The Purpose of Business: Where value meets Strategic Sustainable Development

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2018
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Where value meets Strategic Sustainable Development

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2018

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

Abstract:
The current global economic paradigm, centred on growth, is a significant barrier in the transition towards a sustainable society. Business-as-Usual companies operating within this paradigm are perceived to prosper at the expense of society and environment which is not viable on a finite planet. The need to rethink the purpose of business is inevitable as maximising shareholder value, has been deemed insufficient to create a sustainable society.

This study aimed to explore: how business models can be used to create value that supports Strategic Sustainable Development. Previous research proposed that the concept of Business Models for Sustainability helps business place sustainability at the core of all consideration. A qualitative research was chosen for which we employed the Framework for Strategic Sustainable Development and combined a literature review with an investigation of three expert groups to answer our research question.

Our findings showed that, compared to other value forms, system value is the most appropriate concept for businesses striving towards sustainable development. Based on our findings, six themes emerged that businesses need to address to accelerate the speed of change towards sustainability. To make a relevant contribution to the intended audience, a prototype has been developed based on our findings.

Keywords: Strategic Sustainability; Framework for Strategic Sustainable Development; Business Model for Sustainability; System Value; Shared Value; Sustainability

II
Statement of Contribution

Our thesis journey began with the realization that the rest of the MSLS year would be spent together in our group of four enjoying the joyful ride of thesis whilst working with one another. Our learning in this thesis process has been rapid and iterative, as it gave us the opportunity to dive into collaborative thesis writing, which none of us had ever been a part of before. Our journey of the thesis was purposely set around learning and contributing to the purpose of business and Strategic Sustainable Development. With this team came diversity and various human dynamics that played out. All members brought forward their strengths and weaknesses which were discussed in the beginning and constantly throughout our time together through biweekly feedback dinners. This helped to create an optimal working environment and closer working relationships.

Each member contributed to the thesis content and process to the best of our ability and worked together throughout the project to co-create the outcome through our shared decision making. We created professional and personal goals in the beginning and held each other accountable to them. There were bouts of enthusiasm towards a new form of value or piece of theory that we discovered that needed calming action, as the chosen topic and new findings at every turn were exciting to each of us at varying moments. In this instance, someone in the team was always able to reel us back to reality and ground us towards our end goal, taking turns to do so in the team. The team set a good standard of trust from the outset and we kept it at a high level throughout the thesis writing process which allowed the collaborative effort and friendships to present itself as it did. Collective naps, kickboxing trainings, dinners, handstand breaks, data-camps, early mornings, late nights, stories, laughter, hangovers, and days in the sun made it a truly enjoyable process.

Lennart, is the youngest team member but participates with enthusiasm and has the fastest mind. He discovered many of our guiding frameworks and inspired us with his enthusiasm towards new ideas with his voracious reading skills. He works reliable on his content and contributes by using his writing skills to create captivating flowing texts to link content and share his ideas in the research that developed our research topic further.

Meera is the caretaker of the team. She is the one who often stopped the fast-paced process to recapture and rethink ideas and concepts when everybody was rushing ahead too far and too fast. Her ability to slow down the project to regroup became important to catch onto areas that needed more focus, like resolving the ever-evolving research question. By being a native English speaker, she also reread many of the drafts and made them more concise.

Memie (Kulvarong) was dubbed the Chief of Communication. Always on top of communication for meetings, interviews and other correspondence on behalf of the team, she enabled us to have one point of call for information share. With her brilliant life tips, she also enhanced our understanding of other parts of life while bringing a fun light-hearted air to the group. Memie brought with her the experience of a sustainability background in her working experience. This helped us to understand some concepts quicker and sense-make the areas that linked business and sustainability.

Sophia’s skill lies in her ability to organizer and structure meetings, content and new concepts very clearly. Her inner German side led her to work efficiently and guide the team throughout
the project keeping a good working flow going. Along with this skill she can grasp new concepts quickly and structures these concepts for the thesis content rapidly while being able to still see the overall structure that is needed. Her drive and motivation towards a good end product has been a guiding force to the rest of the team.
Acknowledgements

We have many things to be grateful for on this quest, special thanks go out to our always present advisor César. His comments, insights, and suggestions kept our process on track. Our meetings were filled with lots of laughter and fun conversations about our shared passion around business models and sustainability. Due to him we were able to navigate through changes and the complexity inherent to our topic. We also want to thank our secondary advisor Jesko, for asking the right questions when we needed them most and being so incredible precise and German in his feedback and coaching. For the MSLS experience, we would like to thank Dr. Karl-Henrik Robèrt and Prof. Göran Broman alongside all the other wonderful staff members that thought us so much in the last ten months.

We are extremely grateful for all the practitioners and experts who were willing to share their wisdom and experiences with us. Speaking to them highly contributed to our own learning and meaningfulness of this process. Therefore, we want to send out a glorious and shining THANK YOU to all our interview partners for sparking new ideas in our minds and revising our prototype. Seeing their work was a true inspiration for us to continue on this path.

Thank you to: Bob Willard, Lorenzo Massa, Florian Lüdeke-Freund, Brian Baldassare, Thomas Long, Carlos Montalvo, Richard Johnson (Volans), Luke Smitham (Impactt Limited), John Silkey, Geraldo Vallen (Join the Pipe), Alexandra Nash (Yuhme), Andreas Weiß (Emil), Kevin James (Flow), Matthias Müller (TNS)

We hope you will enjoy reading our research and that our paths will cross again.

Other things we are grateful for are:

- The company, friendship and love for each other that developed since December
- Our class mates, dear friends and family who we could always count on
- The existence of food on our planet
- The Karlskrona experience spoiling us with beautiful nature and short biking distances
- All the meaningful learnings from embarking on this journey of sustainability and leadership.

We are eternally grateful.
Executive Summary

Introduction

Businesses, as the economic engine of the society, are a contributing force to the degradation of the socio-ecological system (França 2017). To address the ongoing degradation of the social and environmental systems that society depends on, the Strategic Sustainable Development approach was proposed (Robèrt et al. 2002). Current business models indicate a separation in operations where profit is considered superior to society and the environment, which may be directly related to the core of business where value is created. In this thesis, we aim to research how business models can create value that supports Strategic Sustainable Development to contribute to societies transition towards sustainability.

The sustainability challenge is an overarching term used to describe the current mechanisms that drive the destruction of our ecological and social systems, resulting in scarcity of available resources (Broman et al. 2014). One of the threats in the socio-ecological system is the perceived correlation between economic growth and environmental degradation. Since the Industrial Revolution, business practices have evolved to increase their impact on these systems through rapid technological innovations and growing resource intensive consumer demands. Simultaneously, there is an inequality in the distribution of the gained benefits; e.g. the distribution of wealth, living standards and health care (Robèrt et al. 2015). To change these degrading existing patterns, a change of economic models seems to be needed. This includes the way business considers their business models and value (Schaltegger, Lüdeke-Freund, and Hansen 2016; Robèrt et al. 2015; Willard 2012).

According to Handy (2002), the purpose of business is traditionally focussed on maximizing profit, creating shareholder value and generating a return on investment. Debates in academic literature on the purpose of business as described by Friedman (1970) have increased in the last decade, although many academics have questioned the ability of capitalism to foster prosperity (Jackson 2011). The economic paradigm of Business-as-Usual (BaU) as defined by Daly (1996) is where business perform their operations as if there were an unlimited amount of resources on Earth and therefore contribute to the degradation of the socio-ecological system by not acknowledging their position within the system (Daly 1996) relating directly to the tragedy of the commons (Hardin 1968).

The impact of business operating in this manner has larger consequences shared by the many and are outside of the direct jurisdiction of the organisation’s operations. Robèrt et al. (2015) argue that to effectively address the sustainability challenge, a systems approach is needed as the challenge itself is complex and can only be understood by adapting a systems perspective. In a systems perspective, the economy would be part of human society, which exists within the boundaries of the natural environment. With this rationale, business would be a means to transition towards a sustainable society. This systems understanding is key for a successful business to be competent in moving towards sustainable development. (Robèrt and Broman 2017).

To align business and sustainability, the value that a business model should create needs to be understood. The value form inherent to the BaU approach is called shareholder value. Businesses aim to create financial value for its shareholders even if it is at the expense of other stakeholders. An early understanding of the risks of BaU by Elkington occasioned a
shift in business model thinking using the three dimensions of People, Planet and Profit into the understanding, of the “Triple Bottom Line” (1997). Porter and Kramer (2011) took the notion of the Triple Bottom Line and added a strategic, economic perspective to it, which resulted in the concept of shared value. According to multiple researchers a systems perspective has been missing in considering value in business for decades (Abdelkafi and Täuscher 2016; Baumgartner 2014; Stubbs and Cocklin 2008). Shared value has a systems perspective; however, economic gains are still the main purpose of this concept. The understanding of the nested interdependencies is key to understanding how society’s global economy operates (Future-Fit Foundation 2017). With this perspective, the Future-Fit Foundation (2017) proposed a new and yet to be explored concept of system value.

To make effective transformation, a change in the business model is needed (Bocken et al. 2013). Osterwalder and Pigneur define a business model as “the rationale of how an organization, creates, delivers and captures value” (2010, 14). However, current Business Model Innovation (BMI) generally fails to sufficiently embrace the sustainability dimension (Boons and Lüdeke-Freund 2013; Upward and Jones 2016). A business model that tries to move towards supporting sustainable future is called a Business Model for Sustainability (BMfS). For this research, a BMfS is defined as “[A BMfS describes] A company’s sustainable value proposition to its customers and all other stakeholders, how it creates and delivers this value proposition, and how it captures economic value while maintaining or regenerating natural, social and economic capital beyond its organizational boundaries.” (Schaltegger, Hansen and Lüdeke-Freund 2016, 6). Adapting new business models for sustainability creates competitive advantages in form of quantifiable benefits, mitigating risks and increasing profits, as Willard (2012) argues.

This definition touches upon value directly as the core of a business model. The value of a business is created through the value proposition, which we noted to be at the core of a business model. With this same understanding Patala et al. (2016, 1) proposed the notion of a sustainable value proposition as “a promise on the economic, environmental and social benefits that a firm’s offering delivers to customers and society at large, considering both short-term profits and long-term sustainability” This definition places value at the core with a necessary emphasis on the short-term profits, or return on investment, as well as long-term sustainability.

A case study in the potable water industry was chosen to understand the complex relations between all the theoretical components that inform the aim of this research.

The aim of the research was to (1) identify value forms that support Strategic Sustainable Development and (2) to ask how business models could be used to create value at their core by taking a systems perspective. The findings from the research were formulated to be used across expert groups, being both academia, and practitioners, for use in business model design and for further research.

To better understand the value form required for the design of a Business Model for Sustainability, we tackled the following research question:

How can business models be used to create value that supports Strategic Sustainable Development?

The scope of the research focuses on businesses. Business models are investigated from the point of the value proposition while only peripheral touching upon other components like the
impact of supply chain, customer interface and financial model. Value in the scope of this research is considered from a systems perspective, by looking at how value can contribute to the socio-ecological system across the entire value network. For the consideration of Strategic Sustainable Development within our scope we take on an organizational lens to target our research more towards the intended audience.

**Research Design and Methodology**

To answer the research question, a pragmatic qualitative approach was selected. The research approach uses both qualitative and quantitative data collection methods. The figure provides an overview of the research design approach used. Using Method triangulation in the data collection supported validation of the findings, balancing the strengths and weaknesses of each approach (Abowitz and Toole 2010). The combination of the two phases allowed our team to link existing academic research with novel and practice-oriented findings from experts in the field with the specific use of a case study in the potable water industry to strengthen our findings from a real-world context.

In phase 1, we examined value forms and the concept of a BMfS through a literature review. In phase 2, the primary data collection phase, we carried out semi-structured interviews with three Expert Groups; a case industry (A), academia (B) and sustainability consultants (C) for qualitative data collection. Further using questionnaires within expert group A to collect quantitative data to enrich the findings and seek for more inputs. The Framework for Strategic Sustainable Development (Broman and Robèrt 2017) was used as a tool within our methods to: (2) format and guide the methods, (2) structure interviews and questionnaires (3) evaluate literature and (4) strategically analyse the data collected to formulate results.

The intention of the research design and methodology was to create a prototype of a guideline to be sent back to experts within the three expert groups to obtain further feedback on our findings and to generate an iterative loop of research sharing between academia and practitioners.

**Results**

The literature review (Phase 1) describes the results of the analyses completed on the two topics of value and business models in support of Strategic Sustainable Development.

The analysis of literature using the five-levels of the FSSD show that Shareholder value was never intended to address the sustainability challenge and lacked a systems perspective. In contrast, Shared Value has a systems perspective but uses sustainability as an end goal or bottom line resulting in trade-offs leading to the causation of negative externalities unknown to the businesses creating them. System value incorporates a systems perspective and seems to have function as a part of the nested system understanding by allowing negative trade-offs.
to be anticipated, avoided, and allowing the positive impacts to grow simultaneously. It is defined by the Future-Fit Foundation (2017) as: “Business addresses societal needs in a holistic way, while not hindering progress toward a flourishing future.” It is a new and yet unexplored concept.

Through further literature analysis we found discussions that the Framework for Strategic Sustainable Development and the Business Model Canvas can be used hand in hand. The Business Model Canvas adds business guidance on the FSSD, and the FSSD informs the sustainability challenge to the Business Model Canvas (França 2017). Those two factors inform a Business Model for Sustainability. The BMfS has the ability to reach for system value and thus supports Strategic Sustainable Development.

Through the interviews and questionnaires (Phase 2), it was apparent that the adaptation of Business Models for Sustainability is challenging in practice and comes with several obstacles, obstructing the possibility for businesses to realize their capability to create greater value. The results from both the literature phase and primary data collection with the Expert Groups (Phase 1 and Phase 2) were discussed and analysed by the team where a set of obstacles and six overarching themes were found that addressed conditions for the use of business models to create value for Strategic Sustainable Development. These were used for further discussion and for developing a guideline for practitioners.

Discussion

The results from both the literature phase and primary data collection with the Expert Groups (Phase 1 and Phase 2) were discussed by the team and six overarching themes were found that addressed conditions for the use of business models to create value for Strategic Sustainable Development.

Theme 1: Lack of Common Language: To realize business potential, businesses need a unifying operational definition of sustainability. From a critical perspective, it can be argued that the main problem is the lack of agreement in academia regarding the operational definition of sustainability. This lack of agreement makes it hard to offer guidance to businesses who struggle to distinguish offsetting harm through Corporate Social Responsibility activities and green washing from real sustainability.

Theme 2: Systems Perspective: Our data analysis shows that the current perspective in our sample of expert groups is not that of the nested system. This understanding was defined as a prerequisite for creating Business Models for Sustainability.

Theme 3: System Value: The notion of system value moves beyond the concepts of Triple Bottom Line, Shared Value and Stakeholder Value. Those concepts were not good enough in shifting society to move society to a sustainable state, during our interview we found affirming statements.

Theme 4: The Core of Business: Business Models for Sustainability require value proposition design to be central to the model to be able to optimize the move towards sustainability. As Bocken et al. (2013) describe, the value proposition can be used as a leverage point to transform a business into a Business Model for Sustainability by using the proposition at the core of the business model that describes the business purpose.

Theme 5: Mindset and Decision-making: Through our definition of a Business Model for Sustainability and the understandings from expert groups B and C (Academia and Consultants), it is apparent that sustainability needs to be understood as a journey and a
continual process, and not an end goal. This change of mind set is required for supporting the actions of business towards sustainability.

**Theme 6: Leadership and Collaboration:** As identified by the literature analysis and amongst majority of the experts, this transition needs to be supported by leadership. When the purpose of business is no longer driven by economic gain but by system value it can be argued also leadership will need to adopt to a more collaborative and participatory form to shift the Business-as-Usual model towards a Business Model for Sustainability.

Strategic Sustainable Development significantly informed this thesis. Our findings on internal and external obstacles, described in our themes, assist in answering increasing the transition towards sustainability by showing the connections between the economic system and the Strategic Sustainable Development approach (Broman and Robèrt 2017). Furthermore, the reconsideration of value is a mind-shift that does not ask for a different economic system, but for changing the norms by which the system is applied.

**Conclusion**

The present research explored the value that businesses can create through their business model in order to support Strategic Sustainable Development. This issue was tackled, first, by investigating the existing academic literature around Business Models for Sustainability and Value. In addition, interviews have been conducted with case experts, academic experts and consultancy experts.

To answer our research question, we first looked at *value forms that support Strategic Sustainable Development*. In our comparison we found that system value is supportive in the ability to address complex challenges by taking a systems perspective, affording business extra awareness regarding their effect on the system in which they operate. However, when aiming for system value, it is important to move at the right pace, as Robèrt and Broman (2017) emphasized.

The second step to arrive at the answer was to look how *business models create value at their core*. The sustainability challenge, in combination with the concept of business models informs the design of BMfS. The value of a BMfS can be created through the value proposition. The value proposition describes the offerings that a business has towards their stakeholders. The notion of a sustainable value proposition has been defined recently by Patala et al. (2016), it calls for short-term profits as well as long-term sustainability, which was not explicit in the notion of system value.

Informed by the two-previous step we arrive at: *How Business Model for Sustainability can be used to create system value that supports Strategic Sustainable Development*. To make this research relevant for the intended audience we captured guiding components needed as a prerequisite to use a BMfS for creating system value in a prototype (Appendix M).

This thesis has contributed to the quest for increased research around sustainable businesses by exploring new ways of considering value within business models. Aiming to shift business from being part of the problem to being part of the solution and guiding society towards a sustainable stage. For this, we advocate for systems understanding, rethinking the purpose of business and a strategic approach towards this challenging journey.
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Glossary

**Backcasting:** As opposed to forecasting, backcasting is a strategic planning approach that begins with defining a vision of success in the future based on scenarios or basic principles (i.e., constraints that must be met to maintain a system). Planners then chart the best possible course of action leading in the right overall direction toward the vision of success (Dreborg 1996; Robèrt et al. 2015).

**Bottled Water Industry:** The companies that bring pre-bottled water to consumers.

**Business-as-Usual (BaU):** A Business-as-Usual approach perceives the economy as the overarching system everything else depends on (Daly 1996).

**Business Model:** Describes the rationale of how an organization, creates, delivers and captures value (Osterwalder and Pigneur 2010)

**Business Model for Sustainability (BMfS):** A business model designed to support sustainability. (Schaltegger, Hansen, and Lüdeke-Freund 2016, 6): “[A BMfS describes] A company’s sustainable value proposition to its customers and all other stakeholders, how it creates and delivers this value proposition, and how it captures economic value while maintaining or regenerating natural, social and economic capital beyond its organizational boundaries.”

