given that it offers another opportunity to apply the six-steps framework from Simons (2015) discussed in section 5.2 and to compare the two cases with respect to their ecosystem building activities (see figure 5.4).

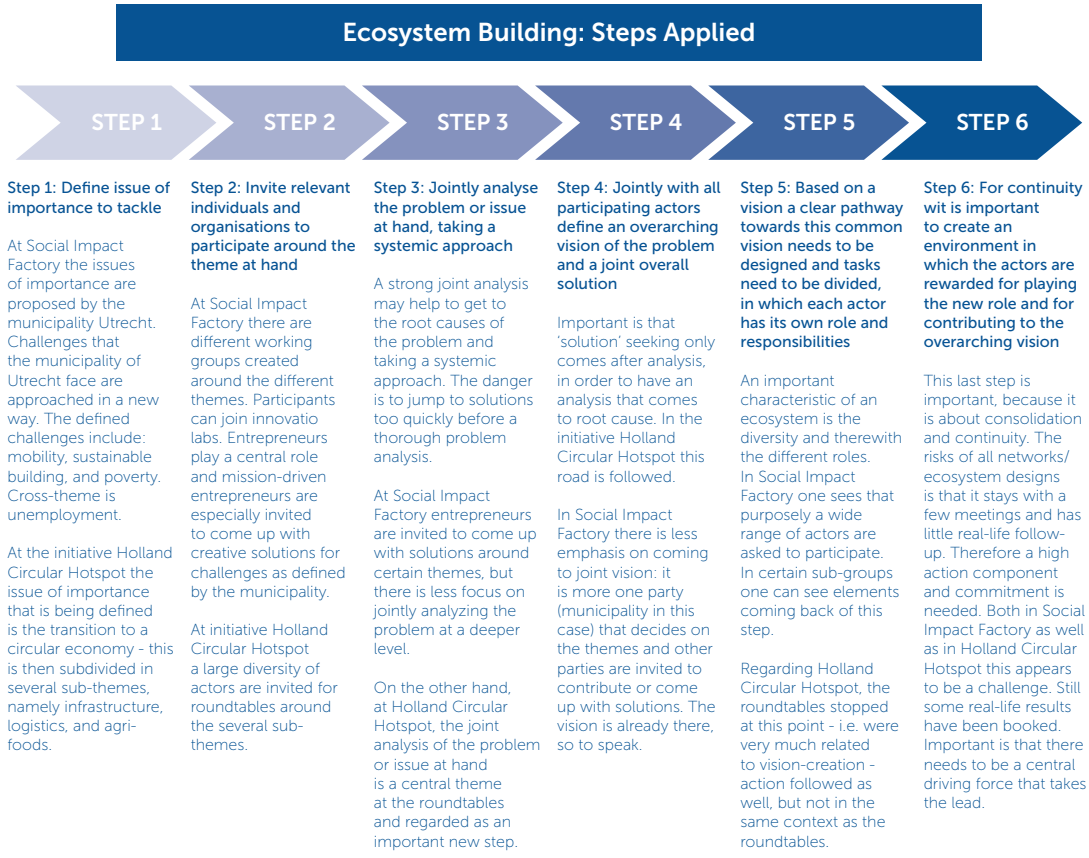

Figure 5.4 Ecosystem building in the Social Impact Factory and Holland Circular Hotspot

Comparing the two cases leads to a number of interesting observations, namely that each case has its specific emphasis, and compared with the scheme of different steps that 'should' be taken, strong and weak points. The Social Impact Factory is less focused on developing joint problem analyses and long-term visions in comparison to Circular Hotspot. The Social Impact Factory is from the start more action-oriented, while the roundtables of Holland Circular Hotspot clearly had the aim to develop a shared vision as a starting point (as observed during my timeframe of study, 2015-2016). Contrasting these two cases highlight

that albeit that the scope and the activities have been different, both are clear efforts of ecosystem building in the context of 'innovation for sustainability'. In both cases, there is an ambition to change something beyond the borders of its own organization, and to create 'impact' in the societal system. In addition, in both cases a role for 'webbers' was identified, or the strategic ecosystem organizers, throughout the different steps. From issue definition towards the inviting of relevant actors a main organizing force is of key importance. In case of 'Holland Circular Hotspot' there also clearly 'one face of the campaign' can be identified (one individual that is the central connector and clearly the 'leader of the campaign'), in case of Social Impact Factory this was also the case at the beginning, but later there was more emphasis on the team as a whole with new people becoming responsible, which also is a logical result of the evolving of the process. A key element of working in networking ways is that the 'structures' that are set up are fluid and change during the process, as opposed to more fixed roles and more rigid division of tasks as in traditional organisations. Both of these cases also show how the ecosystem-level is functioning as a meso-level between on the one hand entrepreneurs and other business and societal actors, by bringing them together and working on a common goal, and societietal impact on a larger level, by pursuing clear and strategic societal and/or ecological goals that aim to foster sustainable change.

In sum, the main case under study in this chapter, Social Impact Factory, provides an interesting and insightful illustration of the building of a local ecosystem that stems from a public-private initiative and the role it aims to play to create larger-scale impact on the organizing of today's economy, connecting entrepreneurial efforts with social and sustainability challenges in systemic ways. The additional contrasting with the case of the Holland Circular Hotspot show that there are different ways to go forward in the process, but that there are also commonalities. This has resulted in the propositions for theory development as presented in section 5.5.

Limitations and recommendations for future research

It should be acknowledged that this study is based on one main case study of entrepreneurial ecosystem building, while the theoretical scope of this chapter was quite broad. This case study was especially selected because of its efforts

to apply new organizational principles, for which this case study has provided a unique example. In future research it would be interesting to study more case studies and make comparisons in order to further validate theory. Future research could focus on specific aspects to develop more theory on sub-themes. In addition, we deem it to be highly useful to apply quantitative methods to study networks and ecosystems, which could give more insights in how entrepreneurial networks are formed and which role the 'webbers' connecting the networks play. More insight in network dynamics and processes of collaboration would be useful to gain further insight in the how to develop and optimise entrepreneurial ecosystems for sustainable systems change could play in sustainability transitions.

6

CONCLUSIONS

6.1 Research Aim and Questions

We are living in times of change, potentially going towards new economic systems. Digitization and advancing technology –as push factors– and global sustainability challenges and crises –as pull factors– require new knowledge, insights and skills for doing business in the 21st Century. A new economic model that integrates opportunities for prosperity and opportunities for people with a long-term ecological and sustainable outlook requires a different way of thinking and innovative ways of organizing business in relation to stakeholders in society. As business transcends national boundaries, it has an important role to play, as it may steer for innovation and new ways of organizing to adapt to new challenges and demands in global markets. Business bears responsibility, and in many fora from UN-related conferences to the World Economic Forum, and frontrunner business leaders are advocating a need for such progress.

Sustainability leaders may play a role in the creation of organizations that may meet the 21st century grand challenges in novel ways and which can create value for people, planet and profit. One of the goals is to embed sustainability throughout the organization as to prepare the organization for a sustainable economy. In order to achieve these goals, the entrepreneurs and businesses need to collaborate in ecosystems. Ecosystems offer contexts in which business takes place and the premise is that it is possible to manage and build systems in order to achieve awareness-based collaboration. Awareness-based collaboration is needed to avoid fragmentation of initiatives and jointly work together towards a more sustainable future.

This PhD research has been carried out with the assumption that some of the current organizing principles in business and society are insufficient or perhaps even counter-effective in achieving a more sustainable economy. We have introduced a multi-layered conceptual model that offers a guidance to identify and analyze organizing priciples. The main aim of this research was to obtain in-depth insights into how this conceptual model works. We have studied particular levels in-depth with special attention to the meso-level (ecosystem) in relation to the micro-level (entrepreneurs) and macro-level (sustainable systems change). We applied an inductive case study approach based on a systems thinking paradigm. The explicit consideration of the meso-level is relatively new, as mostly research in the social science domain tends to either focus on the micro-level (e.g., organizational psychology) or on the macro-level (e.g., political

science, international relations), whereas this research has aimed to generate more insight in how the meso-level intermediates between the micro and the macro to understand change processes.