Complex system: A system that is constituted of a relatively large number of parts that interact in complex ways to produce behaviour that is sometimes counterintuitive and unpredictable

**Exchange Value:** is purely monetary and is realized when the buyer pays (Bowman and Ambrosini 2000)

**Expert Group A:** CEO and Management Level of the case study industry

**Expert Group B:** Academics in the field of sustainability and business models

**Expert Group C:** Consultants and sustainability practitioners that help businesses in the transition towards sustainability

**Five Level Framework for Planning in Complex Systems:** The Five Level Framework is a framework designed to help people tackle problems within complex systems. It is especially useful for analysis, decision-making, and strategic planning. As its name implies, the Five Level Framework helps structure information into the following five levels (Broman and Robèrt 2017):

1) System Level, which provides information about the complex system, such as stocks and flows;

2) Success Level, which provides a definition of success based on basic principles

3) Strategic Level, which includes strategic guidelines used to select actions

4) Actions Level, which lists the concrete actions used to move toward the overall goal
5) Tools Level, which names tools used to support planning toward the goal. Importantly, these five levels are not meant to represent a sequential strategic planning process; instead, users should consider the levels and connections between them simultaneously.

**Framework for Strategic Sustainable Development (FSSD):** The FSSD is a scientifically sound conceptual framework for the transition towards a sustainable society (Broman and Robèrt 2017). It includes a unifying and operational definition of sustainability, as well as an approach for whole-systems change that could be applied in any context, at any scale.

**Funnel/ Funnel Metaphor:** A world view that recognizes that current unsustainability problems are due to systemic errors in societal design, connected to each other in complex ways, and are systematically weakening both the social and ecological fabric on which civilization depends. Used in this research as: visualization of the ongoing degrading systems and the safe space that society and business should aim to move towards (Robèrt and Broman 2017).

**Holistic approach:** See Nested System.

**Nested System:** Visualization of the interdependencies of business, society and the environment (Future-Fit Foundation 2017).

**Potable Water:** Water safe to drink.

**Shareholder value:** Economic value created for the shareholders of one company. Often associated with a Business-as-Usual approach.

**Shared value:** A way to achieve economic success through creating value for multiple stakeholders. “Shared value is not social responsibility, philanthropy, or even sustainability, but a new way to achieve economic success. It is not on the margin of what companies do but at the centre” (Porter & Kramer, 2011, 64).

**Socio-ecological system:** The combined system that is made up of the biosphere, human society and their complex interactions.

**Strategic Sustainable Development:** An overarching approach that guides society to a sustainable state by applying the Framework for Strategic Sustainable Development (Broman and Robèrt 2017).

**Sustainable Business Model (SBM):** See Business Model for Sustainability.

**Sustainable Value Proposition:** A market offering that aligns with sustainability in the system outside an organizations boundaries (Patala et al. 2016).

**Sustainability:** A state in which the socio-ecological system is not systematically undermined by society. Society must be in full compliance with the eight Sustainability Principles to achieve full sustainability (Broman and Robèrt 2017).

**Sustainability Challenge:** Addressing the systematic errors of societal design that are driving humanities unsustainable effects on the socio-ecological system, the serious obstacles to fixing those errors, and the opportunities if those obstacles are overcome (Robèrt et al. 2015, 9).
**Sustainable Development:** The active transition from the current globally unsustainable society towards a sustainable society. Once the transition to a sustainable society is complete it refers also to further social development within that society.

**Sustainability Principles (SPs):** Determine what humans must not do to transition towards a sustainable path. These principles are built upon a scientifically rigorous, consensus-based, systems perspective and define the minimum conditions that must be met for a sustainable society; the principles are as follows (Broman et al. 2014; Missimer 2015, 44);

In a sustainable society, nature is not subject to systematically increasing...

1. …Concentrations of substances extracted from the Earth’s crust; Complying with this principle requires replacing the use of certain minerals that are scare in nature with others that are more abundant, using all mined mineral efficiently and systematically reducing dependence on fossil fuels.

2. …Concentrations of substances produced by society; Complying with this principle requires substituting certain persistent and unnatural compounds with ones that are normally abundant or break down more easily in nature.

3. …Degradation by physical means; Complying with this principle requires drawing resources only from well-managed ecosystems, systematically pursuing the most productive and efficient use of both the resources and the land.

And, people are not subject to structural obstacles to...

4. …Health; Complying with this principle requires adjusting any patterns and structures, which systematically have negative consequences for people’s health.

5. …Influence; Complying with this principle requires adjusting any patterns and structures, which systematically undermine people’s influence on the systems of which they are a part.

6. …Competence; Complying with this principle requires adjusting any patterns and structures, which systematically undermine competence, be it a lack of opportunity to develop competence or systematic hindrance.

7. …Impartiality; Complying with this principle requires adjusting any patterns and structures, which systematically undermine impartial treatment

8. …Meaning-making. Complying with this principle requires adjusting any patterns and structures, which systematically undermine meaning-making for people and organizations.

**System:** A set of interconnected parts whose behaviour depends on the interaction between those parts.

**System Value:** “Business addresses societal needs in a holistic way, while not hindering progress toward a flourishing future” (Future-Fit Foundation 2017)
**System Thinking/Perspective:** The organized study of systems, their feedbacks, and their behaviour as a whole. Involves recognising the interconnections among the various parts of a system and then synthesising them into a cohesive view of the whole (Robèrt et al. 2015).

**Tragedy of the commons:** focuses on the idea that commonly owned resources (the commons) tend to be overused because management responsibility is shared and cannot be traced to any one individual (introduced by Garret Hardin (1968))

**Triple Bottom Line (TBL):** concept which seeks to broaden the focus on the financial bottom line by businesses to include social and environmental responsibilities (People, Planet, Profit) developed by John Elkington (1997).

**Reusable Water Bottle Industry:** Companies that deliver water bottles that can be refilled (e.g. with tap water).

**Use Value:** Use value is subjective and defined by the perception of usefulness in relation to needs that are satisfied. Use value can be considered from a social or environmental point of view. (Bowman and Ambrosini 2000).

**Value:** expected output and outcome or subjective notions of the desirable; see exchange value and use value

**Value Proposition (Market Offering):** Value stream, service offer & value proposition, competitors offering, industry factors, customer value proposition, nature of outputs, value architecture, value proposition (Osterwalder and Pigneur 2010).
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1 Introduction

"Anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist." (Boulding 1973, 248)

A growing global population, coupled with changing consumption patterns, creates significant challenges to health, wellbeing and the natural environment. Business activities are a root cause of many environmental and social problems and thus a major source of sustainability concerns (Schaltegger, Hansen, and Lüdeke-Freund 2016). There are multiple perspectives on what the purpose of business is. However, all perspectives agree that businesses should create value. To be able to design a business model that supports strategic sustainable development, it is necessary to know what sustainability is and how to develop sustainability-promoting value. In this thesis, we aim to investigate how business models can be used to create value that supports Strategic Sustainable Development. Robèrt et al. (2015) argue that to effectively address the sustainability challenge, a systems approach is needed as the challenge itself is complex and can only be understood by adapting a systems perspective. In this systems perspective, the economy would be a part of human society, which exists within the boundaries of the natural environment. With this rationale, business would be a means to transition towards a sustainable society. A business model that tries to move towards supporting sustainable development is called a Business Model for Sustainability (BMfS).

The following chapter will frame the research in the existing literature, present the foundations required to understand the sustainability challenge and the impact of business within, as well as define business models for sustainability (BMfS) and different value forms.

1.1 The Sustainability Challenge

There is an ongoing systematic degradation of ecological and social systems (Broman and Robèrt 2017). As awareness for the degradation is expanding, businesses are increasingly called on to contribute to sustainable development (Abdelkafi and Täuscher 2016; Baumgartner 2014). The sustainability challenge is an overarching term used to describe the current mechanisms that drive the destruction of our ecological and social systems. Robèrt et al. (2015) argue that the growing impact of climate change, shrinking biodiversity, poverty and erosion of trust can be traced back to a few overriding mechanisms of destruction of our ecological and social systems. To understand the interconnectedness of the challenges, a holistic systems perspective is needed (Broman and Robert 2017; Abdelkafi and Täuscher 2016; Baumgartner 2014). This systems perspective is needed as Earth itself is a system, as shown in Figure 1.1 (Robèrt et al. 2015). The Earth is a closed system, being closed to matter but open to energy. Solar energy comes in, and energy is radiated back into space. Between the biosphere (where society exists) and the lithosphere (the Earth’s crust) is a slow exchange of matter, as visualized at the bottom of Figure 1.1. Through this exchange there is a systematic
degradation occurring that is based on the enhanced human interaction between the biosphere and lithosphere (e.g., oil extractions).

Since the Industrial Revolution, business practises have evolved to increase the growth of societies through rapid technological innovations resulting in greater consumer demands. This created many benefits, but also had substantial negative impacts on the biosphere. These impacts are still increasing today, as seen by the emergence of unplanned negative impacts such as global warming and ecotoxicity. Simultaneously, there is an inequality in the distribution of the gained benefits; e.g. the distribution of wealth, living standards and health care. This implies that human society is threatening the eco-systems it depends on, while the social system, at a global scale, is troubled. (Robèrt et al. 2015)

The Strategic Sustainable Development (Robèrt et al. 2002) approach describes sustainability as a journey and aims to address the sustainability challenge. Broman and Robèrt (2017) believe that to achieve change at a pace and scale that leads to sustainability, it is necessary to establish a thorough understanding of the characteristics and urgency of the sustainability challenge. To be clear about what is meant when we refer to sustainability in this research, a unifying and principle-based definition of sustainability was chosen. The sustainability understanding in this research is based on the eight Sustainability Principles (SPs). They define success as stopping the unsustainable behaviour, by identifying upstream mechanisms that destroy the socio-ecological system. The SPs function as a framework to provide the limits within which ecological sustainability and a sustainable society can be achieved. (Broman et al. 2014; Missimer 2015) In essence, the SPs act as restrictions determining what humans must not do to transition to a sustainable path (Robèrt et al. 1997). The ‘not’ is included to direct focus to the basic errors of societal design (Ny et al. 2006), as a result eight systems conditions that a sustainable society must meet are as follows:

<p>| | | |</p>
<table>
<thead>
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<tbody>
<tr>
<td>In a sustainable society, nature is not subject to systematically increasing …</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>… concentrations of substances extracted from the Earth’s crust;</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>… concentrations of substances produced by society;</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>… degradation by physical means</td>
<td></td>
</tr>
<tr>
<td>And people are not subject to systematic barriers to …</td>
<td></td>
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<tr>
<td>4.</td>
<td>… health;</td>
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<tr>
<td>5.</td>
<td>… influence;</td>
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<td>6.</td>
<td>… competence</td>
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<td>7.</td>
<td>… impartiality</td>
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<tr>
<td>8.</td>
<td>… meaning-making</td>
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</tbody>
</table>

This sustainable society within the eight SPs is the goal of the Strategic Sustainable Development approach (Robèrt et al. 2002). By understanding the sustainability challenge through this lens, Broman and Robert (2017) see a competitive advantage for businesses that incorporate sustainability. In our context, sustainability for businesses means creating value without violating any SPs through their operations, with an ideal goal of reducing their current violations of these SPs approach (Broman and Robèrt 2017).

One of the threats in the socio-ecological system is the perceived correlation between economic growth and environmental degradation. This is partly addressed in the Sustainable Development Goal 12 of the United Nations, namely, Sustainable Production and
Consumption (United Nations Environment Programme 2015). Although all member United Nations member states acknowledge this, figures show increasing production consumption per unit of economic growth. To change these degrading existing patterns, a change of economic models seems to be needed. This includes the way business considers their business models and value (Schaltegger, Hansen, and Lüdeke-Freund 2016; Robèrt et al. 2015; Willard 2012). Business are in that sense a part of the problem, and have the potential to be part of the solution. Schaltegger and Wagner (2011, 224) argue that Businesses can “contribute to solving societal and environmental problems through the realization of a successful business.”

1.2 The Economic Paradigm of Business-as-Usual

One of the first large-scale research reports to conclude that global economic growth could not take place was The Limits to Growth (Meadows et al. 1972). The report questioned the validity of the economic growth paradigm according to which the creation of economic value is the primary purpose of a business. According to Handy (2002), the purpose of business is traditionally focussed on maximizing profit, creating shareholder value and generating a return on investment. A quote from the Nobel-Prize winning economist Milton Friedman (1970, 178) illustrates this understanding of the purpose of business in this paradigm the most appropriately “there is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game.” Next to Friedman’s perspective, there are multiple viewpoints on the purpose of business, especially in relation to sustainability. Each viewpoint agrees that the main purpose of business is to create value. Value can be split up in two considerations; use value and exchange value. Use value is subjective and defined by the perception of usefulness in relation to needs that are satisfied. Exchange value is purely monetary and is realized when the buyer pays (Bowman and Ambrosini 2000). Use value can be considered from a social or environmental point of view.

Businesses engaged in the approach where growth is based on their financial value increasing are referred to by Daly (1996) as ‘Business-as-Usual’ (BaU). In this approach, natural and societal resources are taken into the economic system, where they are turned into products or services to be sold. At the end of the product life, waste is disposed back into the environment, at little or no cost to the disposer (Daly, Cobb, and Cobb 1994). BaU organisations promote this approach and carry out business as if an unlimited amount of resources on were available on Earth (Meadows et al. 1972).

BaU operates as if it holds no relationship to environment and society. The negative impacts of this business model have larger consequences shared by the many and are outside of the direct jurisdiction of the organisation’s operations. Daly, Cobb and Cobb (1994) state that whatever issues are occurring outside of the operations are dismissed as externalities, following the idea that the economic benefits are larger than the negative consequences. The economic benefits of this are shared by the business and shareholders. BaU measures success based on the created Shareholder Value (Rappaport 1998).
1.3 The Impact of Business

Unsustainable economic development infers that there are negative impacts and a weakening in sustaining civilization due to the decline of the potential in social and ecological systems. Through erosion and pollution, society is damaging and losing the purifying, stabilizing and productive capacities of the earth's quantity of fauna and flora as well as mineral wealth (Steffen 2005), this is being exploited to an extent where the degradation is accelerating. The failure of taking responsibility for the degradation of commonly owned resources was introduced by Garret Hardin (1968) in his report the tragedy of the commons. He argues that the unsustainable overuse of resources takes places due to the inability of players in society, including business, taking responsibility for their role in the larger socio-ecological system.

According to Holmberg and Robèrt (2000), a funnel is used as a metaphor to best illustrate these associated dynamics of the Earth system and the sustainability challenge. The funnel can be used as a way to reason on a macro level to eventually draw conclusions for the micro level of individual business. In this instance, looking at the BaU model within the funnel would provide further insight into its impacts on the socio-ecological system. To understand the funnel metaphor even more, it must be understood that it is only a graphic metaphor for the big-picture dynamics of global unsustainability. In reality, the funnel wall is not as smooth or linear as it appears in the diagram (Robèrt and Broman 2017).

The funnel metaphor (Figure 1.2) visualizes the declining capacity of the socio-ecological system to support human civilization (Broman and Robèrt 2017). The opening of the funnel on the left indicates the declining capacity of the socio-ecological systems to support human civilization. The funnel walls are narrowing due to the current negative impacts on the social and environmental systems on a large scale. If those impacts are reduced or removed, the declining of the funnel walls would cease, as visualised by the centre cylindrical section of the funnel. This is referred to as the ‘safe space of the funnel’. From that space, there is potential to restore the socio-ecological systems (Robèrt and Broman 2017). This understanding is key for a successful business to be competent in “striking a balance between the pace of change towards the opening of the funnel’s stem, on the one hand, and return on investment, on the other.”(Robèrt and Broman 2017, 12). Based on this understanding a successful business would then understand the funnel dynamics to create balance in its rate of change to enter into

Figure 1.2. Metaphor of the declining funnel walls that put a sustainable society at risk (Broman and Robèrt 2017)
the funnel’s stem, and the return on investment on the other hand (Robèrt and Broman 2017) to contribute towards sustainability.

As implied in the description of the funnel metaphor, the continuity of the current economic paradigm and BaU can only lead to destruction of socio-ecological systems that we rely on. Any business disregarding sustainability will most likely face risks and challenges, lose its competitive advantages and be left behind (Willard 2012). According to the Global Risk Report 2018 by World Economic Forum, the damage of our actions has been notoriously apparent, as noted: “environmental risks have grown in prominence over the 13-year history of the Global Risks Report” (World Economic Forum 2018, 11) This trend has continued this year, “with all five risks in the environmental category being ranked higher than average for both likelihood and impact over a 10-year horizon” (World Economic Forum 2018, 6).

On the one hand, businesses can mitigate risks by operating within the safe space of the funnel, but on the other hand there are also opportunities for business to capture (Robèrt et al. 2015; Willard 2012). Adapting new business models for sustainability creates competitive advantages in form of quantifiable benefits, as Willard (2012) argues. An investigation by Lacy, Haines, and Hayward showed that some executive management groups have recognized the need for sustainability and realized the necessity to rethink their businesses for what it can result in to stay competitive in the future (2012). By incorporating sustainability in a systematic way, there are seven apparent benefits in which all business can be leveraged. Willard (2012) identifies these as: (1) an increased revenues and market shares, (2) reduced energy use, (3) reduced waste expense, (4) reduced materials expense, (5) increased employee productivity, (6) lower hiring and attrition expenses and (7) mitigating risks. A detailed description of these benefits can be seen in Appendix A.

The impact of business can harm or support the socio-ecological system. Integrating sustainability into the core of a business and reshaping the business models not only brings profit as a mean to exist, but also provides business benefits. Those benefits act as means to ensure the continuity of business and the systems it depends on by achieving sustainable outcomes that create value beyond business boundaries and benefit others in the system. To create a sustainable business, a holistic view of the value, which is at the core, is required (Bocken et al 2014).

1.4 Considering Business, Value and Sustainability

To discernibly argue for a business moving towards sustainability and capturing the benefits we need to understand the value that a business should create to contribute to Strategic Sustainable Development. In the Business-as-Usual approach, the main purpose of business was to increase its profits (Daly 1996; Friedman 1970). The value form inherent to this approach is called shareholder value. Businesses aim to create financial value for its shareholders even if it is at the expense of other stakeholders.

An early understanding of the risks of BaU by Elkington occasioned a shift in business model thinking using the

![Figure 1.3. Triple Bottom Line visualization (adapted from Elkington (1997))](image-url)
three dimensions of environment, society and economy into the understanding, of the “Triple Bottom Line” (1997), as seen in the Figure 1.3. The concept sought to broaden the focus on the financial bottom line to include social and environmental responsibilities in their accounting. In this understanding, the purpose of business was to be sustainable on all triple bottom lines. This tried to make businesses more aware of the responsibilities they had towards society and environment.

The underlying claim was that value could be created for all three components together. This led to Corporate Social Responsibility (CSR) activities, where companies would create value to the People or Planet components of the TBL (Henriques 2004). But as Corporate Social Responsibility and other sustainability initiatives by businesses were often detached from their core strategies, they mostly served marketing and brand reputation purposes and had limited societal impact (Crilly, Zollo, and Hansen 2012; Fiss and Zajac 2006). This enabled companies to ‘offset’ the harm they were doing through their core operations with doing good elsewhere (Future-Fit Foundation 2017; Willard 2012).

Porter and Kramer (2011) took the notion of CSR and added a strategic perspective to it, which resulted in the concept of shared value: “Shared value is not social responsibility, philanthropy, or even sustainability, but a new way to achieve economic success. It is not on the margin of what companies do but at the centre” (Porter and Kramer 2011, 64). The purpose of business in this notion shifts back to creating economic value, but it could be achieved by creating value for the environment or society. Crane et al., critique that shared value entrenches a “reductionist view of the purpose of business” (2014, 143). In their opinion, sustainable development can be a means to an end in the concept of shared value, and it does not redefine the purpose of business in society.

In chapter 1.1, the need for a systems perspective to support Strategic Sustainable Development was mentioned. According to multiple researchers this has been missing in the purpose of business for decades (Robèrt et al. 2015; Abdelkafi and Täuscher 2016; Baumgartner 2014; Stubbs and Cocklin 2008; Kurucz et al. 2017). According to Willard (2012) and Robèrt et al. (2015), we need to understand the three pillars of sustainability; these are: the economy, human society and the environment within the SPs. These are relatable to the Profit, People and Planet dimensions of the TBL. As individuals we depend on all three of them, as they are nested within each other.

A holistic overview of the integration and interdependence of the whole system where economy is a product of society that in turn is nested within Earth’s environment, is displayed in a simplified image in Figure 1.4. Thus, there can be no thriving economy without society, and no society without the essential environmental systems. Those nested interdependencies are key to understanding how society’s global economy operates (Future-Fit Foundation 2017). In a holistic approach, a thriving society is within the boundaries of a healthy natural planet as the goal, and the economy has become a means to that end (Robèrt et al. 2015). Decision makers in businesses often face potential trade-offs along the bottom lines. This systems-based approach helps them to identify issues that might otherwise be sidestepped. Negative
trade-offs can be anticipated, avoided or at least addressed. With this perspective the Future-Fit Foundation (2017) proposed a new and yet to be explored concept of system value.

While some of these approaches and value form seek to address sustainability, others don’t. A successful business from the perspective of the eight Sustainability Principles is one that understands the dynamics of the funnel (Figure 1.2) and their impacts in the larger system (Robèrt and Broman 2017). Willard (2012) explains that any business disregarding sustainability will most likely face risks and challenges, lose their competitive advantages and be left behind. A business model can be seen as an element that can affect the change needed to address the sustainability challenge from a business standpoint. To support this Bocken et al. (2014) note that with careful business model redesign or business model innovation it would be possible for businesses to integrate sustainability into their business and for new start-ups to design and pursue sustainable business from the outset.

1.4.1 Innovating Business Models

Following the introduction of the Triple Bottom Line, many different definitions of business models emerged (Timmers 1998; Wirtz 2000; Hamel 2000; Chesbrough and Rosenbloom 2002; Osterwalder and Pigneur 2010). A table of all definitions was presented in a paper written by França (2017) and can be found in Appendix B. Teece (2010) claims that the essence of a business model comes from defining how the enterprise delivers value to customers, entices customers to pay for the delivered value, and how companies convert this payment into profit. In Osterwalder and Pigneur’s book on the generation of business models, they define a business model as: “the rationale of how an organization, creates, delivers and captures value” (2010, 14).

It is apparent that in all these business model definitions, the purpose of business centres around economic success, re-enforcing the BaU model. It is in this enduring and unshifting mindset that we see the need for in-depth research into business models. This research has the opportunity to create prolonged change towards sustainability seen to surpass creating solely economic value and focusses on creating more holistic value for more than just the stakeholders. The business model is a good starting point for realizing value beyond economic gains to address the current economic system. Regarding this starting point, Stubbs and Cocklin (2008) claim that redesigning the business model can lead to an integration of sustainability into their business more readily, and for new businesses to design and grow sustainable business from the beginning. Such a redesign requires what is known as “business model innovation” (Schaltegger, Lüdeke-Freund, & Hansen, 2016).

Literature on Business Model Innovation (BMI) commonly tackles the issue of changing the value proposition for the customer. Osterwalder and Pigneur (2005, 2010) describe a business model consisting of the value proposition (product/service to the customer), value creation and delivery (activities, resources, partners, distribution channels) and value capture (cost structure, and revenue model). According to Bocken et al., in the light of the sustainability challenge, business models must seek to go beyond delivering economic value to include other forms of value for a broader range of stakeholders (2013).

However, Bocken et al. (2013) notes that BMI is more than just changing the product or service offering to the customer; it involves changing the way business is done, i.e. redesigning the business model, which must go beyond the products and service offering. BMI involves shifting the focus away from developing individual technologies towards...
creating new systems. BMI for sustainability aims to deliver more positive value to all stakeholders by understanding the tangible and intangible value streams between various stakeholders. This can be done by identifying relationships, exchanging interactions, and capturing opportunities for greater collaborative mutually beneficial value creation (Bocken et al. 2013).

1.4.2 Business Models for Sustainability

When combining the idea of business-model innovation with sustainability, the concept of a sustainable business model becomes relevant (SBM). The term SBM presupposes the possibility of a fully sustainable business model. However, it is nearly impossible to be fully sustainable in the current paradigms system because, the current system is complex and all the impacts of the shift to sustainability cannot be actioned, measured or evaluated immediately.

The term Business Model for Sustainability is preferred in this thesis, as it better defines sustainability as a journey as opposed to something that could already be achieved. To develop Business Models for Sustainability (BMfS), it is essential to consider the integration of social and environmental goals into a more holistic meaning of value in business models (Schaltegger and Wagner 2011; Lüdeke-Freund et al. 2016). Similarly, to the general terminology of Business Models, Business Models for Sustainability are also struggling to find a unifying definition. Many others have tried to define what a BMfS is. The various definitions for a BMfS are noted in Table 1.1 below:

Table 1.1. Overview of definitions for Business Models for Sustainability (BMfS)

<table>
<thead>
<tr>
<th>DEFINITION</th>
<th>SOURCE</th>
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<tbody>
<tr>
<td>“An organization adopting an SBM develops internal structural and cultural capabilities to achieve firm-level sustainability and collaborates with key stakeholders to achieve sustainability for the system that the organization is part of.”</td>
<td>Stubbs and Cocklin, 2008, p.123</td>
</tr>
<tr>
<td>“A business model for sustainability is the activity system of a firm which allocates resources and co-ordinates activities in a value creation process which overrides the public/private benefit discrepancy. That is, a business model for sustainability is the structural template of a business logic which creates the business case for sustainability.”</td>
<td>Lüdeke-Freund, 2009, p.56</td>
</tr>
<tr>
<td>“…a business model for sustainability can be defined as supporting voluntary, or mainly voluntary, activities which solve or moderate social and/or environmental problems. By doing so, it creates positive business effects, which can be measured or at least argued for. A business model for sustainability is actively managed in order to create customer and social value by integrating social, environmental, and business activities.”</td>
<td>Schaltegger, Lüdeke-Freund, Hansen, 2012, p.112</td>
</tr>
<tr>
<td>“Business model innovations for sustainability are defined as: Innovations that create significant positive and/or significantly reduced negative impacts for the environment and/or society, through changes in the way the organization and its value-network create, deliver value and capture value (i.e. create economic value) or change their value propositions.”</td>
<td>Bocken, Short, Rana, Evans, 2014, p.44</td>
</tr>
<tr>
<td>“Business leaders should develop alternative business models that incorporate a broader range of values and ideals than those associated with traditional economic modelling. Explicit inclusion of a firm's social responsibilities can be implemented via social accounting procedures and its mission statement.”</td>
<td>Stirling, 2014, p.812</td>
</tr>
<tr>
<td>“We define a sustainable business model as the rationale of how an organization creates, delivers and captures economic, environmental, and social forms of value simultaneously.”</td>
<td>Joyce, Paquin, Pigneur, 2015, p.3</td>
</tr>
<tr>
<td>“A Business Model for Sustainability (BMfS) describes a company’s sustainable value proposition to its customers and all other stakeholders how it creates and delivers this value proposition, and how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries.”</td>
<td>Schaltegger, Hansen Lüdeke-Freund 2016, p.6</td>
</tr>
</tbody>
</table>

According to the commonalities of all definitions in Table 1.1, a Business Model for Sustainability is about creating significantly increased positive effects - and/or significantly reduced negative effects - for the natural environment and society through changes in the way a company and its network create, deliver, and capture value (Lüdeke-Freund et al. 2016).

For this research the definition of a BMfS as described by Schaltegger, Hansen, and Lüdeke-Freund (2016, 6) is used:
“[A BMfS describes] A company’s sustainable value proposition to its customers and all other stakeholders, how it creates and delivers this value proposition, and how it captures economic value while maintaining or regenerating natural, social and economic capital beyond its organizational boundaries.”

This definition best describes a business model that looks beyond solely economic value and encapsulates value realization from various areas within the business model while supporting sustainability. Understanding business using this definition enables the business to identify the potential resources and capabilities that they can use to develop innovative solutions that turn environmental and social issues into market opportunities (Schaltegger, Hansen, and Lüdeke-Freund 2016; Lüdeke-Freund et al. 2016).

As Figure 1.5 shows, a BMfS consists of the same three elements as any generic business model: value proposition, value creation, and value capture (Schaltegger, Lüdeke-Freund, and Hansen 2016; Bocken, Rana, and Short 2015). The difference is in the way value is proposed to the customer, society and environment, as opposed to only shareholders and customers. A similar breakdown of the normative requirements of a BMfS was introduced by Boons and Lüdeke-Freund (2013). Also, in a BMfS value is created without harming the systems in which the businesses operate. The last difference can be in the way growth is considered, a company focussing only on economic growth, without caring for the harm that that growth can bring is a generic business, or a Business-as-Usual model. A BMfS will consider the negative implications that are associated with growth and make responsible decisions (Bocken et al. 2014).

<table>
<thead>
<tr>
<th>VALUE PROPOSITION</th>
<th>VALUE CREATION</th>
<th>VALUE CAPTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Customer Segments and relationships</td>
<td>5. Resources</td>
<td>10. Value capture for key actors</td>
</tr>
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</table>

Figure 1.5. Value elements in a BMfS adapted from Bocken, Rana and Short (2015)

An optimal focus area for companies to transform their business model into a BMfS is the value proposition (Yang et al. 2017; Lüdeke-Freund et al. 2016; Osterwalder and Pigneur 2010; Bocken et al. 2013). The value proposition within a BMfS would ideally solves problems and satisfies the needs of customers whilst staying within the eight SPs. Bocken et al. (2013) point out that value propositions are at the core of business model innovation and having a sustainable value proposition at the core of a BMfS can benefit a business as it can be hard to imitate. Therefore, value proposition at the core can result in a high potential for sustainable competitive advantage for organisations (Bocken et al. 2013). Focusing thus on value proposition, Bocken et al. (2013) distinguish its three components: Value Destroyed, Value Missed and Opportunities for New Value Creation. Value Destroyed asks for a mapping of the negative social impacts, the harm done to the environment and the depletion of non-renewable resources. To be able to map the value that is destroyed, a systems perspective must be taken to identify the relations. When the destroyed value is mapped,
businesses can innovate to reduce or eliminate the value that is destroyed and capture it in a way that makes business sense (Bocken et al. 2013). Value Missed shows where opportunities are represented in situations where individual stakeholders miss out or fail to effectively utilize existing assets, resources and capabilities, and are operating below the industry's best practice, or fail to receive the benefits they seek from their networks. This value can be captured by collaboration with current or new partners. Both Value Missed and Value Destroyed can be visualised as providing input for Opportunities for New Value Creation through business model redesign (Bocken et al. 2013). The relation of these three components and the value proposition is illustrated in Appendix C.

These elements of a sustainable business model, or BMfS, create a link between different activities inside a company, such as design and production, to more external activities, such as supply chain management, managing partnerships, distribution and end of life (Geissdoerfer, Bocken, and Hultink 2016). When a business model is innovated through the value proposition, this leads to changes in the whole company generating varying value forms and can be described as a sustainable value proposition. The notion of a sustainable value proposition has been defined by Patala et al. (2016, 1) as “a promise on the economic, environmental and social benefits that a firm’s offering delivers to customers and society at large, considering both short-term profits and long-term sustainability.” This definition places a necessary emphasis on the short-term profits, or return on investment, and long-term sustainability, which is also touched upon in Strategic Sustainable Development (Broman and Robèrt 2017) and value forms that surpass economic gains for a business and its shareholders.

1.5 Case Study: Potable Water Industry

To understand all the theoretical components introduced in a real life-context a case study was included in this research. This section offers a brief description of the system in which the potable water industry is situated. In the potable water market, two ways of providing water to customers are distinguished: bottled water and municipal supply (Dettore 2009). The global rise of bottled water consumption poses serious constraints on the ecosystem on which society depends (Gleick 2014). This concern has increased awareness of single-use plastic waste impacts among consumers, creating the need for an alternative option to the disposable water bottle.

The current business model in the bottled water industry has created serious environmental problems (Gleick 2014). For example, the oceans are polluted to the extent that most of marine debris is plastic, including bottles (Orset, Barret, and Lemaire 2017). For the mass market of potable water to become more sustainable, both bottled water industries, and tap water systems need to take initiatives and join effort to reduce unsustainable patterns in this industry. We identified that the bottled water industry is responsible for a lot of single-use packing waste issues. We thus looked for a more sustainable business model that can address this issue. Lately, more companies are trying out new business models. Consequently, the reusable water bottle industry has arisen (Cochrane 2017). Providing reusable water bottles or providing tap water to meet need for potable water in a different way than the bottled water industry does (Acute Market Research 2017). Alongside companies that are in the industry mainly for profit, there are many companies that aim to deliver value to society and the environment. For example, such companies organize social water projects in developing countries or plastic clean-up programs.
For the scope of this research, we analyse companies within the potable water industry in developed countries. The purpose is to investigate how they create value for customers/users, society and environment, as a part of their Business Models. Within the literature review, we are aware of the interdependencies on how value is created; value proposition, value creation, value capture, value destroyed, and value missed. By focussing on the companies’ perspective, we can touch on their intentions as well as the actual results of their sustainability efforts, including value and impacts they intend to create, including profit, to move towards a sustainable society within a sustained biosphere.

1.6 Aim

After reviewing the impact of business within the sustainability challenge, we identified that businesses, as the economic engine of the society, are a contributing force to the degradation of the socio-ecological system. Current business models indicate a separation in operations where profit is considered superior to society and the environment, which may be directly related to the core of business where value is created. Debates in academic literature on the purpose of business as described by Friedman (1970) have increased in the last decade. Many academics have questioned the ability of capitalism to foster prosperity (Jackson et al. 2011). Through these discussions, a need was identified where the purpose of business in a sustainable society could be further elaborated. To do this, the form of value that businesses can create through their business model to support Strategic Sustainable Development was identified as a focal point to research.

We have found very few published research articles where the relationship between business models, value and sustainability are explored to create new ways of considering value within business models for sustainability. To contribute to the existing field of literature we identified the gap that current dominant value forms do not support Strategic Sustainable Development. For business models to become part of the solution, our research aims at evaluating the core of business: value, through a sustainability lens.

Furthermore, we embark on a quest to explore the need for increased research in the transition between businesses and sustainability. This need was expressed by Broman and Robèrt (2017), asking for further investigation into obstacles implied by the economic system that prevent faster progress towards sustainability. The purpose of this research can be further refined into identifying: value forms that support Strategic Sustainable Development by asking how business models could be used to create value at their core by taking a systems perspective.

The intended audience of our research are business leaders, entrepreneurs, consultants and academics, who have a passion for sustainability and are trying to create a positive systems impact through their business. By aiming to inform our audience about obstacles, recommendations and necessary foundations for businesses when considering value for sustainable development, this study focuses on the following research question:

Research Question:

How can business models be used to create value that supports Strategic Sustainable Development?
1.7 Scope

To answer the research question, we scoped the research specific to the target audience: organisations, specifically businesses, that are currently engaging in a transition to sustainability. Inherent to the stated research question are three components that are scoped:

We scope **business models** according to proposed normative requirements by Boons and Lüdeke-Freund (2013): (1) value proposition; (2) supply chain; (3) customer interface and (4) financial model. These proposed normative requirements have to be met for business models to contribute to sustainable development. From these four components, we place an emphasis on (1) value proposition in this thesis to address the early stages of business model design. We do not directly consider the impact of supply chain, customer interface and financial model in the exploration of the research question.

Exchange value and use value were introduced earlier as a definition for value. **Value** in the scope of this research is considered from a systems perspective, by looking at how value can contribute to the socio-ecological system across the entire value network. This means that we exclude how the value is physically created and we look to further understand value as subjective notions of the desirable that are expressed as beliefs, attitudes, and behaviours (Schwartz 2012).

For the consideration of **Strategic Sustainable Development** within our scope we take on an organizational lens to target our research more towards the intended audience. Meaning we do not explicitly state what the benefits for society and environment are.
2 Research Design and Methodology

This chapter provides an overview of our research approach and how the research was conducted. To begin, the choice of our methodological approach is justified, and the overall research design is explained. This is followed by a description on how the conceptual Framework for Strategic Sustainable Development (FSSD), that informed the research design, is used in the analysis. Thereafter, the research approach is elaborated for each phase of the research methods used, i.e. the literature analysis and the primary data collection, to best answer our research question. Subsequently, we elaborate on the relevance of prototyping as a method of research validation. And lastly, we describe the limitations and ethical considerations inherent to our design.

2.1 Methodological Approach

A pragmatic qualitative research approach was selected for this study. Qualitative studies offer detailed summaries of circumstances and aim for a description of these circumstances as interpreted by the researchers (Sandelowski 2000). The pragmatic approach is beneficial for investigating a phenomenon or event in a professional field, to provide descriptive information and inform practices. According to Savin-Baden and Howell Major (2012), the approach does not require methodological orthodoxy and constitutes a balance between descriptive and interpretative research. The pragmatic qualitative approach was paired with a quantitative element in the form of a questionnaire.

Two phases were used to structure the research design. In phase 1, we examined value forms and the concept of a BMfS through a literature review, relative to the requirements of Strategic Sustainable Development. In phase 2, the primary data collection, we carried out semi-structured interviews with our case industry, academia and sustainability consultants for qualitative data collection. Additionally, questionnaires were used for quantitative data collection to enrich the findings and seek for more inputs from the participants, namely the case industry. Figure 2.1 shows the three steps of preparation, collection and analysis that were carried out in Phase 1 and Phase 2.