The central research question of this PhD research was: what are the distinctive organizing principles that enable systemic change towards sustainability from a multi-layered systems perspective and how may entrepreneurs and leaders strategically apply these principles in real-world contexts? As said, this question will be answered with a specific focus on the meso-level level of entrepreneurial ecosystems. This main question was divided in three sub-questions. Chapter 2 offered an overview and justification of the theoretical foundations and the research methods that are applied in this PhD thesis. The sub-questions have subsequently been answered in the three empirical projects that are presented in Chapter 3, 4 and 5. The sub-questions that were answered in the three empirical chapters were:

1. How do mission-driven entrepreneurs embed their businesses in networks and business ecosystem as for achieving their sustainable purpose (chapter 3)?
2. How do mission-driven entrepreneurs adapt their business models to optimize collaboration in network and ecosystem settings (chapter 4)?
3. How may networks and ecosystems be designed that have as explicit aim to contribute to systemic sustainability transitions (chapter 5)?

Below we summarize the main findings and conclusions from this PhD research. Subsequently we present the implications of this research for business education, business managers and public policy, respectively.

6.2 Main Findings of this Thesis

The 21st century context in which business operates is changing. There are new opportunities offered by the technological development while facing global challenges that derive from urbanization, conflict and political tensions to risks of climate change and of energy, water and food security, among others. New technologies offer a way to address grand challenge but also may imply behavioral change.

Analysing the potential role of entrepreneurs in systems transition has been the main ambition of this PhD research. To the best of our knowledge, such an in-depth analysis has not been presented before, at least not explicitly addressing sustainable systems change. For this, we introduced a five-layered conceptual model that served to disentangle the complexity of systems and that offered guidance to organize the analysis of systems change across different levels:

1. Mission-driven entrepreneurs with a motivation to make a change (micro-level)
2. Mission-driven enterprises with new business models (micro-level)
3. Entrepreneurial networks, alliances, coalitions and collaborative models (meso-level)
4. Entrepreneurial ecosystems with a great diversity of actors (meso-level)
5. Change on an abstract higher system level, such as region, society, or world (macro-level)

To explore some of the dynamics at particular levels, we focused on organizing principles needed to set into motion change, especially how to create, organize and maintain successful entrepreneurial ecosystems. The roles and capabilities of the mission-driven entrepreneur, who acts as a change-maker at different levels, with the enterprise or companies as the carrier of change within the entrepreneurial ecosystem has been central stage in this research.

This PhD thesis used this conceptual model under the premise that it builds upon individual talents and skills and the power of networks across five layers: motivated entrepreneurial individuals (1), starting enterprises with innovative business models (2), in network settings (3), operating in entrepreneurial ecosystems (4), and collectively fostering innovation for sustainability on a higher system level (i.e., 'society' or 'world') (5).

The research methodology in this PhD thesis followed the tenets of systems thinking and complexity science. This research approached the unit of analyses from a holistic and systemic perspective and is therefore different from analytic and reductionist approaches. The field of ecosystems thinking and sustainability are guided by complexity, and transitions to sustainability are not easily to identify. Three in-depth case studies were developed and presented to elucidate the organizing principles needed for sustainable systems change,

through the building of networks and ecosystems in different yet related contexts.

The first case study presented in Chapter 3 concerned mission-driven entrepreneurs in the Netherlands that offered a relevant research context to answer the first sub-question of this PhD research. Chapter 3 shows that entrepreneurs that are mission-driven develop new business models that are based on 'people planet profit' thinking. They also collaborate in networks and ecosystems. Entrepreneurs are motivated individuals with a vision which they are able to translate with a pragmatic day-to-day approach that is needed to run any business.

The second case study presented in Chapter 4 concerned the Powered by Meaning Collective that offered a relevant research context to answer the second sub-question of this PhD research. Chapter 4 shows that entrepreneurs in a networked setting shifting the mind-set to thinking in ecosystems and building entrepreneurial networks is a first step. Entrepreneurial networks have a distinguishing characteristic: they multiply themselves; that is, entrepreneurship creates entrepreneurship. Chapter 4 reports that when organized well, a collective has potential for financial and societal benefits.

The third case study presented in Chapter 5 concerned the Social Impact Factory. The Social Impact Factory is a unique public-private initiative with an entrepreneurial ecosystem approach and as such offers a relevant research context to answer the third sub-question of this PhD research. Initiated by the Dutch municipality of Utrecht and the Kirkman Company, the Social Impact Factory aims to create entrepreneurial solutions to sustainability issues with established organizations, social entrepreneurs, and social initiatives. Societal questions are approached with an entrepreneurial mind-set: solutions must create social impact while being financially sustainable. An insight is offered into a new way of organizing an entrepreneurial ecosystem, while the government is as both an actor in the ecosystem, and its enabler. In addition, a comparison is offered to the initiative 'Holland Circular Hotspot', which aims aims to make the country a pioneering international circular hotspot, serving as a 'living lab' from which the rest of the world can learn.

The various case studies highlight different elements to the building of networks and ecosystems in different yet related contexts. Ecosystems are best defined as dynamic and co-evolving communities of diverse actors who create and capture new value through increasingly sophisticated models of collaboration

and competition. The following three conclusions that we draw from the different case studies are worthwhile highlighting.

First, ecosystems fostering innovation start with an entrepreneurial drive for innovation and change, passionate and motivated individual entrepreneurs who started innovative enterprises.

Second, ecosystems enable participation of a diverse range of organizations, both from private and public sectors, and from large and small organizations, that are crossing the boundaries of traditional industries. Ecosystems are ideally organized around a specific theme that unites these different business actors. New skills and knowledge are needed to think and work in ecosystems, such as systems thinking and thinking in terms of collaborative opportunities. Thinking and working in ecosystems requires enterprises to shift to more collaborative business models.

Third, collaboration, networks, alliances and partnerships are not new but, in the face of grand sustainability challenges, interest is growing in more comprehensive models of change. Thinking and working in entrepreneurial ecosystems reflect new organizing principles of doing business in 21st century, needed to set in motion a sustainable systems change such as a transition to a more circular economy.

With the five-layered conceptual model in mind, the key findings of this PhD research are the following.

(I) LEVEL OF MISSION-DRIVEN ENTREPRENEUR. At this level three conclusions are important. First, entrepreneurs are key business model innovators: the drive and motivation of the mission driven entrepreneur is the key differentiator that gets the enterprise going beyond the traditional boundaries. Second, the mission-driven entrepreneur is an entrepreneurial-minded individual with a long-term vision and able to translate this vision in day-to-day pragmatism to run a business. Third, the persona of 'mission-driven entrepreneur' can also be found in other contexts, such as established organizations and public administration, where he or she is a leader that dares to be different and think beyond traditional boundaries.

(II) LEVEL OF MISSION-DRIVEN ENTERPRISE. At this level three conclusions are important. First, mission-driven enterprises may be effective vehicles for change and act as inspirational change agents in the system. Second, the urgency for

new business models and cross-over innovations is important for mission-driven enterprises. Third, mission-driven enterprises feel a need to collaborate in a productive, learning network that may develop into an ecosystem with a systems change impact.

(III) LEVEL OF COALITIONS/NETWORKS. At this level two conclusions are important. First, enterprises in a network may create a leverage effect by successful collaboration, that is, collaborate in such a way that they complement each other and strengthen each other's business. Second, leverage effects of networking may be observed in better access to information and higher potential for connectivity with relevant suppliers, carriers of knowledge, finance, and clients. In the studied case all enterprises in the network shared a common purpose (vision, mission, strategy), but also each had their own unique value proposition – business model at meta-level.