Using Method triangulation in the data collection supported validation of the findings, allowing us to balance the strengths and weaknesses of each approach (Abowitz and Toole 2010). This combination of the two phases allowed our team to link existing academic research with novel and practice-oriented findings from experts in the field. The purpose of triangulation was used to cross-validate data, as well as to capture different angles of the same phenomenon (Patton and Patton 2002).

All methods are directed towards addressing our research goal of discovering how business models can be used to create value that supports Strategic Sustainable Development. The
Framework for Strategic Sustainable Development was used in the data collection as well as in the data analysis step to structure our interviews and findings.

2.1.1 Framework for Strategic Sustainable Development (FSSD)

The FSSD is a conceptual framework that is used in this research to inform our methods. For the sake of completeness, all components of the framework are introduced here with an emphasis on the components that are actively used in the research design.

The Strategic Sustainable Development approach aims to address the sustainability challenge and the FSSD provides the tools and guidelines to reach a sustainable society (Broman and Robèrt 2017; Missimer 2015; Alwan, Jones, and Holgate 2017; Shapira, Ketchie, and Nehe 2017). The FSSD is designed to give guidance on how to develop any region, business, organization, project or planning endeavour towards social and ecological sustainability in an economically viable way. It has been under continuous development through scientific consensus processes including theoretical exploration, refinement and testing in iterative learning loops between both scientists and practitioners from business and society (Broman and Robèrt 2017). The FSSD is used in this thesis because it is the only framework we found that combines elements for organizations to understand and create the change required to address their role in the sustainability challenge. With its unique features, the FSSD is able to adequately support the complexity of our research question as a conceptual framework.

The FSSD offers four key elements to use to move towards strategic sustainable development (Broman and Robèrt 2017):

1. a unified definition of sustainability described by the eight Sustainability Principles (SPs), as used in the introduction to explain sustainability in the context of this research.
2. The Funnel metaphor also explained in the introduction to contextualise the impacts of business within the sustainability challenge.
3. The ABCD process; an approach to decision making and strategic planning that is useful for defining success within the boundaries of sustainability. Within the ABCD process backcasting as an approach to decision-making, as opposed to forecasting, is used. The ABCD process and backcasting are not used in this research design because their application is best used in practice with businesses (see Appendix D for further explanation).
4. A five-level structuring framework which is useful for clarifying the interrelationships and differences between elements in complex systems that provides analytical clarity. This framework is especially useful for analysis, decision-making, and strategic planning in complex situations and therefore applied in this thesis.

To prepare for the data collection the five-levels of the FSSD were used to structure our literature analysis and questions for the interviews and questionnaire. The five-level framework was further used in the analysis of the data collected to evaluate the data collected from the interviewed experts and the literature review. In the case of the FSSD, the sustainability context has been applied as a lens to each of the framework’s five levels: system, success, strategic guidelines, actions, and tools. The Five-Level-Framework of the FSSD as formulated by Broman and Robèrt (2017) is described further below:

System-Level: contains information about the internal and external environment relevant to the success. Looking at the functionality of the socio-ecological system with an overview of the sustainability challenge. For a specific organization, its dependence on the general
regional and global support systems as well as how it is nested in value chains and other stakeholder networks and how it is affected by unsustainability impacts also belong to the system level.

**Success-Level:** includes the definition of the vision with the requirement that any vision be framed by basic sustainability principles. For organizations, additional success criteria in the form of core purpose, core value and overall ‘end goals’ specific to the organization should be considered. The success level aims to describes the desired future Within the boundary conditions of sustainability principles.

**Strategic guidelines:** demonstrates the approach towards the principle-framed vision in a strategic manner. This includes backcasting from the vision of success to the present reality to understand the gap between current reality and the desired future. For organizations, additional guidelines can be added depending on the context they operate in. Actions should be selected and combined based on their capacity to serve as financially viable actions towards the vision whilst ensuring that resource use can be controlled.

**Actions:** provides a clear description of the concrete actions selected to move towards the defined state of success based on the strategic guidelines within the systems level. The actions defined are prioritized and re-assessed repeatedly to ensure a move towards the vision of success.

**Tools:** this category contains information about additional and complementary tools that support the understanding and decision making about the system, success, strategic guidelines and actions. Tools enhance the effectiveness of an action and help further understand the system and success.

We compared the understanding and knowledge of all levels across experts within our case industry, literature and the other expert groups regarding sustainability to the data based on the strategic tools as given by the Framework for Strategic Sustainable Development.

### 2.2 Phase 1: Literature analysis

An initial literature analysis enabled us to understand the current state of the research on value forms as well as business models for sustainability. The process of conducting the literature review involved searching Google Scholar and other databases like Scopus, BTH Summon and Science Direct. We used clear and focused search terms such as “Sustainable Business Model”, “Business Model for Sustainability”, “Sustainability Challenge”, and “value” in combination with search strings with terms like, “shared value”; and case-specific terms such as “drinking water”, “privatization of water” and “bottled water”. Following that, a snowball method, as explained by Wohlin and Claes (2014), was used to review articles in the field of business, sustainability and value. Snowballing describes the processes of track the references sections of articles have already been included in the review. The first literature review directed us to analyse the current business model realm and identify value as a focus point for our study to address business in the context of Strategic Sustainable Development.

Through these findings we correlated our initial literature results with our research question by focussing specifically on the contributions of business practices towards the sustainability challenge (França et al. 2017). This helped to guide our research towards a better understanding of value in an organizational context (Bocken et al. 2014). In total, we identified 172 articles through key word searches and through snowballing existing literature and defined 55 articles to be relevant to our research approach.
The 55 articles were read thoroughly, and important key concepts were discussed amongst the team members. To analyse the information, we created concept maps to categorize the data and connect them to our research question. For the next step, the two components (i.e. value forms, and business models) that helped compile our research question were taken and compared to the findings in the literature. Necessary requirements for business to contribute to Strategic Sustainable Development were identified to analyse the findings. This analysis was conducted on value forms in specific, as well as business models for sustainability, by stating and comparing the current state of research and using the expertise of the research team to identify where requirements were met and where gaps existed in both these topics. These results were further used to inform the framing of the questions for interviews and questionnaires in the primary data collection. As a subsequent step the results of the literature analysis, Phase 1, were combined with the results of the primary data collection, Phase 2.

2.3 Phase 2: Primary Data Collection

Next to the findings of the literature analysis, a second phase of research was conducted where primary data was collected from three expert groups. This section elucidates the overall research preparation for primary data collection as used in Phase 2 in our research design. We begin by explaining our sampling process and justification for the use of a case study as part of the research design. We then further explain the use of experts from academia and sustainability consultancies that formed the other two expert groups next to the case industry to triangulate source information. We then describe the method of data collection through the use of interviews and questionnaires. And then we describe our method of analysis through coding, and the five-level framework to strategically evaluate our data and report the results of our findings.

2.3.1 Expert Sampling

According to Savin-Baden and Howell Major (2013) sampling can be done on a theoretical basis, or a purposeful one; our research approach (pragmatic) is best supported by purposeful sampling; as it serves the goal of understanding a phenomenon. We used a combination of purposeful and comprehensive sampling (which asks to choose a sample group based on criteria) to evaluate the field of business models and to collect information that can enhance future steps towards creating value. Three expert groups who worked with business models were sampled, this was done to triangulate sources and examine the consistency of the different data sources using the same methods (Patton and Patton 2002). For the triangulation of sources, a case study was used in conjunction with academics and consultants.

2.3.2 Use of a Case Study

Yin (2006) defines the case study research method as an empirical inquiry that investigates a phenomenon within its real-life context; it can be used to validate theoretical research. Case study research can help to create an understanding of a complex issue and can extend experience or add strength to what is already known through previous research (Saunders, Lewis, and Thornhill 2016). For the present purposes, a case study allowed the investigation of the context (Savin-Baden and Major 2013) in which a business transitions towards sustainability. The choice of a case industry enabled us to investigate our research question in a real-life context. This approach was selected as it provided us with the basis for the practical analysis of the research question. Value forms can be investigated and evaluated in this
specific context which leads to a more practical understanding of theoretical concepts. Furthermore, the application of ideas and solutions for identified obstacles in the specific case can be used as a starting point for a more generalized discussion when bringing together the different methods. The case study approach also allows us to scope down our research to fit in the timeframe and make it more tangible. In combination with other experts (expert groups) we could balance the biases that might have arisen from interacting with only a case study perspective.

### 2.3.3 Sampling process

To generate valid findings in Phase 2 and triangulate them, we aimed to extract data from the three expert groups that would offer complementing viewpoints on our research questions to avoid biases. Below a description of our expert groups is presented followed by the steps taken in sampling the specific expert groups specific to this research. To make the results of the thesis applicable and useful to larger user groups three expert groups were chosen to create more general findings.

**Expert Group A: Case study: Companies in the potable water industry**

A case study in the potable water industry was chosen due to their role in much of the single-use plastic waste generated. With this finding we looked for business models within the industry that could address this issue. To better understand the contribution of these companies.

As Figure 2.2 shows, we identified n=130 companies that approached the issue of single-use plastic waste in potable water consumption through a website analysis. The website included an analysis on each company’s focus on value propositions for customer/user, society and environment. In the website analysis, we identified the kinds of products the businesses sold, what material the products were made of, and if they were involved in any sustainability efforts.

The gathered data was used for a criteria-based selection to identify companies that we wanted to interview and/or include in our online questionnaire. N=63 companies remained, to whom we asked to participate in an interview or questionnaire. Additionally, we reached out to a selection of companies in the single-use bottled water industry to get an opposing point of view and aim for maximum variation. These companies were also asked to participate either in an interview or fill out our provided questionnaire.

**Expert Group B: Academia**

Through our literature reviews, we identified key academics in the field of business models, sustainability and value related research. We approached these academics with a request for an interview based on the extent of their knowledge and relevance of their work to our
research field. This group was chosen for us to be able to elaborate on the intersection of academic insights and real-world businesses to further clarify the concepts and findings in their work. In total n=9 researchers were identified and invited for an interview of which n=5 agreed to participate in the data collection for this research topic.

**Expert Group C:** Practitioners/Consultants in the intersection of business and sustainability

To balance the more theoretical input from the second expert group (B) we chose to include in our sample sustainability practitioners in the field of transition to sustainable business models, in the form of consultants. This group of experts were identified based on their work towards helping businesses transition towards sustainability. They were also seen as experts who were bridging the gap between academia and practical application. We identified these experts through a website search for sustainability consultancies. Through the website search we completed an analysis where we identified their role in business model design and transition for existing companies. It was not seen as a prerequisite to have worked with the potable water industry before. We invited n=30 for primary data collection purposes and n=5 agreed to be a part of the research.

**2.3.4 Data Collection**

This section describes the data collection of Phase 2. With the identified sample of expert groups (Appendix E) we collected our primary qualitative data through semi-structured interviews with expert groups A, B and C. We also used additional questionnaires with expert group A for further qualitative and quantitative data collection. This approach was conducted to be able to access a larger audience in the industry for wider data sourcing at a global level.

The interview questions and questionnaire format were structured using the: (1) the Five Levels of the Framework for Strategic Sustainable Development (system, success, strategic guidelines, actions, tools. See 2.1.1) and (2) key concepts identified from literature analysis (output from Phase 1). The semi-structured method was chosen as it provided us with the benefit of not only using several predetermined questions but to move to more specific and additional questions in response to the interviewees reactions and comments (Savin-Baden and Major 2013).

This two-fold approach was chosen to accommodate more companies and make participation easier, thereby increasing the sample size and validity of the findings. The combination of a qualitative and quantitative approach was used to ensure that the research was rich, robust, comprehensive and well-developed (Patton and Patton 2002).

**Interviews**

We conducted fourteen semi-structured interviews with the chosen sample from all three expert groups as seen in the Table 2.1. The use of semi-structure interviews allowed the researcher to adapt to the flow of the conversation and get the most suitable answers for the data collection. This enabled us to use the same set of questions for all expert groups with minor adjustments to adapt the questions as per the informality of the interview process.
### Table 2.1. Overview of interviews conducted in each expert group

<table>
<thead>
<tr>
<th>Interview Sample</th>
<th>Interview No.</th>
<th>Interviewee</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert Group A</td>
<td>Interview 1</td>
<td>CEO</td>
<td>Reusable Water Bottle company (GER)</td>
</tr>
<tr>
<td>Case Industry</td>
<td>Interview 2</td>
<td>CEO</td>
<td>Reusable Water Bottle company (NL)</td>
</tr>
<tr>
<td></td>
<td>Interview 3</td>
<td>Mng. Advisor</td>
<td>Reusable Water Bottle company (SA)</td>
</tr>
<tr>
<td></td>
<td>Interview 4</td>
<td>CEO</td>
<td>Reusable Water Bottle company (SE)</td>
</tr>
<tr>
<td>Expert Group B</td>
<td>Interview 5</td>
<td>Researcher</td>
<td>Adjunct Professor in Innovation and Sustainability</td>
</tr>
<tr>
<td>Scholars</td>
<td>Interview 6</td>
<td>Researcher</td>
<td>Assistant Professor in Sustainable Entrepreneurship</td>
</tr>
<tr>
<td></td>
<td>Interview 7</td>
<td>Researcher</td>
<td>PhD in Sustainable Business Innovation</td>
</tr>
<tr>
<td></td>
<td>Interview 8</td>
<td>Researcher</td>
<td>Professor and Chair for Corporate Sustainability</td>
</tr>
<tr>
<td></td>
<td>Interview 9</td>
<td>Researcher</td>
<td>Senior Research Scientists in Innovation and Environment</td>
</tr>
<tr>
<td>Expert Group C</td>
<td>Interview 10</td>
<td>Expert</td>
<td>Consultant for corporate sustainability (CAN)</td>
</tr>
<tr>
<td></td>
<td>Interview 11</td>
<td>Consultant</td>
<td>Ethical Trade Consultancy (UK)</td>
</tr>
<tr>
<td></td>
<td>Interview 12</td>
<td>Consultant</td>
<td>Leadership and Sustainability Consultancy (US)</td>
</tr>
<tr>
<td></td>
<td>Interview 13</td>
<td>Consultant</td>
<td>Sustainability Consultancy (CH)</td>
</tr>
<tr>
<td></td>
<td>Interview 14</td>
<td>Consultant</td>
<td>Change and Sustainability Consultancy (UK)</td>
</tr>
</tbody>
</table>

The questions chosen tended to be open-ended in their design, to enable the interviewees to share their opinions, experiences, and capture nuances, while at the same time generating data that could be compared across respondents (Savin-Baden and Howell Major 2013). A catalogue of our predetermined questions, which were adapted for every interview, can be found in Appendix F.

The interviews n=14 were conducted over Skype between the 28.02.2018 and the 09.04.2018. The duration of 45-60 minutes allowed the research team to delve into the knowledge of each expert and engage with their experience. Interviews were recorded with permission from the interviewees and transcribed verbatim for coding and analysis. The transcriptions were then sent back to the interview partners to sign off for approval.

### Questionnaires

According to Rea and Parker (2005), questionnaires have become a widely used and acknowledged tool which has derived considerable credibility in qualitative and quantitative research. Following Cresswell (2014), a questionnaire was designed to provide a numeric description of trends by studying a sample of that population. This was complemented with a few open questions within the questionnaire. One of the advantages of a well-structured sample questionnaire is that it allows the researcher to quantify the findings. Other benefits are that questionnaires can be created in a timely manner, are easy to replicate and offer unique comparison opportunities in the analysis phase (Rea and Parker 2005). The nominal data provided by the questionnaire is used to identify common themes that are not outwardly described and can contribute to the categorization of common emergent themes within sourced data (Savin-Baden and Major 2013).

Based on the outlined benefits, a self-administered questionnaire was employed to compliment the conducted interviews, to gather more data and reveal reoccurring characteristics in the Expert Group A (case industry). The purpose of the questionnaires was to gain further insight into value propositions and sustainability in the potable water industry. Our goal for the questionnaires was to identify how and if the businesses (A) understood the system they were nested in; and how they addressed it in their value proposition design for customers/users, society and environment. The questionnaires provided an opportunity to validate the results collected from the interviews and vice versa (Cresswell 2014). We sent out
the web-based questionnaires to those companies that did not participate in an interview but agreed to participate in the study by taking a questionnaire. The questionnaire template that was sent out to the target sample can be found in Appendix G. The question structure was constructed similarly to the interview questions. A web-based approach was chosen as it provided a convenient and efficient way to reach the participants and offered the possibility to anonymize the answers, therefore increasing the likelihood of veracious answers (Rea and Parker 2005).

Thirty-five questionnaires were sent out via e-mail between the 05.03.2018 and the 09.04.2018 with two weeks for a reply. With a response rate of 28%. N=12 questionnaires were filled out and added to the data of Expert Group A. (see Appendix H for response data)

2.3.5 Data Analysis through coding

For the analysis of the primary data within a pragmatic research approach, Savin-Baden and Howell Major (2013) state that it is best to aim for a qualitative content analysis by using modifiable coding systems that correspond to the data collected.

To get a comparable set of data out of the interviews and questionnaires, we initially completed two rounds of coding (open and axial) prior to a further in-depth analysis (Savin-Baden and Howell Major 2013). Open coding involved breaking down the data into first level concepts, or master headings, and second-level categories, or subheadings. A first round of open coding was applied to all interview transcriptions. Each interview was coded individually by two members of the research team, double coding was applied to increase Inter-Coder-Reliability (Blessing and Chakrabarti 2009). Initial codes were partially derived through the concepts and key themes in literature. Additional codes to these emerged during interaction with the transcriptions. A list of codes can be found in Appendix I. Dual Coding allowed the coder to combine different codes for each paragraph and opened the possibility for multiple ways of structuring the data in later steps. The questionnaire results were coded with the same set of codes and included into the interview codes of Expert Group A.

<table>
<thead>
<tr>
<th>Experts</th>
<th>Data Form</th>
<th>Round 1: Codes</th>
<th>Round 2: Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert Group A (Case)</td>
<td>Interview (x4)</td>
<td>54</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Questionnaire (x12)</td>
<td>39</td>
<td>27</td>
</tr>
<tr>
<td>Expert Group B (Academia)</td>
<td>Interview (x5)</td>
<td>71</td>
<td>42</td>
</tr>
<tr>
<td>Expert Group C (Consultant)</td>
<td>Interview (x5)</td>
<td>76</td>
<td>45</td>
</tr>
</tbody>
</table>

In a second step, the data was analysed by axial coding, to identify relationships among the codes, relating codes to each other and organizing the data in new ways (Savin-Baden and Major 2013). Prominent categories began to emerge, allowing us to ask more focused questions on the data. For this, we extracted interviewee excerpts from all 74 codes and consolidated them into an interrelated report. After discussing the codes, all reports were coded again by one person in the research team that had not analysed the tran script yet. With the coding completed, codes were then discussed in relation to our research question and compared across the industry to discover any existing themes and patterns. From these, we
generated code-specific summaries. These summaries provided a clear overview of the opinions of each Expert Group on a specific theme. The number of codes applied in open and axial coding rounds are summarized in the table 2.2.