(IV) LEVEL OF ENTREPRENEURIAL ECOSYSTEM. At this level four conclusions are important. First, ecosystems enable participation of diverse range of organizations, both from private and public sectors, large and small organizations, that are crossing the boundaries of industries and are organized around a specific theme that unites these different business actors. Second, new skills and knowledge are needed to think and work in ecosystems, such as systems thinking and thinking in terms of collaborative opportunities. Third, thinking and working in ecosystems requires enterprises to shift to more collaborative business models. Fourth, cell-organized ecosystems are no 'nice to haves' but 'need to haves' in changing the organizing principles of doing business in 21st century and setting in motion a sustainable systems change such as a transition to a circular economy.

(V) HIGHER SYSTEMIC LEVEL (E.G., REGION, SOCIETY, WORLD). Although from an empirical point of view it is beyond the direct scope of this research and therefore challenging to study the impact from ecosystem initiatives on the higher systemic levels, there are a few considerations worthwhile mentioning. First, the larger the system of study, the more complex it is; societal systems are among the most complex to analyze. Recognizing that each 'system' is build-up of subsystems and also, in turn, part of a larger system is important for the design

of research. Second, when a society's aim is to move towards new and potentially more sustainable economic and socal systems; this may require a sustainable systems change. Third, starting with an end stage in mind is guiding actions. For example, using the concept of the circular economy as a future system in mind may develop a shared vision among a large diversity of stakeholders (such as company leaders, entrepreneurs, government representatives, academics) and needed to define actions towards such a new system.

In summary, the main aim of this PhD research was to offer in-depth insights of the dynamics of systems change for sustainability by introducing a five-layered conceptual model in which the individual entrepreneur with new ideas work in enterprises that operate in networks and business ecosystems towards sustainable systems change. This PhD research has presented in-depth insights on these dynamics and has shown that new business models and organizational principles, based on networking and collaboration, are needed to achieve sustainable systems change. This PhD research has highlighted the importance of the meso-level, in line with Neo-Schumpeterian economics, and offered a more detailed view on how such a meso-level may be actively organized by connecting this level to the concept of 'entrepreneurial ecosystem'. In so doing, it worked primarily from systems thinking and applied the conventional and mainstream research methods of case study analysis justifying that both (systems thinking and case study research) is relevant to answer the research questions of this PhD research.

6.3 Implications and Recommendations for Business Education[6]

This PhD study has implications and recommendations for business leadership and therewith also for business education. Sustainability is about values, mission, vision, strategy and innovation. Business schools may have a role to play because they educate the future leaders in business and government sectors.

This research adds tot the ongoing discussion, which was, among others, posited by Bennis & O' Toole (2005) who argue why business schools may risk to loose relevance if they keep focusing on the 'scientific model' only. This is in line with Dtar, Garvin, & Cullen (2010), who argue that business school education

[6] This section derives from Roobeek, J.M., & De Ritter, M. (2016), Rethinking business education for relevance in business and society in times of disruptive change, presented at the Teaching and Learning Conference Division of the 2016 Academy of Management annual colloquium (Anaheim, California, United States) and at the 2016 ABIS Annual Colloquium (Brussels, Belgium).

in itself no longer may guarantee a successful business career and why business schools may also need to respond tot the new challenges faced in society.

In order to explore the implications of this topic in the context of 'innovation for sustainability', in-depth interviews were conducted with sustainability leaders in the globally operating companies AkzoNobel, Unilever, Philips, Heineken, DSM, Friesland-Campina and KLM-Royal Dutch Airlines (that are all part of the Dutch Sustainable Growth Coalition). During May and June 2016, the interviews were done with business leaders who were leading sustainability departments of these global companies. The interviews at the company sites focussed on the future needs of knowledge and skills of the future leaders that work in the context of sustainability transitions.

The interviewees expressed their doubts whether current business education fulfils the need for shaping talents that need to address grand and complex sustainability challenges. The companies therefore also have their own corporate academies, where they can focus and train future leadership on their company- specific needs. Despite the importance of company-specific investments in future talent and leadership, it was also mentioned that the internal focus potentially included a pit-fall for companies. The request for inter-disciplinarity, inter-company networking and inter- industrial exchange of knowledge and skills are the quintessence of the learning platforms that business schools can offer.

The interviews give a reflection of eight sustainability leaders of seven global companies that score high on the Dow Jones Sustainability index. The interviews therefore offered a helpful overview of the needs that sustainability leaders express in terms of business education. The interviewees often act as global thought leaders at international fora, such as the World Economic Forum or the Paris Climate Conference. Therefore, their ideas and insights have some importance when addressing the implications of this PhD research for education, that is, for examining the future skills and knowledge needed for sustainable systems change.

Table 6.1 summarizes the main outcomes of the interviews using two 'axes', namely the individual-collective axe and the knowledge-skills axe. The expressions derive from the interviews with the sustainability managers and offer an overview of future knowledge and skills of future leadership in sustainable business. The outcomes of the interviews are categorized in four quadrants. The

interviews have not been intended as a fact-finding studies but as an opportunity to explore and address the implications of this PhD research for business education.

Figure 6.1 Knowledge and Skills Quadrant for Sustainable Leaders

1) Need for a coherent approach

Table 6.1 shows that business asks for more collaborative, integrative and systemic approach to business education, whereas contemporaneous business schools often educate in organizational functions. Innovation in business education is not only about integrating courses (on topics such as entrepreneurship, circular economy or business ethics), but also about how to create knowledge and skills for systems change. The interviewees indicate business education to prepare for resilience and adversity that may be part of a transformation process towards new economic systems such as, for example, a circular economyAs André Veneman (AkzoNobel) mentioned during his interview (Q1): "AkzoNobel places a lot of emphasis on the Political, Economic, Social and Technological (PEST) aspects of change. This underlines the importance of a coherent approach to change processes. Just focussing on one dimension will not do. The overview of complexity at stake is what matters".

2) Mindset for disruptive change

In terms of skills, the interviewees highlighted the important to instil a change mindset. Everyone who is trying to change things will encounter resistance, which needs mental preparation. In dealing with collective change, being comfortable with the 'unknown' and being able to step out comfort zones are important skills to have. For most persons, change is never comfortable. The interviews mentioned that change leaders need not only to have the change mindset themselves, but they also need to motivate others and bring persons with different backgrounds and from different sectors together in order to foster interdisciplinary collaboration. This requires an understanding of the human psychology and the workings of systems.

3) High-tech high-touch

Notwithstanding the importance of technological advancements and digitization, the interviewees mentioned that technology on its own will not affect change. It was stressed that learning for transformation implies learning from each other. This is what business education can provide and which makes it valuable for future leaders to meet, learn and exchange ideas in business education.

4) Leadership for sustainability

All business leaders that we interviewed have expressed the importance of leadership in the transition to a more sustainable or circular economy. The tone at the top has an impact on the direction of the organization, in terms of mission, vision, strategy and the implementation in the operations. It was mentioned that 'thought leadership' might be important because leadership for sustainability needs to be inclusive. This means, according to the interviewees, that not only the CEO, but also the CFO and other business area leaders (in core functions such as HR, legal, marketing and communication, et cetera) all need to support, and ideally be passionate about, sustainability issues. Convincing leadership integrated in all business functions and business areas fosters transformational change.

5) Negotiating and strategic decision making as key skills

A frequent skill mentioned during the interviews was the mastering of negotiation and the ability to convince and inspire others either inside or outside the company. Particularly, negotiating with supply chain partners and stakeholders is seen as a relevant skill. The interviewees indicate that embedding sustainability about constant negotiation to change the status quo which often includes competing interests. Decision-making in processes of change may be challenging. It was indicated that a focus on a new long-term sustainability strategy may get lost in the day-to-day business or competing short-term financial interests. Sustainability leaders may constantly need to defend or protect the sustainability point of view and negotiate to generate change, both within their organizations as well as with external stakeholders.