Discussion moved from small units of information to the broader story, and the process was repeated until a moment of saturation was reached and no new patterns emerged (see documentation in Appendix J). Finally, codes were organized into a total of five clusters (business, system, value, internal and external obstacles and recommendations), miscellaneous codes ultimately fell into these themes in the process. The two code clusters are based on obstacles (internal and external) and recommendations that emerged as highest frequency codes amongst all Expert Groups. The code clusters are documented in Appendix K. In summary, this approach to data analysis exposed patterns across the participating Expert Groups, effectively knitting together their individual experiences into five larger stories and thereby providing meaningful data to answer the research question.

**2.4 Answer to the Research Question**

To translate our coded data captured in the five clusters from Phase 2 into an answer for our research question, we tried to gain a high-level perspective and identified patterns before zooming further into detail. After discussing the five clusters, the team decided to capture insights of the themes: Business, System and Value; into the Five-Level-Framework introduced in section 2.1.1 (Appendix L). This process helped us organize and analyse our data from a strategic perspective to best answer our research question from a strategic sustainable development perspective. We translated the data into results using our own expertise of the Framework for Strategic Sustainable Development. This ensured that the recommendations we made were strategic, yet at the same time challenged the subjectivity of our results and recommendations (Savin-Baden and Howell Major 2013). The two other clusters, internal and external obstacles and recommendations, were analysed in a separate comparison from data within Expert Groups.

To identify which topics and insights belonged to which level of the Five-Level Framework (system, success, strategic guidelines, actions, and tools), the research team created an aligning set of questions. We then used the questions below to be able to strategically organize our findings to generate results:

- **System level**: Which systems conditions are businesses dealing with in their attempt to create value in a BMfS?
- **Success level**: How is success defined for a BMfS aiming to create value. What does success currently mean for businesses?
- **Strategic guidelines level**: What is the current dominant approach to decision-making? How can business aiming for create value select actions that help them move towards success?
- **Action level**: What actions help, according to experts, in moving towards BMfS and create value?
- **Tool level**: What are the tools described by experts to support BMfS and create value?

The remaining code-clusters of the internal and external obstacles and recommendations were used as common findings that could be overlaid onto all five levels. The findings were additionally summarized in the last chapter of the results chapter to provide the reader with an
overview before going on to answer the research question in the discussion chapter. The combined findings of research Phase 1 and Phase 2 were then elaborated on in discussion to concludingly state the answer to the research question in the last chapter of the report.

2.4.1 Iteration through Prototyping

According to Kelley (2010), prototyping is a quick iteration process which provides a first example of something, from which all later forms are developed. To increase the relevance of the conducted research to the intended audience, we used prototyping to balance theoretical and practical work and engage directly with practitioners. We aimed to improve our recommendations, in form of a prototyping procedure with a designated expert from each group (A, B, C): one potable water company, one academic expert and one consultant. They received a proposal (Appendix M) containing focus areas to include into a guideline for creating value that supports Strategic Sustainable Development and were asked to review the proposal. We followed the cycles of prototyping proposed by Curtis (1990) by first identifying the needs of our audience, designing a first guideline based on our results and discussion, sending it to the designated experts as a test, and asking for feedback in order to improve the next design. The given feedback was incorporated into our discussion.

2.5 Limitations of the Research Design

The research design and methodology approach we used proved to have limits to data collection. In understanding this we identified that our research design made us dependent on our external experts in Phase 2 for all our data collection. We had to work with a sample size that was not representative for the whole industry, but we aimed to minimize this by also including other expert groups. Critics of the case study method believe that the study of a small number of cases can offer no grounds for establishing reliability or generality of findings. Others feel that the intense exposure to study of the case biases the findings (Saunders, Lewis, and Thornhill 2016). The research design for data collection was one round of interviews with all three expert groups and a set of questionnaires from the case study. However, an additional interview session with questionnaire takers would have helped strengthen our findings and offered more insights into the research. With regards to prototyping of our findings, the timeline of the project was limited and allowed us to create a first prototype but did not allow us to incorporate feedback from the broader group of interviewees.

2.6 Ethics

There was no formal ethics board approval for this research required. In our primary data collection, informed consent was obtained up front in all interactions with participants. All efforts were made to protect individuals and businesses who participated in the research. The leading principles in the interactions and the analysis of our findings were transparency and honesty. To respect the confidentiality of the data, results are presented anonymised in Chapter 3.
3 Results

This chapter provides our results of the analysis conducted in Phase 1 (literature results) and Phase 2 (primary data analysis). The results are extracted from literature, 10 interviews with experts (academia and consultants) and 4 interviews and 12 questionnaires from the case industry. These sections report on the outcomes of each step taken in the regarding analysing phase of this research. Any given level may contain examples from only a portion of the expert group or individual respondents; however, exclusion simply means they did not provide information that could be connected to the level during the interview.

3.1 Literature Results

3.1.1 Comparison of Value Forms

In the introduction (chapter 1.4), the notions of Shareholder Value, Shared Value and system value were introduced. The analysis (Table 3.1) shows that some of these value concepts are insufficient for addressing the sustainability challenge in a holistic way. For example, shareholder value was never intended to address the sustainability challenge. In contrast, Shared Value was intended to address the societal problems and influence businesses to take into account their stakeholders when creating value. When comparing the current state of research on value forms and identifying requirements for Strategic Sustainable Development (SSD), we found that shareholder value lacked a systems perspective whilst shared value had a systems perspective but uses sustainability as an end goal or bottom line. These approaches to value creation can result in trade-offs with regards to society and environment, and it is possible to use those concepts for offsetting the harm a company does through side activities without addressing the root causes (Henriques 2004). This may cause more harm than good and can lead to the causation of negative externalities unknown to the businesses creating them. What is needed is a systems perspective and an approach that addresses the overall impacts (both positive and negative) a business has within the system (Broman et al. 2014; Abdelkafi and Täuscher 2016; Willard 2012; Baumgartner 2014).

![Diagram](image)

*Figure 3.1. Evolution of value forms towards system value (Future-Fit Foundation 2017)*

The systems approach was investigated by comparing the understandings of the connection between business, environment and society, that inform the value forms. We found that the nested system understanding (Right image of Figure 3.1) contrasts the triple bottom line approach in one way: the TBL approach often results in decision makers in businesses facing potential trade-offs along the three bottom lines. The perception is that creating value for the
people or planet bottom lines (use value) implies financial costs (exchange value). And to make profit, resources from the people and planet areas need to be privatized to generate further economic gains. Opposingly, the systems-based approach helps businesses identify otherwise unseen issues. Allowing negative trade-offs to be anticipated, avoided, or at least addressed and allowing the positive impacts to grow simultaneously. Figure 3.1 shows the understanding of the relationship of business with the environment and society in the different value forms.

In Table 3.1., a summary of the results of the value form comparison is shown. It presents strengths and weaknesses of Shareholder Value, Shared Value and System Value and summarizes the findings into the System and Success Level of the Five-Levels of the FSSD.

**Table 3.1. Value forms comparison based on literature and summarized through FSSD lens**

<table>
<thead>
<tr>
<th>VALUE FORM</th>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
<th>SUMMARY from SSD Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shareholder Value</td>
<td>- Dominant driver in current business paradigm</td>
<td>- Serve the exclusive interests of its shareholder (Magill et al. 2013)</td>
<td>System: Only the narrow system of the business is considered. No acknowledgement of the socioecological system.</td>
</tr>
<tr>
<td>(BaU)</td>
<td>- Efficient in creating ROI</td>
<td>- Companies privatize gains and externalize losses (Magill et al. 2013)</td>
<td>Success: Maximising financial value only, short-term focus on financial gains</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Short-term oriented (Hillman and Kell 2001)</td>
<td></td>
</tr>
<tr>
<td>Shared Value</td>
<td>- Successfully appeals to practitioners and scholars (Crane et al. 2014)</td>
<td>- Ignores the tensions between social and economic goals (Crane et al. 2014)</td>
<td>System: Financial Accounting from the perspective of people, planet, profit. Business comes first, system perspective is lacking.</td>
</tr>
<tr>
<td>(TBL)</td>
<td>- Generating economic value in a way that also produces value for society by addressing its challenges (Porter and Kramer 2011)</td>
<td>- The Triple Bottom Line approach often results in decision makers in businesses facing potential trade-offs along the three bottom lines, the perception is that creating value in the People or Planet bottom lines, costs Profit. And to make Profit, resources from the People and Planet areas need to be privatized (Henriques 2004)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Framework for measuring the performance of the business and the success of the organization using three lines: economic, social, and environmental (Goel, 2010).</td>
<td>- Provides only an umbrella construct for loosely connected concepts (Crane et al. 2014)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Step forward in understanding the role of government in the social initiatives of companies (Crane et al. 2014)</td>
<td>- Based on a shallow conception of the corporation’s role in society (Crane et al. 2014)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- TBL understanding provides additional consistency and balance (Alhaddi 2015)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Value</td>
<td>- Identifies what a business can do across the value web to help others protect ecosystems, optimize resources, safeguard health, and be responsible members of society (Future Fit Foundation 2017)</td>
<td>- Fairly recent concept that has not been acknowledged by many experts in the field</td>
<td>System: The socio-economic system in which the business is nested is largely acknowledged.</td>
</tr>
<tr>
<td></td>
<td>- Systems-based approach makes it possible to identify otherwise unforeseen issues. This allows negative trade-offs to be anticipated, avoided, or at the very least addressed (Future Fit Foundation 2017)</td>
<td>- Not considering the right part of the transition. Given system conditions in current paradigm can hinder implementation from a company perspective</td>
<td>Success: Business in no way hinders and optimally supports society’s progress towards sustainability. When business growth overall positive impact grows.</td>
</tr>
</tbody>
</table>
As Table 3.1 illustrates, the dominant value forms in the current economic system (shareholder value and shared value) have been critiqued for not addressing the sustainability challenge. According to our analysis, only system value incorporates a systems perspective and seems to have the potential to create value that supports Strategic Sustainable Development. It is defined as “Business addresses societal needs in a holistic way, while not hindering progress toward a flourishing future” (Future-Fit Foundation 2017). It aims to contribute to society’s progress towards sustainable development. In a systems approach, the goal is to reach a thriving society within the boundaries of a healthy natural planet. Businesses can become a means to that end aiding in moving towards sustainability (Robèrt et al. 2015).

3.1.2 Business Models informed by the sustainability challenge

To come to a profound answer to our research question, it is not only important to research what value is needed to support Strategic Sustainable Development; it is also of key importance to know how a business model can achieve that value. Therefore, we evaluate it through the lens of the FSSD.

The Business Model Canvas (Osterwalder and Pigneur 2010) is the most common design guide for business models, yet it is incomplete (Upward and Jones 2016). Utilizing the Business Model Canvas can result in businesses identified as ‘successful’, regardless of the scale or longevity of their negative impacts on society (França 2017). It is argued that the Framework for Strategic Sustainable Development and the Business Model Canvas can be used as an addition to each other. The Business Model Canvas adds business guidance on the FSSD, and the FSSD informs the sustainability challenge to enrich the Business Model Canvas (França 2017). Those two factors inform a Business Model for Sustainability.

“[A BMfS describes] A company’s sustainable value proposition to its customers and all other stakeholders, how it creates and delivers this value proposition, and how it captures economic value while maintaining or regenerating natural, social and economic capital beyond its organizational boundaries.” (Schaltegger, Hansen and Lüdeke-Freund 2016, 6).

This definition does not touch on what ‘natural, social and economic capital’ is. On our understanding of use value and sustainability through the SPs, we argue that this ‘capital’ is achieved when not harming the SPs or restoring the harm that has been done. ‘Beyond its organizational boundaries’ can be seen as to call for a system perspective. Thus, BMfS have the ability to lead to system value. However, since system value is meant to be in accordance with the SPs (Future-Fit Foundation 2017), it might not yet be possible to achieve it. Figure 3.2 summarizes the relationships between the concepts.

Figure 3.2. Interrelations between concepts
3.2 Data Analysis Results

3.2.1 System

This section summarizes the systems level and the dominant understanding of the system that business is currently placed, as described by the three expert groups: Expert Group A (case study), Expert Group B (academia), and Expert Group C (consultancy). The system level contains information about the internal and external environment relevant to achieving the vision of success of either an individual business or society as a whole.

To analyse data for identifying systems level results, we asked the question: **Which systems conditions are businesses dealing with in their attempt to create value in a BMfS?**

The systems conditions for achieving system value through Business Models for Sustainability (BMfS) were described as challenging by all three expert groups. A theme that emerged among all is that the constant push for growth in form of maximising financial value is still the predominant driver in all business operations. Businesses are placed in a system where value chains and shareholder networks are driven by this push for growth. Some of Expert Group C argued that a holistic understanding of the impacts and effects is needed to create value across the system.

“And if their business model now requires them to use more resources to grow their revenue, then growth is not a good thing.” (Interviewee 10, Expert Group C)

**Systems Understanding**

One aspect that was tested with all participants across expert groups was their understanding of the system that business is currently operating in. This was implemented to be able to draw conclusions on if there are barriers connected to a lack of understanding. To get comparable results on this complex question, we worked with four simplified images in the Figure 3.3 below:

![Figure 3.3](image)

*Figure 3.3. Images shown to Interview-, and Questionnaire-respondents (without captions) to test systems understanding*

Expert Group A was asked how they perceive the current business that they are operating of, while Expert Group B and C were asked about their perspective of the dominant systems understanding that they came across in their research and work. The results are presented expert group specific:
The charts (Figure 3.4) illustrate the three different perceptions on systems understanding based on the four images: Expert Group A, both the interviewees and the ones who filled in the questionnaires (see Appendix E), are the only one including the nested system which is seen as the base for understanding how to create system value. Based on the data from three expert groups, there is a widespread understanding of the triple bottom line in current business practices. While our sample of academic experts tended to express a higher accumulation of businesses, leaning towards an understanding where business is considered on a higher level over the environment and society. Although they personally all agree that the nested system is the only understanding that will help businesses to operate successfully in the future. This viewpoint was not represented in our industry case sample.

**System conditions as a barrier for achieving system value?**

The case in the potable water industry revealed that the dependency on regional and global support systems, as well as how it is nested in value chains and other stakeholder networks, are affected by unsustainability impacts. Many of the barriers perceived by our case industry were also reflected in the higher-level obstacles mentioned by academia and consultants. While coding the transcripts, the pattern of external obstacles in relation to systems conditions was apparent. The following system barriers were identified throughout the interviews:

One aspect identified by several interviewees of Expert Group B and C was that technological readiness played a big role for the success of new business models. These experts further explained that if the infrastructure is not ready for green innovations; e.g. end-of-life scenarios like recycling, this becomes an obstacle that influences if the innovation can be implemented into the existing system.

“It’s actually a huge problem now and it’s a bit of a hype that every packaging should be biodegradable but then there’s nowhere to dispose it. I don’t know if you know but if you throw biodegradable plastic in with normal recycle plastic, you ruin all that material and it has to be thrown to landfill because you can’t mix
biodegradable materials with recycled materials. So, what happens is we’re just making it worse” (Interviewee 3, Expert Group A)

Next to the obstacle of technological readiness this quote from Interview 3 also shows that innovation without a systems perspective can create unforeseen issues that do more harm than good as a net result. The identification of causes upstream to get to the origin is, according to Experts from Group C, still not widely practiced and leads to fighting symptoms instead of solving problems. Similarly, majority of experts from group B and C clearly articulated that the absence of a readiness in the form of mindset can also decelerate adaption of BMFS and hinder the creation of system value. This includes the conditions for stakeholders from financing providers to investors who are still not capable of supporting more radical business models and other forms of value.

“If the business model doesn’t fit with the basic investment criteria it won’t get investment and that’s another big challenge to overcome. You could also look at how the business models relates to the financial system.” (Interviewee 6, Expert Group B)

Expert Group B identified a barrier for sustainability in business where companies that are not willing to design a business model with potential for scaling up would not fit into the current growth paradigm. Another barrier connected to the growth paradigm is the consumption patterns. As one interviewee observed, the economic system encourages unconsidered consumption.

“If you just to look at the scale of consumption that is necessary. I think the power of the consumer is limited by the system that is in place. To me it is a fundamental problem in the system which is guiding or nudging people into the wrong choice and limiting sustainable behaviour.” (Interviewee 7, Expert Group B)

Even the governmental support systems were identified by all three experts as an obstacle that shape the operating space for businesses. Many of the reusable water bottle companies claimed that there were laws in place that hindered them to redistribute their profits without losing additional money.

“I mean even that system is not set up for it either. So hard facts, for example, we have to pay tax on the money that we give away which means that we had to pay tax on money that we don’t have, because the tax office refuses to see. They see what we give away is our profit.” (Interviewee 3, Expert Group A)

Another dominant question in our current business system, is the question of ownership and accounting for success and losses. According to several of the experts we interviewed, sharing value across different stakeholders like environment and society is a big issue for businesses when it comes to accounting for it. Furthermore, collaboration is difficult because it is hard to determine ownership along collaborating value chains when everything needs to create financial value.

To conclude, our systems level analysis pointed out that a lack of systems understanding was identified by almost all experts across the groups and they pin-pointed many obstacles that
can be connected to that gap and the struggle of our current economic system to create system value.

### 3.2.2 Success

This section explains the success level in regard to sustainability described by the three expert groups interviewed. The success level pertains to the overall goals in the context of sustainability within the systems they operate in. Success is defined as halting unsustainable activity (Broman and Robèrt 2017).

To analyse data for identifying success level results, we asked the question:

*How is success defined for a BMfS aiming to create value? What does success currently mean for businesses in our case study?*

*Dose the Current Paradigm allow for sustainable success?*

As stated in the previous sub-section, the current business paradigm, as described by Expert Group A (Case Study) and B (Academia), explained success to be based on economic growth as a driver for businesses to thrive in the current economic paradigm. This is further validated by Expert C (Consultants) as seen in their short-term approach to business value delivery and drive for return on investment.

“Ok, to be honest, it sounds stereotyped, but that’s how it is. First of all, we are an economic company, so we define success by sales and by selling products.”

(Interviewee 1, Expert Group A)

Another factor that drives the current business paradigm is competition within the market to meet a customer’s needs and stay relevant in an economic paradigm. Expert group A proved that to stay current and relevant within this economic model, they needed to react to the market, thus showing a lack of clarity in their future orientation and focus on their long-term vision. Expert group C, who works with companies to make a transitional shift, noted that majority of the companies they worked with were reactional in their approach towards sustainability and value proposition design efforts as a response to customer loyalty. Larger companies have the benefit of having had created reputational alliances with the consumer.

“Yeah, it’s short-term survival. Basically, large companies they can plan ahead to three years in a new product. But small companies which is about 80% of the total stock of companies in Europe, they have a span of life with two to three years and indeed the rate of survival of let’s say companies, new companies and the small companies, it is about something like from 45 to 55 percent.”

(Interviewee 9, Expert Group B)

64% of the case experts proved to understand the triple bottom line approach as a success level for a sustainable business model, separating their business model into the 3 pillars; finance, society and environment. 46% of the Case expert group A use projects for the society and environment in addition to their Business-as-Usual as well as environmental carbon offsets as a reaction to balance out their negative impacts. Success is conceptually understood by the industry as a triple bottom line approach but not all case experts put this understanding into practice.
A few of companies from the case study understood the concept of a value proposition as the core value of their business models, but majority still created a value proposition for the monetary gain for the business and then the consumer. In these cases, the visions of the companies were thought of in retrospect and did not include sustainability to a large extent. Figure 3.5 below illustrates the varying vision of the case expert group A:

![Pie diagram of vision focus of case study participants](image)

**Figure 3.5. Pie diagram of vision focus of case study participants**

The general overview from the interviews with the expert groups B and C showed an understanding that most large or economically thriving businesses are reluctant to shift business models as they were successful. A vision of success is based on financial success. Some even noted that companies often questioned change in their operating system as they were currently in fortunate positions within the market. Expert group C described the transition process to BMfs difficult based on shifting the mind-set of economic success to sustainable success to drive for change towards sustainability.

“Do you kill a cash cow?” (Interviewee 14, Expert Group C)

**How is a successful Business Model for Sustainability seen?**

As by the definition used in this study, a Business Model for Sustainability is explained as a business model that creates competitive advantage through superior customer value and contributes to the sustainable development of the company and society.

“Why do we need a new business model so what is it about? This may be related to the first stage of the FSSD; but it’s also a lot about what the goals are and how we define the success to then finally see if the goals have been reached. There are some similarities, but this would be an element that we now use as some kind of a new business model element.” (Interviewee 8, Expert Group B)

Success in terms of sustainability as captured from the data analysis of Expert Groups B and C shared an understanding that a business sustainability success is a continual target and not a singular end goal, where the future societies and environment are not undermined but encouraged to flourish. They further described elements that can assist to achieve this through
fairness and focusing on creating value beyond financial gains towards shared benefits, whilst understanding that business operates within an eco-system.

As indicated by many experts from Groups B and C, Business Models for Sustainability keep sustainability at their core with an intrinsic value of sustainability feeding into and through the business through a well-defined vision of success that incorporates sustainability.

“Integrated thinking is behind a sustainable business model where you integrate these ideas into the day-to-day decisions that are being made in the company.”
(Interviewee 10, Expert Group C)

The success for BMfS is explained by both Expert Groups B and C stating that growth within a BMfS is to have positive impacts more than negative impacts, i.e. responsible growth. The obstacles to this are that value for society is hard to quantify, and the value needs to be reaped over a long-term period as opposed to short-term.

“It creates value and in no way subtracts value from… while creating a flourishing future for people and the planet. Something to that effect and they use the word value in there and the value is intended to embrace social value, environmental value, financial value, other than usual value.” (Interviewee 10, Expert Group C)

Value as a driver for success

Academia showed understanding that the value proposition formed the core of a business model for success. Academia and consultants agreed for further development into the business model canvas to incorporate sustainability focus in all areas of business, placing the value proposition at the core of the business model as a driver for success.

“The value proposition of course gives the company the purpose. It creates purpose of the company and it helps all employees to understand why they are doing, what they are doing.” (Interviewee 13, Expert Group C)

What form of value should the value proposition create?

Throughout the interviews with Expert Groups B and C, a dominant understanding of value emerged to go further than describing value measurement within the three areas of value; society environment and consumer. The interviews with these same expert groups brought forward an understanding that social and relationship capitals of a business in forms of, for examples, customer relationships and suppliers relationships, can be used to create greater value through collaboration.

Experts from Group A was sampled on their sustainability efforts and interviewed on their approach to value proposition design and their understanding of sustainable business models. In the Figure 3.5, the sample shows a varying degree of value proposition design focus areas. The success of value proposition design is based those focus areas, which aim to address a wide range crossing various aspects.

Expert group A tended to consider success in sustainability differently as shown in Figure 3.6. 85% understood the nested system, but designed their value proposition independently using projects or CSR approaches to attend to sustainability. This 85% can be broken down into
health (31%), plastic waste (39%) and aiding infrastructure projects (15%). 15% of the interviewed case experts has sustainability at the core of their business. 60% stated that due to their size and the current economic system, they compete to stay in the markets and struggle to maintain a long-term vision because of external factors, namely tax laws, legislation and scrutiny by the consumer.

![Pie diagram showing value propositions design focus](image)

Figure 3.6. Pie diagram showing value propositions design focus

Experts in Group B and C believed in the importance of value proposition design of a BMfS, namely to have the core of the business incorporate sustainability and be the driving force of the business. On the contrary, the case experts looked to solve aspects of the sustainability challenge in one area and consider shared value efforts through projects and offsets.

### 3.2.3 Strategic Guidelines

This section addresses the understanding and importance of decision-making processes for transition towards sustainable future as illustrated by each expert group regarding Business Models for Sustainability and value. To analyse data for identifying “strategic level” results, we asked the question:

*What is current dominant approach to decision-making? How can business aiming for create value select actions that help them move towards success?*

A decision-making process is unique for every company with its own business model, core value, core purpose and vision. Within the current economic system, it was made clear by Experts from Group B and C that the majority of business is profit-driven and fulfilling customer needs. Profit and return on investment are the goal of business and essentially take the fundamental priority in decision making process with hierarchical top-down approach.

“For most people business model equals profit. Profit and nothing beyond or besides that.” (Interviewee 5, Expert Group B)

The transition from the current system to the sustainable future has several obstacles. As indicated by majority of Expert Group C, the main challenging factor is the mindset,
especially the decision makers, regarding systems understanding. A few of experts of Group C stated that some businesses do not see themselves as a part of an ecosystem in which it relies on natural resources. They do not recognize the importance of the system in which they are operating, which can be seen from the data that where many still hold a traditional mindset that ecosystem can provide unlimited resources. Hence, they define the success as financial growth, and solely focus on the economic value. Experts from Group C argued that this obstacle came from a lack of understanding about sustainability, especially at the management level where the relevant decisions are being made. Similarly, Expert Group B elaborated on the lack of understanding that the business perceives sustainability as short-term and reactional, rather than long-term. Another obstacle identified by expert group B is the lack of a clear definition or a shared understanding of sustainability; thus, every business interprets its own meaning.

“It [Business Models for Sustainability] certainly looks beyond profit as a singular success factor but what it really means is highly individual.” (Interviewee 5, Expert Group B)

From perspectives of Experts from Groups B and C, they addressed that a success vision of the new paradigm should be beyond economic value. Businesses need to consider of long-term actions in creating value, not just for the business, but also to those within the system. Many experts from Group B further explained that regeneration of the environment should be the aim of business growth as business is nested within society in which depends its survival on the environment. However, Interviewee 8 from Expert Group B argued when it comes to decision making, businesses still need prioritize profits over other factors as it is a means to future improvement for sustainability.

“The business must have revenues, in best-case profits. But this is just a means, not an end. It need profits to survive and you need profits, for example develop new more sustainable products/services.” (Interviewee 8, Expert Group B)

This is further validated by Experts from Group C on the importance of BMfS design on decision making. The same Experts from Group C asserted that value creation, the execution of value, requires collaboration and engagement with other stakeholders to ensure the quality of value delivered. This creation of value depends on the design of value proposition and decision-making process. The need of collaboration is confirmed by an example from Interview 1. This example captures the essence and interrelation of decision-making process and BMfS.

“We are selling to kindergartens and to schools. Kindergartens and schools get a 20% discount from us. They order our products; the kindergarten pays us 20% less and gets the full money from the parents. At least, this 20% difference they should use for making a trip with the kids or going into the zoo or whatever or buying something for the kindergarten. So, it’s a kind of a social thing.” (Interviewee 1, Expert Group A)

In practice, Expert Group A (Case Study) focused on their vision as the guiding principle to run their businesses. They are purpose-driven with sustainable visions, to make a difference,
which are used as one of the criteria to back-cast in the decision-making process to ensure their business growth aligning with the visions. While profit is still necessary for these companies to survive, the underlying motivation of the business will always be in the picture.

Moreover, Expert Group C took a practical approach and believed that business should incorporate sustainability and systems understanding into their decision-making process. They understood that it is a way to become responsible and doing the right things while gaining economic advantages. These same experts described that by integrating sustainability into the process, business should be able to identify and optimize their intangible assets.

“If you want to achieve this transition to sustainability I think every business should be when they developed their value proposition trying to identify and consider a theme and think about whether there is the possibility to create money for wider stakeholders.” (Interviewee 6, Expert Group B)

To conclude, BMfS and value are crucial elements for decision making towards sustainability, although there is a distinct gap of the knowledge between the three groups. While Expert B and C have more in-depth understandings of BMfS and value, Expert Group A did not but they have incorporated their values into their business models and decision-making process.

3.2.4 Action Level

This section lists the different actions that are undertaking by companies within the case, and actions that are recommended by the academic and consultant Expert Groups.

To analyse data for identifying “action level” results, we asked the question: *What actions did experts mention that help moving towards BMfS and create value?*

When it comes to the actions performed by businesses with regards to sustainability, Experts in Group B and C are aligned on the distinction between ‘Business-as-Usual’ businesses and Business Models for Sustainability. When those actions address sustainability issues that are not directly related to the core of the business, they are referred to as Corporate Social Responsibility (CSR) actions.

“Companies think: ‘We have to be aware of the environment and society, or do stuff about that, to me this is where you get corporate social responsibility.’ Which to me that whole phrase should be an indicator that your business model is not sustainable or sustainability aligned. Because you have to have a department specific to address the need to be good, to be socially responsible. That means that you’re not.” (Interviewee 12, Expert Group C)

Experts from Group C stated that having a CSR-department is an indicator for regular businesses. Other Experts from Group C described CSR being used for window dressing, as if sustainability is a new marketing way. The academia, expert group B, went on to state that the overuse of sustainability terminology in marketing is a dangerous development since it makes it harder for consumers to distinguish CSR from sustainability.

Many experts from Group C described more sustainability-related actions that distinguish the Business-as-Usual businessesm and BMfS. The effort to comply with law and regulations was
one of them. When compliance with law is the driver, they argue, a business is not engaged in introducing sustainability at their core. Other actions that were mentioned are: top-down decision making and growing through investment, mergers and acquisitions.

*What actions can be attributed to Business Models for Sustainability?*

Majority of Expert Group C argue that making better use of resources is an action that can be used to make a shift. They further explain that being more efficient with resources can save a company’s substantial financial numbers. Another Expert from this Group states that when taking the systems perspective, there might be more to better resource usage than just being more efficient. An example of this comes from Interview 2: they found resources to use in their factories, that capture 2.3 tons of carbon-dioxide out of the air, for every ton of material produced. And the left-over electricity is brought to a nearby village. The interviewed company innovated their resource usage to create this system value. This aligns with another point made by Expert Group C, innovating products for people who do not have access to comparable products. In this example the product in question is clean electricity.

Experts from Groups B and C agreed on the importance of innovation. Especially Experts from Group B, stressed that innovation does not necessarily contribute to sustainability instead noting that what is needed to innovate towards sustainable development, is prototyping with the surrounding communities. The need for prototyping in this context is not further investigated or explained, collaboration with stakeholders is a recurring topic mentioned by all three Expert Groups.

“I think it’s hardly ever a sustainable business model in isolation.” (Interviewee 6, 2018, Expert Group B)

This quote by Interviewee 6 calls for collaboration, which relates back to the understanding of the systems that businesses are part of. Interviewee 14 (2018) explained how city governments and sustainable Start-Ups, or SME’s who want to become more sustainable, can help each other by shifting business models. The same interviewee states that if the business does not have the capacity to increase their positive impact, a local government can help them, not necessarily providing funding, but by giving them working space or data so that the city benefits from their sustainability efforts too.

One case-company struggled with this action. They wanted to create a water bottle from biodegradable plastics, but in the market they are selling in, there is no infrastructure for this kind of plastic to be safely biodegraded. This goes together with another aspect proposed by an Expert from Group B, a plan for the full life cycle of the product. The case company tried to plan for a sustainable end-of-life scenario but had to settle for an oil-based plastic, because the required infrastructure was not there.

Another key part, according to Expert Group B, of having or becoming a Business Model for Sustainability is adapting the mindset of being sustainable in all activities undertaken by an organization. An example from the case study is a business that used waste paper from their municipality to package their own products, and thus reduced their packaging costs and helped the municipality with reducing the amount of waste. This act of measuring progress is important according to Expert Group B. Especially, finding a way to measure intangible value can help sharing the story of sustainability efforts and might lead to increased positive impact.
The final action put forward by many experts from Group B and C is education through the core activities of a BMfS. The Expert Group B stated that it is a way to engage stakeholders, increase chances of getting investments and to setting up collaborations with suppliers. One case company provided an example of this:

“As much as it’s harder to try and be sustainable, it’s also easier to win people over. No one is going to press my margins down to nothing because essentially what they’re doing is taking away water from people.” (Interviewee 3, 2018, Expert Group A)

Experts from Group C also pointed out that by incorporating sustainability education in the core of a BMfS, businesses gain a unique opportunity to educate customers about the relationship of customers to the bigger society and the environment.

### 3.2.5 Tools Level

This section focusses on sharing the different tools recommended by academic experts, consultancy experts and the case-industry. Measuring the effectiveness of the tools is not part of this research, this part merely states the opinions of the Expert Groups.

To analyse data for identifying “tools level” results we asked the question: *What are the tools described by experts to support BMfS and create value?*

The main tool introduced by both Expert Group B and C is the Business Model Canvas from Osterwalder and Pigneur. Within Expert Group C, there are multiple arguments in favour and against the Business Model Canvas. It is argued that it serves well for creating an overview of a business and encourages thoughtfulness. But at the same time, it lacks ways to encourage consideration of society and environment.

According to Expert Group B, the usage of the model in business practices is questionable, even though academia agrees on the relevance of it in modern business literature.

“I can imagine a lot of businesses are created in different ways [not using the business model canvas]. I think the point is that the people who have a desire to create the same with business models in a way are probably already doing this or many of them at least, they’re already doing this naturally.” (Interviewee 6, 2018, Expert Group B)

Expert Group B also introduced a more sustainability focussed variation on the Business Model Canvas: The Flourishing Business Canvas, as put forward by Antony Upward (Appendix N). In this canvas, there is a section embedded to consider the environment and society, next to the economy. Value is at the heart of the canvas, but it is put under the name of *value co-creation*, which calls for collaboration, and *value co-destuctions*, which requires a systems perspective to be conscious about the trade-offs during the designing of the business model.
3.3 Summary of Results

The results presented above give a list of key findings as identified through the interviews with the three expert groups. The listed items are a consolidation of the findings through analysis and groupings of the most used codes and have identified obstacles through the analysis phase.

Our literature results introduced the definition of system value from the Future-Fit Foundation (2017) as being the best value to support Strategic Sustainable Development. Currently it does not seem possible to achieve system value, due to non-supporting systems. However, a Business Model for Sustainability has the potential to create this value. A Business Model for Sustainability has sustainability practices at the core of its operations.

With our findings, it was clear that the adaptation of Business Models for Sustainability is challenging and comes with several obstacles. The current economic system is the key hindrance behind the change needed. As the current push for financial growth creates a mindset where businesses think they cannot contribute to solving societal issues without losing profit. One of the barriers to BMfS is the lack of systems understanding where the main understanding of system is still limited to triple bottom line. Together with the unsustainable economic system and the lack of systems understanding, businesses can only identify and seek monetary gains as their success while neglecting their responsibilities to impacts they cause within the systems. The systems level analysis reflected this lack of systems understanding by almost all experts across the Groups, and they pin-pointed many obstacles that could be connected to that gap and the struggle of our current economic system to create system value. Without this understanding of the systems and recognition of self-benefits, it is inevitable that business growth based on profit takes precedent over a systems understanding where sustainability could be the focus to create other forms of value.

The data further showed a significant difference in how each of the three expert groups conceived of success. Experts from Group B and C believed in the importance of value proposition design of a BMfS, namely to have the core of the business incorporate sustainability and be the driving force of the business. Contrastingly, Experts from Group A looked to solve aspects of the sustainability challenge in one area and consider shared value and CSSR efforts through projects and offsets. In summary, BMfS and value are crucial elements for decision making process across the expert groups, although there is a distinct gap of the knowledge between Expert Group B and C, and Expert Group A. While Expert B and C have more in depth of BMfS and value understanding, Expert Group A (case group), little to no understanding of a BMfS and value, incorporated their purpose into its business models and decision-making process.

Through our literature findings and data analysis, our results depicted a series of themes that emerged within all the experts’ interviews and the found information from literature. Hence, we placed these themes into the five-level framework of the FSSD: system, success, strategic guidelines, actions and tools. From doing this, we combined and consolidated findings from the 3 expert groups into overarching themes that addressed conditions for the use of business models to create value for Strategic Sustainable Development. The themes are (1) lack of common language, (2) systems perspective, (3) system value, (4) the core of business, (5) mindset and decision making, and (6) leadership and collaboration; they will be discussed further in regard to the research question in the next chapter.
4 Discussion

The discussion is connecting our findings throughout this research with the findings from the Phase 1 literature analysis and our Phase 2 results from the Expert Groups primary data. We will also reflect upon the relevance of the present research throughout this chapter. Six themes that came up through analysing the literature and data across the five levels are discussed. The results are then discussed in relation to the existing field of literature. The next subchapter introduces the prototype that was sent out to some of the Experts who participated in the research. The last subchapter discusses the validity of the results and the limitations of the chosen approach.

4.1 Theme 1: Lack of Common Language

As our results show, the lack of common language and terminology for sustainability has led to implications and has consequentially enhanced the existing obstacles to adaptation of Business Models for Sustainability (BMfS). Across the three expert groups, we have seen a wide range of definitions and language employed when discussing sustainability. While Expert Groups B and C might have somewhat similar use of language, their understanding of the terminology revealed inconsistency and is often based on individual interpretations. These experts showed greater knowledge of different terminology used in the field of sustainability; however, the Expert Group A clearly had limited knowledge of academic terms and understanding. Despite the lack of shared understanding of language, the three expert groups had a commonality; the intention to contribute their efforts towards a sustainable society. Although the intention is critical, the need of common language is more relevant than ever (Robèrt et al. 2015). Without a clear and universal definition of sustainability, the efforts to make sustainable changes can have unintended consequences. This is what all efforts towards a sustainable society currently encounter, even though they might have the same intention to do good. The outcomes of these efforts can end up as trade-offs, rather than contributing to the causes, and do more harm than good.