6) Systems thinking

The interviewees highlighted that attention for relatively new concepts such as 'systems thinking' is needed. All interviewees stressed the importance of systems thinking. The interviewees argued that the change may include radical dimensions and not only about optimizing existing processes. They indicated that it is important to formulate a long-term and coherent vision and not only to react on ad-hoc events.

7) Business ecosystems

The interviewees all take climate change seriously and develop strategies based on the principles of the circular economy indicating that collaboration is key for breakthrough innovations. The sustainability leaders we interviewed highlighted the importance of designing purpose-driven and holistic organizations. They often mentioned a need to bridge sectors and foster co-optition, co-creation and public-private partnerships. Almost all interviewees argued that future leaders should be able to build coalitions and ecosystems for innovations that are needed for change in society..

To summarize, the interviews with these business leaders indicate that the discussion in the boardroom is changing from profits and finance only to also dealing with systems change, creating or becoming part of existing ecosystems and developing new business models. In line with this PhD research, this has implications for business education. Of course, these companies have stepped forward (in international forums) about the need for sustainable systems change and as such advocate the need for other companies and business leaders to also move in this direction. The interviewed companies express the need for new knowledge and skills in order to address new sustainable systems. Given the relative newness of this vision, it may have implications for the content of the curricula in business schools. Business schools may consider educating interdisciplinary programs with a focus on skills and personal development.

6.4 Implications and Recommendations for Business Leaders[7]

This PhD study also would like to address two sets of potential implications for business leaders that already are or soon will be involved in innovation for sustainable systems change. The first set of recommendation is to – in line with the previous section – develop specific competencies for leadership in sustainability driven businesses. We would like to highlight four competencies that may be needed for sustainable systems change. Some of the skills are generic and often bare importance but the more so during times of transitions.

1. *Leadership for Sustainability*. Purpose-driven leadership is relevant in the transition to a more sustainable or circular economy. The tone at the top

[7] This section mainly derives from Roobeek, A., & De Ritter, M. (2016). Innovation for Sustainability (I4S) Research Implications for Business. European Policy Brief prepared for European Commission.

has a decisive impact on the direction of the organization, in terms of mission, vision, strategy and implementation in the operations.

2. *Organizing collective intelligence from different sources*. Knowledge may no longer be available in one place, but may derive from a diversity of actors in networks. Interdisciplinary collaboration is needed to initiate and manage change with attention for intergenerational diversity in organizing collective intelligence.
3. *Dealing with adversity, negotiating and strategic decision making*. Expertise in negotiating and abilities to convince and inspire others potentially is a key skill needed for systemic change. Particularly, negotiatings with persons with different views on sustainability and the role of business (including supply chain partners and stakeholders) is potentially relevant. Embedding sustainability in ongoing organisations is about constant negotiating existing positions to change the status quo often including competing interests or business demands.
4. *Expert knowledge of business processes and markets*. Knowledge of sustainability ideally should be connected to business processes in order to materialize successfully and hence not be set aside in sustainability departments. Therefore future business leaders may need to know about their core business and whether and how sustainability has an impact.

This PhD study also offers a second set of recommendations for business practioners that are involved in innovation for sustainability.

1. *Engagement in business-academia collaborations*. Collaboration and entrepreneurship are key concepts in this PhD research. Collaboration between business and academia may benefit the success of systems change and may be intensified. Insights from science may not be picked up by business or vice versa due to a lack of collaboration.
2. *Enactment of entrepreneurial value-based leadership*. Entrepreneurial value-based leadership seems to have added value irrespectively of sector or company size. Individuals that are purpose-driven may act as change agents in different environments. Given the complexity of business challenges of the 21st century, such as sustainability, 'values'

provide a compass for management and employees in making decisions and in exploring new forms of doing business.

3. *Designing business models for innovation based on co-optition*. For successful sustainable systems transitions, a shift from business models based only on competition to business models that are based on a mix of competition and collaboration may have added value. In order to address grand sustainability issues, intersectoral collaboration potentially is beneficial including designing new partnerships, networks, multi-stakeholder platforms, coalitions and entrepreneurial ecosystems.
4. *Systems thinking for wicked problems such as sustainability*. Systems thinking to some extent implies multilevel thinking: analysis and change needs to happen at the level of the individual (mindset and skillset change), the organization (from silo to holistic organization approaches), the partnership/network level (e.g., suppliers as partners for sustainability), at the ecosystem-level (greater diversity of actors working around a certain sustainability theme) and at the societal level (region, country, world). New leaders should be able to think holistically, which means both horizontal interdisciplinary and vertical multilevel thinking, to understand the sustainability issues at hand and to be able to bring together complementary persons for partnership/network/coalition formation.
5. *Create capacity for (disruptive) change*. Innovation for sustainable business potentially needs to take place both, at the product level (more sustainable products) and at the process level (more sustainable business models and organizing principles). The current technological advancements in different sectors may offer promissory innovative capacity for sustainable systems change but may be conditional on the individual mindset for change.

6.5 Implications and Recommendations for Public Policy[8]

This PhD study also would like to share implictions for public policy. An implication of this PhD research is that potentially more could be done to unleash the innovativeness of entrepreneurs, businesses and other stakeholders in order to

[8] This section partly derives from Jeanrenaud, S., & De Ritter, M. (2016). Innovation for Sustainability (I4S) Research Implications for Policy. Policy recommendations for enhancing innovation for sustainability in business. European Policy Brief prepared for European Commission.

enable them to participate in and drive systemic shifts to a sustainable economy, that is focused on fostering an entrepreneurial ecosystem approach. For this, we would like to share six sets of actions that policy makers may take.

1. *Taking a Systemic Policy Approach to Entrepreneurship*. Conventional policy approaches that aim to foster entrepreneurship tend to focus on promoting startups and the success of small and medium sized enterprises. In line with the ecosystem approach as discussed in this PhD thesis, alternatively a systems approach may be considered by policy makers that orients businesses and institutions towards displaying more entrepreneurial behavior, including policy specifically aimed at strengthening ecosystems.
2. *Facilitating Open Policy Processes*. Policy makers may support innovation systems change for sustainability by creating inclusive and collaborative policy processes. Responding to grand societal challenges requires consultation processes with multiple stakeholders including business, governments, scientists, entrepreneurs and consumers. Such relative open policy processes help fostering systems perspectives; generate creative solutions to sustainability challenging; consideration of the effects of policies on 'people, planet and profit', across sectors at local, regional, national or international levels.
3. *Establishing Enabling Policy Frameworks*. Policy makers may support innovation and systems change for sustainability through establishing a network of enabling laws, rules, agreements, standards and norms that encourage the development of new business models, and promote systems change. Such policies may foster protecting the environment, encourage the sustainable use of resources, and new economic opportunities that derive from these.
4. *Encouraging Green Markets*. Policy makers may support innovation and systems change for sustainability by employing a range of economic incentives and market-based instruments (in addition to legislation). In order for sustainable products and services to emerge, companies may need to invest in innovative technologies and processes. Governments may encourage activities by increasing funding for R&D of sustainable technologies (e.g., innovation funds or low-interest loans for SMEs). Such

carefully designed financial incentives, which are stable and predictable, also may encourage companies to invest in long-term R&D activities.

5. *Support Learning and Innovation Groups*. Policy makers may support innovation and systems change for sustainability by encouraging learning groups, innovation platforms, demonstration projects, and 'living labs'. Knowledge generated and shared through such groups and structures may help shaping new perspectives and policies. Government policies could enable funding to start and manage entrepreneurial networks and platforms potentially fostering new mindsets, values, and collaborative skills required to successfully design and implement innovation and systems change for sustainability.
6. *Assess Wider Sustainability Impacts*. Policy makers may support innovation and systems change for sustainability in business by offering new policy targets based on shared scientific insights and by providing guidelines for assessing sustainable innovation and systems change impacts. These criteria may include ecological, social, economic and governance measurement criteria.