Language can be seen as the foundation of businesses as it develops knowledge and capacity that can further shapes the direction of a business. When it comes to BMfS development, the use of sustainability language is important. To realize business potential towards sustainability, businesses need a unifying operational definition of sustainability. As Robèrt et al. put it: “how could we otherwise coordinate collaboration across disciplines and sectors while avoiding creating new problems for each problem solved, and instead design problems out of the system in a strategic way?” (2015, 19). Without a common definition of sustainability, the understanding of sustainability challenge is compromised and so are the possible actions towards it. The general society might recognize global warming and climate change as sustainability issues, but what might not be realized is that those are symptoms of underlying root causes, such as the current unsustainable economic system. Without a clear definition and understanding of sustainability, Business Models for Sustainability cannot be recognized as being different from CSR activities. Based on our findings, BMfS has the potential and ability in supporting the transition towards sustainable future, which in no way harms the system. By having a common language, BMfS might be able to influence those in the same system, such as suppliers, to shift their positions towards a sustainable path.
The lack of a common language in the academic realm makes it hard to offer guidance to businesses who struggle to distinguish CSR and green washing from real sustainability. The language barrier or misuse could negatively contribute, as it disables exchange amongst experts. According to Experts from Group B, it can be discussed that the overuse of sustainability terminology in marketing is a dangerous development, because it makes it harder for consumers to distinguish CSR from sustainability.

The lack of common language needs to be addressed urgently, as it has a ripple effect to how efforts and actions for sustainability can play out, in order to align all efforts and actions towards sustainability. To address this, the recommendation for business to be transparent of both their positive and negative impact was identified in the prototype further in this chapter.

4.2 Theme 2: Systems Perspective

As documented throughout the introduction and results the sustainability challenge is complex and the confusion around terminology use is complicating communication even more. When this complex challenge is paired with business, as a part of the problem but simultaneously as part of the solution, businesses need system thinking to address all factors adequately. In order to be part of the solution, in the sustainability challenge, businesses need to take a systems perspective to become aware of externalities. When a systems approach is taken, the goal is no longer a thriving economy, where society and environment are dealt with independently and only used for resource extraction. The goal has become a thriving society, including economy, within a healthy environment.

As literature analysis and results amongst the interviewed expert groups revealed, there is currently a lack of systems understanding. This might be one of the obstacles in the transition towards sustainability. Although the sample case was only representing one industry, the concordance was assured by literature analysis and the other experts groups. The difference of systems understanding between experts in Figure 3.3 can be explained by our sampling process, as companies chosen for Expert Group A already proceeded towards sustainability while Expert Group B and C were asked to assess their impression of overall business. Nevertheless, this analysis showed that the nested system is not the dominant understanding. This understanding is defined as being important for creating Business Models for Sustainability by showing that business is a part of the larger socio-ecological system. We identified this lack of understanding as problematic as businesses with the TBL understanding separate business from the society and environment. This might leave businesses unaware of the harm that they are doing in the entire system. Therefore, we argue that systems understanding is important to create Business Models that work in favour for sustainability, as defined earlier, by not harming any of the sustainability principles moving society towards the safe walls of the funnel.

This is not to say that sustainability and aiming for profits are incompatible, we argue the opposite by saying business should become part of the solution. What is needed however, is fully internalizing all the costs, including those of the environment and society. Due to the current competitive system not being ready, and businesses will go bankrupt if they will do, we emphasize the need for businesses to move at the right pace. That involves accelerating the pace of change towards sustainability, while generating sufficient return on investment.
From our finding we can furthermore discuss that general systems understanding, which can be defined as acknowledging the nested system, is only one part of the systems understanding needed. Additionally, to the “overarching” systems understanding (within the nested system), every business needs to understand their individual system which is influenced by the given systems conditions. Within those systems conditions, our results revealed many external obstacles that then influence the success, defined as becoming sustainable.

To give an example, a challenging systems condition that was identified by all expert groups and in literature, is the current economic system which demands economic growth and influences many decisions due to the short-sighted approach that comes along with it. It also impacts another external systems condition that was identified by all experts, namely the policies and laws that are in place which are currently more supportive of the Business-as-Usual approach than any form of sustainable business innovation. Without governments and structures in place that enable businesses to address the system in a holistic way, the current system will remain a barrier that significantly contributes to the current unsustainable way of doing business and can therefore not create value for a larger system. A systems perspective is also needed to adapt new ownership understandings. When collaboration is seen as a leverage point in creating more circular business models and material flows and value creation are not assignable to one single business anymore we need to start to measure success differently and find new ways to account for ownership to combat the current underlying concept in play; the tragedy of the commons (Hardin 1968).

As systems understanding was identified as a crucial success factor for achieving a sustainable future, we aimed to determine ways how this understanding could be achieved within business. Some experts stated that a possible way to enhance systems understanding is through the utilization of tools. One of them, identified by experts and through literature analysis, is the Flourishing Business Model Canvas from Antony Upward (Appendix N) (Hoveskog et al. 2018).

This addition to the systems understanding is a significant insight regarding the research question as it implies that we do not only have the identified the need for a systems understanding and a given gap in reality. We also face obstacles of how to overcome this gap as the current system is not supportive for sustainability. Previous research has focused on the importance of systems understanding but not yet the connection to create value that addresses the system effectively, which will be discussed in the next section.

### 4.3 Theme 3: System Value

Building on the need for systems understanding, we want to discuss that a change in the way businesses consider value is needed. Next to the current dominant focus on exchange value, there needs to be more attention on use value for society and environment. The notion of system value comes from the Future-Fit Foundation and has according to our literature analysis the possibility to address this. It is currently not yet peer-reviewed by academia, but as it is built on the foundation of the FSSD, we see a lot of potential for it. The definition of system value however is not very detailed nor explicit: “Business addresses societal needs in a holistic way, while not hindering progress toward a flourishing future” (Future-Fit Foundation 2017). We argue that the ‘societal needs’ can be read as use value for society or environment. Not hindering progress might be interpreted as not harming any of the SPs. But, as argued before, the current design of systems makes it hard to not harm any of the SPs. For that
reason, system value is currently hard to reach. However, if sustainability is a journey, aiming for system value is a vision that can contribute to the journey. Various academic and consultancy experts indirectly expressed their support for system value as the new main purpose of business. System value was visualized through the graphic of the nested system, however, there are also risks by using the graphic as it oversimplifies the complexity of the systems perspective. Another consideration that should be taken into account when this notion of system value is used, is that the goal is not an economically sustainable business, it is a means to this end. Thus, it is very important that the business generates enough return on investment to survive, but the goal is to arrive at a sustainable society in a healthy environment. When those considerations are taken into account, we believe that the notion of system value might help the transition for businesses to adapt a Business Model for Sustainability.

Within the potable water case, we have seen that some companies consider themselves as part of the nested system, yet they are not fully aware of where they create value and where they do harm, which might imply a lack of systems perspective. For this, the Value Proposition Breakdown from Bocken et al. (2013), might be a useful tool. When companies map where they create and where they destroy, or miss, value, they can make strategic decisions on how they reach their vision, if it does not violate the sustainability principles. In this way, business can move in the right direction, and at the right pace, as mentioned in the introduction regarding moving to the safe space of the funnel walls. The notion of system value moves beyond the concepts of Triple Bottom Line, Shared Value and Stakeholder Value. During the introduction, it was already noted that those concepts were not sufficient in shifting society to move society to a sustainable state, during our interview we found affirming statements.

Experts critiqued the pure instance of having a Corporate Social Responsibility (CSR) department. For one of the consultants, this implied that the company was not social responsible. The academic experts made a clear distinction as well, if companies do CSR at the side, they are compensating for harm they are doing through core activities. This was considered ‘window dressing’. By sharing this understanding, it is important to note that the interviewed consultants were all closely involved in academia. However, in the case companies in the potable water bottle industry, none of the companies said they did CSR activities, for them it was all through their core.

After our literature research and interviews, we state that if the intention of business is to create value that supports the social and ecological systems, economic value is likely to follow.

### 4.4 Theme 4: The Core of Business

As Bocken et al. (2013) describe, the value proposition can be used as a leverage point to transform a business into a Business Model for Sustainability by using the proposition at the core of the business model that describes the business purpose.

A theme that emerged among all the case experts showed a constant push for growth in the form of maximizing financial value gain. From our findings of the sampled case expert group, they all understood that the focus on sustainability was ideally at the core of their business. However, they believed their actions had to be in reaction to the systems conditions of the current economic system to inform their business to exist. Expert groups C also stated that a
decision to move to sustainability when a business is successful is even harder as they do not see the monetary benefit of making that shift. Proving that the current economic system is a driving force that validates the use of the Business-as-Usual framework as opposed to the Business Model for Sustainability, hindering sustainability to be a core to the overall business success. When sustainability is considered at the core of business in a BMfS, value needs to be considered beyond just economic gain and considered through value both tangible and intangible across the systems.

As described in the previous subchapter, system value (Future-Fit Foundation 2017) is required instead of shared value creation. A tool that has been developed to assist in the holistic value creation of a BMfS is the already mentioned Flourishing Business Model Canvas by Anthony Upworth (Appendix N). This canvas could be used in conjunction with a system value understanding and findings by Bocken et al. (2013), as presented in Figure 1.5, and the eight sustainability principles (Broman et al. 2014; Missimer 2015). This places sustainability at the core of business models and can be a strategic action towards reaching sustainability central to a business.

### 4.5 Theme 5: Mindset and Decision-making

Through the results, it is apparent that the mindset of the businesses towards sustainability is an underlying theme that emerged through each focus and seemed to play a big role in their decision-making processes. Expert from Groups B and C both strongly argued that business should incorporate sustainability and systems understanding into their decision-making process, as a framing where business can be responsible while still making business sense. By integrating sustainability into the core of their business model, business can identify and optimize their intangible assets and use resources optimally.

Many of the case experts showed that their decision-making process were a reaction to the dominant, economic understanding of the purpose of business. They need to stay relevant within the current competitive economic markets. This could be seen in the forms of short-term driven decisions. This approach generally showed a lack of clarity in future orientation and focus on their long-term vision. Many small to medium businesses had created visions and missions based on sustainability, but showed focus on forecasting to inform their actions to remain relevant. This affected the ability for these smaller businesses to create long term plans. Therefore, they used visions and missions for success as an afterthought to defend their business case, instead of acting towards that vision in every step. Currently, success in value proposition design is defined as a response to the customer’s needs to remain relevant in the competitive market as opposed to having a sustainability mindset at a business’ core.

To build on this, Experts from Group B and C state that most businesses are still profit-driven, even the ones that the sustainability consultants work with. Businesses tend to design their business models to generate profit while fulfilling the customer needs to stay relevant. Profit and return on investment are still the goal of business and essentially take the fundamental priority in decision making process with hierarchical top-down approach. Experts from Group C argued that this obstacle came from a lack of understanding about sustainability, especially at the management level. For a business to adapt a BMfS, sustainability concerns should be evident in every decision that is made.
Through our definition of a Business Model for Sustainability and the understandings from Experts in Groups B and C, it is apparent that sustainability needs to be understood as a journey and a continual process, and not an end goal. This is a mindset change that is required. This mindset change can affect the decisions that business make in their actions towards sustainability. Many businesses use the tool of forecasting to help facilitate their actions forward, resulting in short-term decision-making without consideration on the impacts of those actions on the larger system. To create system value and generate more positive impacts whilst reducing negative impacts, backcasting can be used in conjunction with forecasting. Backcasting is a tool that aims in strategically planning towards a vision of success using a long-term mindset. Backcasting should be used along with strategical forecasting as means to move towards sustainability (Broman and Robèrt 2015).

When acting towards sustainability, there have been benefits proven to give organizations competitive advantage as described by Willard (2012). Willard’s 7 business benefits can be used as testament to a business case for sustainability. These can provide suggestions for future actions at the moment when managers create their business case. In practice, this approach on a business case can counter the mindset that economic value gain should be the main driver of a business model as opposed to sustainability.

Isolated evaluation of value and business models are not feasible to work towards a sustainable society as everything is dependent on surrounding systems. The identification of causes upstream to get to the origin is, according to Experts from Group C, still not widely practiced and leads to fighting symptoms instead of solving problems. Similarly, not-given readiness in form of mindset can also decelerate adaption of BMfS and hinder the creation of system value.

4.6 Theme 6: Leadership and Collaboration

A move towards Business Models for Sustainability calls for creating a mind shift by understanding the role of business from a systems perspective. As identified by the literature analysis and amongst the majority of experts this transition needs to be supported by leadership. When the purpose of business is no longer driven by economic gain but by system value it can be argued that leadership will also need to adapt to a more collaborative and participatory form in order to shift the Business-as-Usual model towards a Business Model for Sustainability.

In our research Experts from Group B strongly argued that a holistic understanding of the impacts and effects of a business is needed to create value across the system. It can be seen through this perspective that to create system value, stakeholder engagement is required in the design of the value proposition to be able to understand the impacts of a business from a holistic perspective, proving the need for a collaborative approach central to a value proposition design. In this holistic approach, a thriving society within the boundaries of a healthy natural planet would be the goal, and the economy has become a means to that end (Robèrt et al. 2015).

From the interviews with expert groups B and C, an understanding that social and relationship capitals of a business in forms of, for examples, customer relationships and suppliers’ relationships emerged showing that these relationships can be used to create greater value
through collaboration. This approach would be key to achieve change through a relational approach with shared value between stakeholders to create an ecosystem of value success.

Experts from Group A assert that value creation and the execution of value, requires collaboration and engagement with other stakeholders to ensure the quality of value delivered and operate in alignment with their vision. Proving that sustainability should be an intrinsic value in a BMfS and a leading force. The need of collaboration is validated by an example from Interviewee 1 who stated the purpose of their business is to tackle single-use plastic in hope to reduce waste by using their resources from the environment and society, in the form of partner companies and innovated materials, embedded in their business model. This example embodies the essence and interrelation of decision-making process and BMfS including value proposition, value creation and value delivery, as well as collaboration. An action indicated by Experts from Group B and C is sustainability education through the core activities of a BMfS by leading by example. The Experts from Group B stated that it is a way to increase stakeholder engagement, chances of getting investments and to set-up collaborations with suppliers. Experts from Group C also pointed out that by incorporating sustainability education in the core of a BMfS and having the vision embedded in the company culture, business can create better opportunity by educating customers about the relationships of themselves to the larger socio-ecological system.

Several experts interviewed indicated an obstacle in the field where sharing value across different stakeholders like environment and society is a concern for businesses when accounting for their impacts. This hinders collaboration as is it hard to determine ownership along the collaborating value chains when everything needs to create financial value. Measuring social value or other intangible value also emerged as an obstacle. This is where CSR initiatives and sustainability departments within businesses emerged as an approach to measuring and communicating efforts. Expert Group A (Case Study) described CSR being used for window dressing, as if sustainability were a new marketing way. Through our research approach we noticed that business core activities diverted from having sustainability from their core and most included projects or offsets to address sustainability without taking note of the systematic impacts of these decisions in relation to their business model.

In this finding, sustainability cannot be addressed or measured externally for the right reasons, businesses need to lead through collaboration to better understand the system they operate in and take steps to address their sustainability efforts. This can be based on the context and ecosystem that they operate in to combine sustainability and measurement that work hand in hand in their decision-making process with stakeholders with the same understanding to move towards sustainability throughout their business lifespan.

4.7 Framing in Existing Field of Literature

As previously mentioned, more researchers are focusing on Sustainable Business Models or Business Models for Sustainability. A number of the key-authors in the field worked together to write the “Business Models for Shared Value: Main Report” (Lüdeke-Freund et al. 2016). Comparing our findings to the one discussed in that report, it is noted that their research is focussed on creating shared value. We argue that shared value might be sustainable but has the potential to allow for offsetting of externalities. Even though it uses a strategic perspective, shared value is about creating economic value for multiple stakeholders, even though it can be at the cost of the environment or different actors. The researchers are aware
of this (Lüdeke-Freund et al. 2016, 17), but seem to struggle with finding a better form of value to support the transition towards sustainability. We introduced the notion of system value, as put forward by Future-Fit Foundation (2017), to the academic world as the most suited form of value to support Strategic Sustainable Development.

Bocken, Rana and Short (2015) introduced Figure 1.5, as a breakdown of a BMfS. However, what is not addressed in their work, is a definition of value. Our findings show that this is needed as part of a common language. Our definition of use value can be applied to their understanding of value for society and environment. Next to economic value, which correlates to exchange value. We would propose Future-Fit’s notion of system value as overarching to cover the economic value as well as value for society and environment.

Another concluding point made by Lüdeke-Freund et al. (2016, 76) is: “every Business Model for Sustainability, but not every shared value initiative necessarily builds on a BMfS.” In our argument, this can be due to the lack of a systems understanding, or the lack of an understanding of sustainability, which in turn can be attributed to a lack of common language. We therefore expanded on some of the findings (of the report) and contributed by arguing why shared value is not enough and which themes need to be addressed in order to create system value.

Strategic Sustainable Development significantly informed this thesis and the Framework for Strategic Sustainable Development influenced the design of the research. In order to speed up the transition towards sustainability, Broman and Robèrt (2017, 28) asked for further research on multiple connections between the current economic system and the Strategic Sustainable Development approach. Among others, they are searching for current obstacles implied by the economic system and how can they be handled without changing the system, rather changing the norms of how the system is applied. Our findings on internal and external obstacles, described in our themes, assist in answering this. Furthermore, the reconsideration of value is a mind-shift that does not ask for a different economic system, but for changing the norms by which the system is applied.

4.8 Prototyping Recommendations for Practitioners

Through the results and discussion, a prototype was generated to test in the field. The prototype was informed by our literature analysis and consists of finding from the interviews and questionnaires from the various expert groups that advise on common obstacles and recommendations that emerged as themes. With these we combined key learnings from our data analysis into five focus areas. These focus areas contain guidelines and recommendations for business to test and incorporate into their business model designs for practical application in the field. The guide elaborates on the need to: (1) establish a common language, (2) create systems understanding, (3) bring system value to the core of business, (4) engage in mind-shift and strategic decision making, and (5) rethink leadership and collaboration; all within the boundaries of the 8 SPs.

The prototype has been created to validate our findings in the field and make it more relevant to the intended audience by iterating it with the prototyping cycles described in methodology. It has been sent out to an expert in each of the group for validation and feedback: a case expert, an academic, a sustainability consultant. The initial prototype sent out can be seen in Appendix L.
We currently only have received one piece feedback from the academic expert group. The expert recommended us to improve the communication around the connectedness of the focus areas to show more clearly why they are relevant in conjunction. Next to this comment on the overall structure the expert advises us to improve:

Focus 1: defining what sustainability means to the organisation should be undertaken in consultation/co-creation with key stakeholders.
Focus 2: the language used around system is a little cryptic maybe highlight how to give employees greater understanding of the system

Due to time constraints the next part of including the feedback and iterating the guide has to be given towards future research.