6.6 Avenues for Future Research

There are a number of ways how this PhD project has contributed to the academic discours – these may again be starting points for more future research and more academic debate concering research paradigms and innovation and systems change for sustainability.

First, the focus on interactions between different levels in a system (from micro to meso and macro) is acknowledged in social sciences but highlighted here for understanding the underlying causes and consequences of sustainable systems change. Mission-driven entrepreneurs work towards a certain sustainable goal. This research has hoped to offer in-depth insights into how the ultimate goal-setting of the mission-driven entrepreneur may be achieved throughout different levels of the overall system. Based on the five-layered conceptual model, and following the theoretical and conceptual foundations of mission-driven entrepreurship, systems change and innovation, in-depth case studies (in line with the convential requirements of case study research methods) have

been performed and presented. This resulted in various propositions that, among others, summarized the main insights. Future research may use these propositions for further research and empirical testing in different settings and for different dimensions of systems change other than for sustainability as has been presented in this PhD thesis.

Second, the study aimed to contribute to the emerging field of entrepreneurial business ecosystems. The concept was already originally coined in 1993 by James Moore, but only slowly progressed. In the last decade, business ecosystems have received increasing attention from academia and practitioners. This research aimed to contribute to the understanding of designing, implementing and managing ecosystems. In recent years, the number of publications on the concept of business/entrepreneurial/innovation ecosystems increased (e.g., Adner & Kapoor, 2008; Groth et al., 2015; Iansiti & Levien, 2004; Malecki, 2011; Nambisan & Baron, 2013) showing the increasing relevance of the concept. Despite all efforts, however, the debate about definitions, causes and consequences is ongoing and the field is this emerging. This PhD research aimed to offer such contributions taking foundational steps by using a qualitative case study approach first. Future research may continue along the avenues of research (in definitions, modelling, empirical evidence, and new theory building) and help to develop the perspective of entrepreneurial business ecosystems and issues related this to still relatively new and evolving line of research.

Third, what has not been done so far in the academic literature, is to explicitly link the concept of business ecosystems to wicked sustainability challenges and drawing upon various literature sources, e.g., innovation, entrepreneurship, complexity, transition, and sustainability, to build and test new theory. In this sense, this PhD research has focused to bring different separated literature streams together, which is in line with the reasoning of Sauvé, Bernard & Slan (2016) on what it takes to do sustainability transition research. It is recommended that 'sustainability science' will mature further as a field in its own, while also keeping it's interdisciplinarity and transdisciplinary nature, needed for thinking about and tackling wicked sustainability challenges.

A last point of original academic contribution is the way systems thinking has been used as the back bone of the research (as contrasted with analytical reductionism). It is increasingly being recognized that for sustainability challenges

systems thinking is a must or even the only way forward. Even though there is a very rich literature on systems thinking, including from philosophical, business, and mathematical/physics perspectives, it is not common to apply this paradigm to concrete research questions and to use it as a framework for a new theory. Future research may use this paradigm of systems thinking for framing new research questions. This is especially important in relation to grand challenges and transformation in relation to upcoming digitization and sustainability issues, that will likely affect both planet and humanity.

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SAMENVATTING
(SUMMARY IN DUTCH)

Inleiding en vraagstelling

Momenteel leven we in tijden van verandering, waarbij we mogelijk toegaan naar een nieuw economisch systeem. Digitalisering en de vooruitgang van technologie – als *push* factoren – en wereldwijde duurzaamheidsuitdagingen en recente crises – als *pull* factoren – vragen om nieuwe kennis, inzichten en vaardigheden voor het bedrijfsleven in de 21e eeuw. Het is daarom te overwegen om op zoek te gaan naar een nieuw economisch model dat mogelijkheden voor én welvaart én duurzaamheid biedt. Hiervoor is een andere manier van denken nodig over de organisatie en de rol van het bedrijfsleven in in de maatschappij. Het is belangrijk de rol van het bedrijfsleven niet te onderschatten, omdat juist het bedrijfsleven een leidende rol kan spelen bij innovatie en bij nieuwe manieren van organiseren om de huidige uitdagingen van duurzaamheid mee helpen op te lossen. Het zijn niet alleen overheden die verantwoording dragen bij het mee helpen oplossen van de duurzaamheidsuitdagingen, ook bedrijven kunnen dat doen, op allerlei manieren. Naast nationale initiatieven, speelt het internationale bedrijfsleven hierbij mogelijk een belangrijke rol, aangezien zij slagkracht heeft om onderwerpen internationaal in beweging te brengen. Toch is dit niet altijd vanzelfsprekend; de omslag naar duurzame bedrijfsmodellen vergt veel aandacht en duurzame initiatieven zijn eerder niet toereikend gebleken. Verandering kan ook verwacht worden vanuit een andere hoek, namelijk kleinere- en middelgrote ondernemers met nieuwe duurzame ideeën, die ook bereid zijn en mogelijkheden hebben om hun ideeën om te zetten in concrete acties, waarmee de onderneming als het ware een vehikel vormt voor het bereiken van een (nieuwe) maatschappelijke doelstelling. Hierbij ontwerpen en implementeren ondernemers bedrijfsmodellen die zowel financiële doelstellingen als wel duurzaamheidsdoelstellingen nastreven.

Nieuwe leiders op het gebied van duurzaamheid zijn vaak per definitie ondernemend, aangezien het hun taak is de huidige stand van zaken (status quo) te veranderen. Ondernemers met nieuwe ideeën zien vaak mogelijkheden en kansen die anderen niet zien en zijn ook vaker bereid risico te nemen. Soms hebben ondernemers ook als doel om te laten zien hoe de bestaande praktijk anders kan en volgens hen ook zou moeten. De Nederlandse spijkerbroek met het lease-a-jeans concept of de stevige waterfles om onnodig plastic aankopen te verminderen zijn hiervan voorbeelden. Het daadwerkelijk in de praktijk brengen

van een duurzaam alternatief voor bestaande producten of diensten is vaak overtuigender dan het alleen maar zeggen dat iets niet goed is of anders zou moeten. Deze ondernemers hebben dan vaak ook als doelstelling om hun 'niche' onderneming 'mainstream' te maken.

Kenmerkend voor veel duurzaamheidsuitdagingen is dat ze voorbij gaan aan de belangen van het individu, maar juist gaan over de belangen van het collectief. Duurzaamheidsdoelstellingen zijn dus meestal collectieve doelstellingen. Duurzaamheidsuitdagingen kunnen ook complex zijn, aangezien veel van de uitdagingen systemisch van aard zijn. Er is vaak geen enkelvoudige simpele oplossing maar het gaat om het beïnvloeden van een combinatie aan factoren, om meer diepgewortelde veranderingen te bewerkstelligen in het systeem. Vanuit deze gedachte is samenwerking een logisch fenomeen voor missie-gedreven ondernemers om hun duurzaamheidsdoelstellingen te bereiken. Deze samenwerking kan plaatsvinden met andere ondernemers, maar beperkt zich meestal niet daartoe. Het kan ook gezegd worden dat bedrijfsmodellen van missie-gedreven ondernemers in feite meerdere groepen *stakeholders* dient (versus alleen de investeerders/aandeelhouders zoals in vele traditionele ondernemingen), zoals klanten, business partners, medewerkers, het milieu en de maatschappij. Het idee hierbij is dat relevantie voor deze groep stakeholders ook financiële waarde creëert. Vanuit deze gedachte is het voor missie-gedreven ondernemers vaak logisch samen te werken met vele partijen in verschillende netwerken en ondernemende business ecosystemen. In dit promotieonderzoek bedoelen we met business ecosystemen: "dynamische en zich gezamenlijk ontwikkelende gemeenschappen van diverse actoren die door middel van steeds verfijndere samenwerkings- en concurrentiemodellen nieuwe waarde creëren en verwerven" (Kelly, 2015; vertaling auteur).

In dit onderzoek zijn we een stap verder gegaan door dit concept van business ecosystemen toe te passen op duurzaamheidsuitdagingen, juist het soort uitdagingen die missie-gedreven ondernemers vaak aangaan. Vaak staan bij dit soort ecosystemen duurzame uitdagingen centraal, als een soort hogere doelstelling om gezamenlijk met veel en diverse actoren naar toe te werken. In dit proefschrift hebben we gezien dat dit soort netwerken en ecosystemen zorgvuldig

georkestreerd kunnen worden, al naar gelang de doelstellingen. Ecosystemen en/of netwerken kunnen in vorm en doelstelling van elkaar verschillen, toch zijn er ook overeenkomsten. Het denken en werken in ecosystemen gaat van andere organiseerprincipes uit dan die gebruikelijk in de bestaande en traditionele manier van organiseren. De casestudies die in dit proefschrift gepresenteerd zijn brengen inderdaad dergelijke organiseerprincipes waaronder samenwerken, netwerkend werken, en werken vanuit betekenis voor missie-gedreven ondernemers naar boven.

Dit promotieonderzoek baseert zich op de veronderstelling dat veel van de gangbare organiseerprincipes, zoals hiërarchie en strikte functie-verdeling, niet goed passen bij veel van de huidige maatschappelijke vraagstukken. Vanuit deze veronderstelling hebben we een vijflagenmodel geïntroduceerd, welke gebaseerd is op de principes van systeemdenken. De hoofddoelstelling van dit onderzoek was om een gedetailleerd empirisch inzicht te verkrijgen in hoe dit conceptuele model in de praktijk werkt. Vanuit deze gedachte heeft dit proefschrift verschillende niveaus van het conceptuele model bestudeerd, met daarin speciale aandacht voor het meso-niveau (ecosysteem) in relatie tot het micro-niveau (individuele ondermemers) en het macro-niveau (duurzame systeemverandering). De nadruk op het meso-niveau is relatief nieuw, aangezien in de sociale wetenschappen meestal onderzoek naar of het micro-niveau (bijvoorbeeld organisatiepsychologie) of juist het macro-niveau (bijvoorbeeld politieke wetenschappen) gedaan wordt. In dit onderzoek was het juist de doelstelling om meer inzicht te verkrijgen hoe het meso-niveau een wellicht onmisbare schakel tussen het micro- en het macro niveau zou vormen.

Dit onderzoek is gebaseerd op het paradigma van systeemdenken, waarbij het gaat om zaken vanuit een holistisch perspectief te benaderen, met als centrale premisse 'het geheel is meer dan de som der delen'. Het gaat juist en vooral ook om de interacties tussen de verschillende actoren en de verschillende niveaus.

De centrale vraagstelling van dit PhD onderzoek was:
Wat zijn de onderscheidende organiseerprincipes die systeemveranderingen naar een meer duurzame economie mogelijk maken vanuit een meerlagig model en hoe kunnen ondernemers en leiders deze principes strategisch toepassen in echte empirische contexten?

Deze hoofdvraag is opgedeeld in drie deelvragen. Naast een theoretische fundering en een uitgebreide methodologische verantwoording van de onderzoeksmethoden (hoofdstuk 2) zijn deze deelvragen met behulp van drie casestudies beantwoord:

1. Hoe kunnen missie-gedreven ondernemers hun onderneming inbedden in netwerken en business ecoystemen om hun duurzame doelstelling te bereiken (hoofdstuk 3)?
2. Hoe passen missie-gedreven ondernemers hun bedrijfsmodellen aan om samenwerking in netwerk en ecosysteem settings te optimaliseren (hoofdstuk 4)?
3. Hoe worden netwerken en ecosystemen georganizeerd die expliciet tot doel hebben bij te dragen aan systeemtransities op het gebied van duurzaamheid (hoofdstuk 5)?

De dynamiek binnen en tussen de verschillende niveaus zijn onderzocht met drie verschillende casestudies. Hieronder volgt een overzicht van het conceptuele vijflagen model welke ten grondslag ligt aan dit proefschrift en de belangrijkste inzichten vanuit de drie casestudies.

Het vijflagenmodel en de gerelateerde casestudies

De maatschappij in de 21e eeuw is aan het veranderen. We leven enerzijds in een tijd van ongelooflijke kansen die worden geboden door de snelle technologische ontwikkeling, terwijl we anderzijds geconfronteerd worden met ongekende en vaak wereldwijde uitdagingen, van steeds snellere verstedelijking, toenemende conflicten en politieke spanningen tot de risico's van klimaatverandering, energie, water en voedselzekerheid. Steeds meer onderzoeken we of, en zo ja: hoe, we zouden kunnen overschakelen op een duurzame economie die het onnodig

verbruik van goederen en energie minimaliseert; afval vermindert en producten hergebruikt met de nadruk op functionaliteit en ervaring in plaats van op eigendom; en die tegelijkertijd plaats biedt voor bevredigende en lonende werkervaringen voor de bevolking, waarbij mensen de mogelijkheden krijgen zich te ontwikkelen en hun bijdrage te leveren. Om dit alles te kunnen bewerkstelligen, zal waarschijnlijk 'business as usual' niet meer kunnen volstaan. Digitale technologieën bieden een manier om deze problemen op een andere dan gebruikelijke manieren aan te pakken, maar wellicht moeten ook de manier waarop we denken en handelen heroverwegen en veranderen. Dit beoogd een transitie naar een nieuw systeem, dat meer gebaseerd is op samenwerking en minder op concurrentie.

In dit promotieonderzoek hebben we voornamelijk gekeken naar de rol van ondernemers om deze mogelijke transitie teweeg te brengen. Er is een vijflagenmodel geïntroduceerd welke een raamwerk biedt over hoe deze systemische verandering georganizeerd zou kunnen worden:

1. Missie-gedreven ondernemers met motivatie om verandering te bewerkstelligen (micro-niveau)
2. Missie-gedreven ondernemingen met nieuwe bedrijfsmodellen (micro-niveau)
3. Netwerken, allianties, coalities en collaboratieve modellen met ondernemers (meso-niveau)
4. Business ecosystemen met een grote diversiteit aan actoren (meso-niveau)
5. Verandering op een abstract hoger systeemniveau, zoals regio, maatschappij, of wereld (macro-niveau)

Om de dynamiek in de verschillende lagen van dit model te onderzoeken is er gekeken naar de organiseerprincipes die nodig zijn om veranderingen in beweging te brengen, met name naar hoe succesvolle business ecosystemen te creëren, te organiseren en te behouden zijn, waarin de missie-gedreven ondernemer als een *changemaker* op verschillende niveaus functioneert, om daarmee systemische verandering te realiseren.

Dit proefschriftonderzoek volgde de principes van systeemdenken en complexiteitswetenschappen. Het onderzoek benaderde de vraagstukken vanuit

een holistisch en systemisch perspectief en verschilt daarmee van analytische en reductionistische onderzoeksbenaderingen. Het gebied van ecosysteemdenken en duurzaamheid wordt geleid door complexiteit, en transities naar duurzaamheid zijn niet eenvoudig vast te leggen. Drie casestudies werden bestudeerd om de organiseerprincipes die nodig zijn voor duurzame systeemverandering te verduidelijken. Hierbij is er naar het bouwen van netwerken en ecosystemen in verschillende maar verwante contexten gekeken.

De eerste casestudie betrof een selectie van missie-gedreven ondernemers in Nederland. Ondernemers die missie-gedreven zijn, ontwikkelen nieuwe bedrijfsmodellen die gebaseerd zijn op een 'people planet profit' benadering. Ze werken ook samen in netwerken en ecosystemen. Dergelijke ondernemers zijn gemotiveerde individuen met een visie die zij in staat zijn te vertalen naar een pragmatische en dagelijkse aanpak die nodig is om een bedrijf aan te sturen.

De tweede casestudie betrof het Powered by Meaning Collective, met als thema ondernemers in een netwerkomgeving. Het verschuiven van de denkwijze naar denken in ecosystemen en het opbouwen van ondernemersnetwerken is mogelijk een belangrijke eerste stap. Ondernemende netwerken hebben een krachtige eigenschap: ze vermenigvuldigen zich; ondernemerschap creëert ondernemerschap. Een goed georganiseerd collectief heeft mogelijk een groot potentieel voor financiële en maatschappelijke voordelen.

De derde casestudie betrof de Social Impact Factory, met als thema het van onderop opbouwen van ecosystemen vanuit een publiek-private samenwerking. De Social Impact Factory is een uniek publiek-privaat initiatief met een ondernemende ecosysteembenadering en is daarmee een relevant object van onderzoek voor deze studie. De Social Impact Factory is een initiatief van de gemeente Utrecht en de Kirkman Company en heeft als doel om samen met bestaande organisaties, sociale ondernemers en maatschappelijke initiatieven tot ondernemende oplossingen voor duurzaamheidsvraagstukken te komen. Elke maatschappelijke vraag wordt benaderd met een ondernemende instelling: elke oplossing moet in principe een sociale impact hebben en tegelijkertijd financieel duurzaam zijn. Er wordt inzicht geboden in een nieuwe manier van organiseren

vanuit een ondernemend ecosysteem, terwijl de overheid zowel als actor in het ecosysteem als de enabler ervan optreedt. Daarnaast is een verkennende vergelijking gemaakt met het initiatief Holland Circular Hotspot, dat tot doel heeft Nederland een baanbrekende internationale circulaire hotspot te maken welke dient als een 'living lab' waar de rest van de wereld van kan leren.

De verschillende casestudies belichten verschillende elementen van de opbouw van netwerken en ecosystemen in verschillende maar verwante contexten. Ecosystemen kunnen het best worden gedefinieerd als dynamische en zich samen ontwikkelende gemeenschappen van diverse actoren die nieuwe waarde creëren en vastleggen door middel van steeds verfijndere modellen van samenwerking en concurrentie.

Bevindingen en conclusies

Met het vijflagenmodel zoals hierboven beschreven voor ogen zijn de belangrijkste bevindingen van dit promotieonderzoek de volgende.

(I) NIVEAU VAN MISSIE-GEDREVEN ONDERNEMER. Op dit niveau zijn drie conclusies van belang. Ten eerste zijn ondernemers belangrijke vernieuwers van het bedrijfsmodel: de gedrevenheid en motivatie van de missie-gedreven ondernemer is een van de meest belangrijkste onderscheidende factoren die de onderneming over de traditionele grenzen van sectoren brengt. Ten tweede is de missie-gedreven ondernemer een ondernemende individu met een duidelijke langetermijnvisie en in staat om deze visie te vertalen in een dagelijkse, pragmatische aanpak welke nodig is om een bedrijf te leiden. Ten derde is de persona van de missie-gedreven ondernemer ook terug te vinden in andere contexten, zoals in bestaande organisaties en het openbaar bestuur, waar hij of zij een leider is die zich van de standaard praktijk durft te onderscheiden.

(II) NIVEAU VAN MISSIE-GERICHT ONDERNEMEN. Op dit niveau zijn drie conclusies te trekken. Ten eerste kunnen missie-gedreven ondernemingen zelf effectieve instrumenten voor verandering zijn en fungeren als inspirerende veranderingsagenten in het systeem. Ten tweede, de urgentie voor nieuwe

bedrijfsmodellen en intersectorale innovaties is een prioriteit voor missie-gedreven ondernemingen. Ten derde, missie-gedreven ondernemingen voelen de praktische en pragmatische behoeften om samen te werken in een productief, lerend netwerk dat zich kan ontwikkelen tot een ecosysteem dat impact kan hebben op systeemveranderingen.

(III) NIVEAU VAN COALITIES/NETWERKEN. Op dit niveau zijn twee conclusies van belang. Ten eerste kunnen ondernemingen in een netwerk een hefboomeffect creëren door succesvolle samenwerking, dat wil zeggen, zodanige samenwerking dat ze elkaar aanvullen en elkaars activiteiten versterken. Ten tweede kunnen hefboomeffecten van netwerken worden waargenomen in een betere toegang tot informatie en in een groter potentieel voor verbindingen met leveranciers, kennisinstellingen, investeerders en klanten. In de bestudeerde casestudie deelden alle ondernemingen in het netwerk een gemeenschappelijk doel (visie, missie, strategie), maar hadden ze ook elk met hun eigen unieke waardepropositie/ businessmodel op metaniveau.

(IV) NIVEAU VAN ONDERNEMEND BUSINESS ECOSYSTEEM. Op dit niveau zijn vier conclusies van belang. Ten eerste maken ecosystemen de participatie mogelijk van uiteenlopende organisaties, zowel uit de private als de publieke sector alswel grote en kleine(re) organisaties, die de grenzen tussen traditionele industrieën overschrijden. In plaats daarvan organiseren deze actoren zich rond een specifiek thema, waarbij ieder vanuit zijn of haar unieke expertise een bijdrage kan leveren aan het gemeenschappelijke doel. Ten tweede zijn er nieuwe vaardigheden en kennis nodig om in ecosystemen te kunnen denken en werken, zoals systeemdenken en denken in termen van samenwerking. Ten derde, het denken en werken in ecosystemen vereist dat ondernemingen verschuiven van competitatieve naar meer collaboratieve bedrijfsmodellen. Ten vierde zijn zelfgeorganiseerde ecosystemen in het veranderen van de organiseerprincipes mogelijk belangrijk voor het in gang zetten van een duurzame systeemverandering.

(V) ABSTRACTE HOGERE SYSTEEMNIVEAUS (BIJV. REGIO, MAATSCHAPPIJ, WERELD). Hoewel het vanuit empirisch oogpunt moeilijk is om de impact van ecosysteeminitiatieven op hogere systeemniveaus te bestuderen, zijn

er een aantal overwegingen het vermelden waard. Ten eerste, hoe groter het systeem onder studie, hoe complexer; maatschappelijke systemen behoren tot de meest complexe om te bestuderen; erkennen dat elk 'systeem' bestaat uit verschillende subsystemen en dat elk systeem ook weer deel uitmaakt van een groter systeem, is een belangrijke verschuiving in denken ten opzichte van lineair denken. Ten tweede, economen hebben veel nagedacht over systemen en niveaus zoals de bekende micro-meso-macro indeling Het denken op abstract hoger systeemniveau omvat bijvoorbeeld concepten zoals marxisme, kapitalisme of neoliberalisme. In dit opzicht kunnen concepten zoals circulaire economie of netwerksamenleving de abstractie vertegenwoordigen van nieuwe duurzamere systeem.

Ten derde, helpt het om een duidelijk eindfase in beeld te hebben om gezamenlijk daarnaar toe te kunnen werken. Zo kan bijvoorbeeld het concept van de circulaire economie als een mogelijk toekomstig systeem in gedachten worden gehouden bij het ontwikkelen van een gedeelde visie onder een grote verscheidenheid aan belanghebbenden (zoals bedrijfsleiders, ondernemers, overheidsvertegenwoordigers, academici). Deze visie kan daarbij weer leidend zijn om ook daadwerkelijke te definiëren en uit te voeren.

Samengevat was het belangrijkste doel van dit promotieonderzoek het bieden van een diepgaand inzicht in de dynamiek van systeemverandering voor duurzaamheid. Dit is gedaan door de introductie van een vijflagig conceptueel model waarin de individuele ondernemer met nieuwe ideeën ondernemingen opdirchten die actief zijn in netwerken en ecosystemen met als uiteindelijke doel duurzame systeemverandering. Dit promotieonderzoek heeft aangetoond dat nieuwe businessmodellen en organiseerprincipes, gebaseerd op netwerken en samenwerking, nodig zijn om duurzame systeemverandering te bereiken. Daarbij is voornamelijk gewerkt vanuit het systeemdenken en zijn de conventionele en mainstream onderzoeksmethoden van casestudyanalyse toegepast, die rechtvaardigen dat beide (systeemdenken en casestudyonderzoek) relevant zijn om de onderzoeksvragen van dit promotieonderzoek te beantwoorden.

Bijdragen en aanknopingspunten voor toekomstig onderzoek

Er zijn een aantal manieren waarop dit promotieonderzoek heeft bijgedragen aan het academische discours - dit kunnen opnieuw aanknopingspunten zijn voor meer toekomstig onderzoek en meer academisch debat over onderzoeksparadigma's en innovatie en systeemverandering voor duurzaamheid.

Ten eerste wordt de focus op interacties tussen verschillende niveaus in een systeem (van micro tot meso en macro) erkend in de sociale wetenschappen, maar hier benadrukt voor het begrijpen van de onderliggende oorzaken en gevolgen van duurzame systeemverandering. Missie-gedreven ondernemers werken aan een bepaald duurzaam doel. Dit onderzoek had als doelstelling een diepgaand inzicht te bieden in de manier waarop het uiteindelijke doel van de missie-gedreven ondernemer op verschillende niveaus van het totale systeem kan worden bereikt. Op basis van het vijflagige conceptuele model, dat gebaseerd is op de theoretische en conceptuele fundamenten van missie-gedreven ondernemerschap, systeemverandering en innovatie, zijn diepgaande casestudies uitgevoerd en gepresenteerd (in lijn met de conventiële vereisten van casestudiemethoden). Dit heeft geresulteerd in verschillende stellingen die onder andere de belangrijkste inzichten samenvatten. Toekomstig onderzoek kan deze stellingen gebruiken voor verder onderzoek en empirisch testen in verschillende settings en voor verschillende dimensies van systeemverandering (dit kan op allerlei 'wicked' veranderingsvraagstukken worden toegepast), zoals gepresenteerd in dit proefschrift.

Ten tweede had dit proefschrift als doelstelling een bijdrage leveren aan het opkomende domein van ecosystemen en ondernemerschap. Het concept van business ecosysteem werd oorspronkelijk al in het jaar 1993 bedacht door James Moore, maar het werd niet meteen breed opgepakt en toegepast. In de afgelopen tien jaar hebben echter het denken over en het werken in business ecosystemen steeds meer aandacht gekregen van academici en het bedrijfsleven. Dit onderzoek had als doelstelling bij te dragen tot een beter begrip van het ontwerpen, implementeren en managen van ecosystemen. In de afgelopen jaren is het aantal publicaties over het concept van business/ondernemers/innovatie ecosystemen toegenomen (o.a. Adner & Kapoor, 2008; Groth et al., 2015; Iansiti & Levien, 2004; Malecki, 2011; Nambisan & Baron, 2013) waaruit de toenemende

relevantie van het concept blijkt. Ondanks alle inspanningen is het debat over definities, oorzaken en gevolgen echter nog steeds gaande en is het nog steeds een veld in opkomst. Het doel van dit promotieonderzoek was om dergelijke bijdragen te leveren door eerst een kwalitatieve casestudiebenadering te hanteren. Toekomstig onderzoek kan worden voortgezet langs de wegen van het onderzoek (in definities, modellering, empirisch bewijs, en nieuwe theorievorming) en bijdragen aan de ontwikkeling van het perspectief van 'ondernemende' business ecosystemen en kwesties die verband houden met het nog relatief nieuwe en zich nog ontwikkelende onderzoekslijn.

Ten derde, tot nu toe was in de literatuur het concept van van business ecosystemen nog niet expliciet gekoppeld aan 'wicked' duurzaamheidsuitdagingen. Dit onderzoek heeft dat wel gedaan en heeft daarbij gebruik gemaakt van verschillende literatuurstromingen (innovatie, ondernemerschap, complexiteit, transitie en duurzaamheid) om nieuwe theorieën te ontwikkelen en te testen. Dit is in lijn met de redenering van Sauvé, Bernard & Slan (2016) over wat er nodig is op het gebied van onderzoek naar duurzaamheidstransformatie. Het is ook aan te bevelen dat 'duurzaamheidswetenschap' zich verder doorontwikkeld als een vakgebied op zich, met behoud van de interdisciplinariteit en het transdisciplinaire karakter. Dit is nodig om op een effectieve manier na te denken en actie te ondernemen op het gebied van complexe duurzaamheidsuitdagingen.

Een laatste punt van de oorspronkelijke academische bijdrage is de manier waarop het systeemdenken als ruggengraat van het onderzoek is gebruikt (in tegenstelling tot analytisch reductionisme). Steeds vaker wordt onderkend dat voor duurzaamheidsuitdagingen het systeemdenken een must of zelfs de enige weg vooruit is. Hoewel er een zeer rijke literatuur over systeemdenken bestaat, ook vanuit filosofisch, zakelijk en wiskundig/fysisch perspectief, is het niet gebruikelijk binnen sociale en bedrijfswetenschappen om dit paradigma toe te passen op concrete onderzoeksvragen en het te gebruiken als kader voor een nieuwe theorie. Toekomstig onderzoek kan dit paradigma van systeemdenken gebruiken om nieuwe onderzoeksvragen te formuleren. Dit kan in allerlei vakgebieden, maar het is met name van belang in relatie tot grote uitdagingen en verandering in het kader van digitalisering en duurzaamheidsvraagstukken, die van grote invloed zijn op planeet en mensheid.

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Monique de Ritter is a PhD student in the graduate school of Campus Fryslân, University of Groningen. She obtained a BA (*Cum Laude*) in Liberal Arts & Sciences from University College Roosevelt Middelburg (Utrecht University) and a Research MSc in Social and Behavioral Sciences from the University of Groningen with a focus on Social and Organizational psychology. She gained professional experience at the organizations MeetingMoreMinds, the European Central Bank, and M&L Communication Marketing. She started her PhD research as Marie Carie Fellow at Nyenrode Business Universiteit and continued her PhD research at the Centre for Sustainable Entrepreneurship of Campus Fryslân, University of Groningen. She published two co-authored books and various conference and policy papers on the main theme of her PhD research: mission-driven entrepreneurship for sustainable change. She currently is employed as project manager at M&L Communication Marketing.

Publications and Conference Presentations

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Mission-Driven Entrepreneurship in Ecosystems for Sustainable Systems Change

In this time of systems change entrepreneurs can contribute to finding solutions for challenges the world faces. Focusing on technology is not sufficient, when we do not address organizing principles to change the way of doing business and stimulating innovation. This PhD research has been carried out with the assumption that current and still dominant organizing principles based on hierarchies in business and society are inadequate or even counter-effective in achieving a more sustainable economy. Thereto, this dissertation introduces a five-layered conceptual model based on systems thinking that offers a guidance to identify and analyze the organizing principles needed for sustainable systems change. The main aim of this research was to obtain in-depth insights into how this conceptual model works in practice, with an emphasis on the meso-level (ecosystem) and how this level connects the micro-level (mission-driven entrepreneur) and macro-level (sustainable systems change). The research has found that the ecosystem indeed plays an important role in leveraging the initiatives of mission-driven entrepreneurs for sustainable systems change. New skills and knowledge are needed in order to effectively apply organizational principles, such as deep collaboration and networking, to working in ecosystems.

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