4.9 Reliability and Validity

The team of researchers comes from South-Africa, Thailand, Germany and the Netherlands and carry very distinct cultures with them. During research, the researcher(s) perspective had a significant influence on the topic, the methods chosen, the interpretation of the findings and the communication of the conclusions (Savin Baden and Howell Major 2013). To overcome cultural biases, we aimed to give equal weight to the different cultural backgrounds in our group. To increase the validity of this research, the authors intended to triangulate throughout the research process. The data input is based on triangulation, but so is the way the data was handled. Each researcher has been involved in every interview, be it in interviewing, (double) coding or transcribing. We tried to counter individual biases as much as possible by each individually coding the interviews and comparing results afterwards. We argue that this increased the internal validity.

The discussion of our results revealed further limitations. Although we interviewed multiple expert groups (case industry, academia and consultants) to limit biases from the individuals, we encountered the difficulty of generalizing our findings as the sample at hand was not representative for the whole groups they are part of. Therefore, we see a limitation in the external validity of this research. The results of this research are based on the understanding of this specific group of respondents which all brought their own biases. Although we tried to minimalize this influence through triangulation with literature, we identified strong tendencies of each expert group regarding certain themes. The attempt to account for all findings equally was guided by the Phase 1 literature analysis. This increased the internal validity of the research. The overall validity was ensured by consistently following our research design, objective data collection and careful data analysis. Furthermore, our prototype was brought back to one expert of each group to give feedback on our conclusion made.

Investigating a case industry was very helpful in gaining practical insights with clear examples. The choice of the case study, the potable water industry, proved very useful. In this industry, there are a range of business trying to address the same issue, plastic waste, in multiple ways. However, some difficulties came up in dealing with the industry. Even though a big investigation went into the issues surrounding the industry that some businesses try to address, the conversation remained largely at high level because we did not have in-depth knowledge of the geographical market or the supporting systems. A more precise scope might have given us even more concrete findings.

Another limitation was on prototyping because we were not able to incorporate the feedback from the expert into the guide (Appendix L). We were aware of this time-limitations when we
send out the prototype. But to create a train of thought within the people we worked with, we wanted to use the research to test our findings in the field, as to keep the information relevant and alive. For our own learning, the responses on the prototyping will also be important. It would have been valuable if we could have done one or two full iteration loops with multiple experts on our prototypes to validate our data and bridge the gap between literature and practice. It would also be a way to address our first theme: a lack of common language. We hope our initial prototype send out and the thesis as a whole helps to move this research area forward.

It needs to be emphasized that all the above-mentioned themes are only possible implications for businesses to transition towards strategic sustainable development. More research is needed to further explore what the exact role of value is in relation to Strategic Sustainable Development and how exactly business can add value to the multiple systems it is part of. Further studies could explore how to overcome the obstacles laid out in this discussion and how to educate and collaborate amongst all stakeholders to promote a higher system understanding. Especially when we consider that the current understanding of the relation between business and sustainable development has remained vague until now due to disagreements on the language.

With the chosen methods, the research aim has been achieved. The aim was to investigate value forms that support Strategic Sustainable Development and exploring how business models create value at their core by taking a systems perspective. Using the FSSD to frame the results made it clear where the findings aligned with the understanding of sustainability, and where more improvement was needed. A limitation of the FSSD was the lack of a mapping tool for value destroyed, in the five levels. It asks to take a systems perspective and identify the actors in the surrounding system, but there is no notion of value created or destroyed in the five levels. We are aware that this is in the ABCD process, which is a component of the FSSD that has not been used in this thesis. However, we believe that businesses should be able to benefit from using the FSSD without having a consultant guiding them through the ABCD process.

Finally, we put system value forward as the most suitable value form to support Strategic Sustainable Development. In chapter 4.2, we discussed benefits and limitations of it. A final limitation, that also counts for our prototype, is that the context in which they are used can vary a lot. For that reason, they are not best suitable for quantitative analysis. However, as argued by the Intergovernmental Panel on Climate Change (2014), decision-making on sustainability issues is evidently hard with a quantitative approach as it involves mainly value judgements and ethical considerations.
5 Conclusion

The present research explored value that businesses could create through their business model in order to support Strategic Sustainable Development. This issue was tackled, first, by investigating the existing academic literature around Business Models for Sustainability, Sustainable Business Models, and Value. Second, interviews have been conducted with academic experts and consultancy experts. To gain practical insight and explore the concept within a real-life context, a case study within the industry of potable water has been investigated. The Research Question was: “How can business models be used to create value that supports Strategic Sustainable Development?” In this chapter, we formulate our answers to this question by recapping the findings of our research. First, the form of value needed to support Strategic Sustainable Development is identified. Second, the possibilities for business models to create this value is addressed. Third, we explain how BMfS can create system value and thus support Strategic Sustainable Development.

Value forms that support Strategic Sustainable Development

The Strategic Sustainable Development approach demands changes in all levels of society in order to address the sustainability challenge. The need for a systems perspective was identified for the Strategic Sustainable Development by Robèrt et al. (2015). In this research we focused on how businesses can use their business models to create value to support Strategic Sustainable Development. The literature research revealed multiple forms of value that can be created through business models: shareholder value, shared value and system value. Looking through an FSSD lens, it was shown that system value is the form of value that supports Strategic Sustainable Development the most. The definition of system value is the following: “Business addresses societal needs in a holistic way, while not hindering progress toward a flourishing future” (Future-Fit Foundation 2017). System value is supportive in the ability to address complex challenges by taking a systems perspective, affording business extra awareness regarding their effect on the system in which they operate. However, when aiming for system value, it is important to move at the right pace, as Robèrt and Broman (2017) emphasized.

How business models create value at their core

Business models have value at their core, this value can be created through the value proposition. The value proposition describes the offerings that a business has towards their stakeholders. The notion of a sustainable value proposition has been defined by Patala et al. (2016), it calls for short-term profits as well as long-term sustainability, which was identified to lack in the notion of system value.

As established, system value can be realized through a Business Model for Sustainability. In the definition of a BMfS, there is an emphasis on natural, social and economic capital beyond the boundaries of one organisation. This implies the need for a systems perspective in the BMfS, as highlighted by the interviewed experts and in the definition of Patala et al. (2016), by emphasising a firm’s offering to society at large. The sustainability challenge, in combination with the concept of business models informs the design of BMfS. Although a BMfS implies the journey towards sustainability through business, it still allows for multiple
ways of creating value. According to our research; system value is most likely to be realized through a BMfS but it is not implicit.

*How Business Model for Sustainability can be used to create system value that supports Strategic Sustainable Development*

The final component to fully answer the research question is addressing the “how” in form of looking at obstacles and success factors that businesses face in trying to shift their business model to a BMfS in order to create system value. To make this research relevant for the intended audience, we captured guiding components needed as a prerequisite to use a BMfS for creating system value.

Most businesses are currently not actively contributing to create system value for Strategic Sustainable Development. In fact, they are part of the mechanism that degrades the socio-ecological system. Hence, we identified numerous obstacles in the literature analysis and in the exploration with our expert groups that might hinder businesses to act in favour of sustainability. The themes we identified were included into a prototype that could offer guidance on the “how” to the audience addressed.

For the guide (Appendix L) to be finalized and used by the practitioners many iterations are still needed but the identified focus areas cover all aspects, steps and tools that are relevant according to our research. Within the boundaries of the 8 SPs we advise businesses to: (1) establish a common language, (2) create systems understanding, (3) system value at the core of business, (4) mind shift and strategic decision making, and (5) leadership and collaboration. When taking this approach, the economy has become a means to achieve the goal to reach a sustainable state of society.

It has been established that sustainability is a journey and business has to urgently join the transition. This thesis has contributed to the quest for increased research around sustainable businesses by exploring new ways of considering value within business models. Aiming to shift business from being part of the problem to being part of the solution and guiding society towards a sustainable stage. The concept of system value, although a yet unexplored form by academia, was explored and evaluated amongst other value form. The research concluded that this form of value might be able to support Strategic Sustainable Development when incorporated in a BMfS. Inspiring experts have been interviewed and reaffirmed the hope that society, and in particular business, can shift in time to avoid the collapse of the systems society depends on. For creating a space where value and sustainability can meet in the current economic system, we advocate for systems understanding, rethinking the purpose of another business and a strategic approach towards this challenging journey.

To explore how this journey can be continued, we recommend further research to look deeper into system value, how to realize it in a practical context and explore how the gap between research and business practitioners can be closed to foster more collaboration. Additionally, a more specific breakdown of system value, in relation to Strategic Sustainable Development is also recommended. Furthermore, additional research is needed to emphasize the gains for the system to activate large players like governments and financial market systems to contribute and create systems conditions that make it feasible to innovate towards BMfS. Our thesis journey ends here, but we are eager to take our learnings and continue the quest to rethink the purpose of business on the intersection where value meets sustainability.
6 References


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Appendices list

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Appendix A: Business benefits of sustainability explained (Willard 2012)

By incorporating sustainability in a systematic way, there are seven apparent benefits in which all business can be leveraged (Willard 2012).

**Increased revenues and market shares** is the first benefit that all business aim for. With the increasing of societal changes and demands, companies can stay competitive and differentiate themselves through innovative new products and services. New revenue streams, thus, can be gained through sustainable branding, new sustainable products, and services and leasing.

**Reduced energy use** is the fastest and easiest way to save costs and can be easily applied to all companies. Reduction of unnecessary energy use or energy efficiency can bring significant savings and promote better public image.

**Reduced waste expense** is an opportunity for cost saving by turning waste outputs into by-products. Waste is another cost to business, and with by-products, companies can generate new incomes while saving disposal expense to landfill and reduce environmental impacts.

**Reduced materials expense** is also another expense reduction through dematerialization, substitution, recycling on site waste, product take-back. This benefit makes business sense while contributing to sustainability. The fewer materials used, the less cost for business and less extraction and consumption.

**Increased employee productivity** is correlated to business performance and results. Employees are valuable assets to any business. To achieve business goals and success, business performance can be improved through the nurturing and engaging their employees.

**Lower hiring and attrition expenses** is a parallel benefit to the benefit of increased employee productivity. Companies with commitments to sustainability attract and retain the right employees, who believe in their value and purpose, decreasing the turnover rate. Moreover, companies that developed employee engagement programs related to sustainability saw business gains.

**Mitigating risks** refers to the walls of the funnel. With increasing magnitude of sustainability related impacts, incorporating sustainability can mitigate risks that show up in multiple forms, e.g. legislation or disconnecting customers and investors.
# Appendix B: Business model definitions table adapted from França (2017)

<table>
<thead>
<tr>
<th>Definition</th>
<th>Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A business model describes the interaction of operating processes, management systems, organizational structures and corporate culture, which enables a company to keep its promise of service.</td>
<td>Treacy and Wiersema (1997)</td>
</tr>
<tr>
<td>An architecture for the product, service and information flows, including a description of the various business actors and their roles; and a description of the potential benefits for the various business actors; and a description of the sources of revenues.</td>
<td>Timmers (1998)</td>
</tr>
<tr>
<td>Here, the term business model refers to the depiction of a company’s internal production and incentive system. A business model shows in a highly simplified and aggregate form which resources play a role in the company and how the internal process of creating goods and services transforms these resources into marketable information, products and/or services. A business model therefore reveals the combination of production factors which should be used to implement the corporate strategy and the functions of the actors involved.</td>
<td>Wirtz (2000)</td>
</tr>
<tr>
<td>A business model is simply a business model that has been put into practice. A business concept is compromises four major components: Core Strategy, Strategic Resources, Customer Interface, Value Network.</td>
<td>Hamel (2000)</td>
</tr>
<tr>
<td>Operating business models are the real thing. An operating business model is the organization’s core logic for creating value. The business model of a profit-oriented enterprise explains how it makes money. Since organizations compete for customers and resources, a good business model highlights the distinctive activities and approaches that enable the firm to succeed – to attract customers, employees, and investors, and to deliver products and services profitably.</td>
<td>Linder and Cantrell (2000)</td>
</tr>
<tr>
<td>A business model is an abstraction of how a business functions. […] What the business model will do is provide a simplified view of the business structure that will act as the basis for communication improvements, or innovations, and define for the information system requirements that are necessary to support the business. It isn’t necessary for a business model to capture an absolute picture of the business or to describe every business detail. […] The evolving models also help the developers structure and focus their thinking. Working with the models increases their understanding of the business and, hopefully, their awareness of new opportunities for improving business.</td>
<td>Eriksson and Penker (2000)</td>
</tr>
<tr>
<td>A business model is a unique blend of three streams that are critical to the business. These include the value stream for the business partners and the buyers, the revenue stream, and the logistical stream.</td>
<td>Mahadevan (2000)</td>
</tr>
<tr>
<td>In the most basic sense, a business model is the method of doing business by which a company can sustain itself - that is, generate revenue. The business model spells-out how a company makes money by specifying where it is positioned in the value chain.</td>
<td>Rappa (2000)</td>
</tr>
<tr>
<td>A business model depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities.</td>
<td>Amit and Zott (2001)</td>
</tr>
<tr>
<td>A business model is comprised of four parts: a value proposition or “cluster” of value propositions, a marketplace offering, a unique and defendable resource system, and a financial model. The value proposition defines the choice of target segment, the choice of focal customer benefits, and a rationale for why the firm can deliver the benefit package significantly better than competitors. The offering entails a precise articulation of the products, services, and information that is provided by the firm. The resource system supports the specific set of capabilities and resources that will be engaged in by the firm to uniquely deliver the offering. The financial model is the various ways that the firm is proposing to generate revenue, enhance value, and grow.</td>
<td>Rayport and Jaworski (2001)</td>
</tr>
<tr>
<td>A business model refers to the core architecture of a firm, specifically how it deploys all relevant resources (not just those within its corporate boundaries) to create differentiated value for customers.</td>
<td>Tapsoott (2001)</td>
</tr>
<tr>
<td>A good business model remains essential to every successful organization, whether it’s a new venture or an established player. […] Business models, though, are anything but arcane. They are, at heart, stories – stories that explain how enterprises work. A good business model answers Peter Ducker’s age-old questions: Who is the customer? And</td>
<td>Magretta (2002)</td>
</tr>
</tbody>
</table>
what does the customer value? It also answers the fundamental questions every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?

| The business model provides a coherent framework that takes technological characteristics and potentials as inputs, and converts them through customers and markets into economic inputs. The business model is thus conceived as a focusing device that mediates between technology development and economic value creation. It “spells out how a company makes money by specifying where it is positioned in the value chain.” | Chesbrough and Rosenbloom (2002) |
| A business model is a model on a high abstraction level which illustrates the essential, relevant aspects of the company in an aggregate, clear form. Ideas and concepts for businesses can be identified, discussed and/or evaluated. | Rentmeister and Klein (2003) |
| A business model is a framework for making money. It is the set of activities which a firm performs, how it performs them, and when it performs them so as to offer its customers benefits they want to earn a profit. | Afuah and Tucci (2003) |
| A business model is the set of which activities a firm performs, how it performs them, and when it performs them as it uses its resources to perform activities, given its industry, to create superior customer value (lowcost or differentiated products) and put itself in a position to appropriate the value. | Afuah (2004) |
| A business model is a conceptual tool containing a set of objects, concepts and their relationships with the objective to express the business logic of a specific firm. Therefore, we must consider which concepts and relationships allow a simplified description and representation of what value is provided to customers, how this is done and with which financial consequences. | Osterwalder et al. (2005) |
| A business model is a concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are addressed to create sustainable competitive advantage in defined markets. | Morris et al. (2005) |
| We define a business model as a representation of a firm’s underlying core logic and strategic choices for creating and capturing value within a value network. | Schafer et al. (2005) |
| The business model serves as a strategic instrument for a comprehensive, cross-company description, analysis and constitution of the business activity. | Zollenkop (2006) |
| At its heart, a business model performs two important functions: value creation and value capture. First, it defines a series of activities that will yield a new product or service in such a way that there is net value created throughout the various activities. Second, it captures value from a portion of those activities for the firm developing the model. | Chesbrough (2006) |
| A business model, from our point of view, consists of four interlocking elements that, taken together, create and deliver value. The most important to get right, by far, is the first. Customer value proposition, profit formula, key resources and key processes. | Johnson, Christensen, Kagermann (2008) |
| A business model describes the rationale of how an organization creates, delivers, and captures value. Four pillars and nine building blocks. Product: value proposition; Customer interface: customer segments, channels, relationship; Infrastructure management: key resources, key activities and key partners; Financial aspects: revenue streams, cost structure. | Osterwalder and Pigneur (2010) |
| Generally speaking, the concept refers to the description of the articulation between different BM components or ‘building blocks’ to produce a proposition that can generate value for consumers and thus for the organization. | Demil and Lecocq (2010) |
| In short, a business model defines how the enterprise creates and delivers value to customers, and then converts payments received to profits. | Teece (2010) |
| A business model can be viewed as a template of how a firm conducts business, how it delivers value to stakeholders (e.g., the focal firms, customers, partners, etc.), and how it links factor and product markets. The activity systems perspective addresses all these vital issues | Zott and Amit (2010) |
| A business model is the design of organizational structures to enact a commercial opportunity. [...] three dimensions to the organizational structures noted in our definition: resource structure, transactive structure, and value structure. | George and Bock (2011) |
Appendix C: Value proposition design tool, (Bocken, Short, Rana, and Evans 2013, 488)
Appendix D: FSSD tool: ABCD process (Broman and Robèrt 2017)

We omitted the use of the decision making and strategic planning tool (ABDC) in our thesis because its application for business is better used in practice. However, below is a description of the ABDC methodology as a tool for practise.

The FSSD comes with an application that supports the execution of back-casting, planning and redesign for sustainability. This so-called ABCD-procedure comprises four general steps as follows:

A. In this step the business learns about the sustainability challenge and the FSSD in general, including this ABCD-procedure. They share and discuss the subject of the planning and agree on a preliminary vision of success, framed by the basic sustainability principles. The vision can include the organization's core purpose, core values and overall 'end-goals' to a level of specificity that is felt relevant and can be agreed upon. If such goals or designs are discussed, these are analysed with regard to their overall potential in relation to the sustainability principles, rather than in relation to constraints implied by the current reality (see also C).

B. In this step, participants analyse and assess the current situation of the organization in relation to the vision and list current challenges as well as current assets to deal with the current challenges or that can in other ways potentially support the transition towards the vision. In particular, the analysis and assessment should reveal how in concrete terms the organization contributes to society's violation of the sustainability principles and how current assets contribute or could contribute to society's compliance with the sustainability principles. At this point, identifying relevant subsystems and their inter-related nature will allow for coordinated development, such that solutions within each subsystem can be supportive of solutions in other subsystems, or in any event not be counter-supportive.
C. In this step, participants apply creativity methods such as brainstorming to identify possible solutions to the challenges and for capturing of the opportunities implied by the gap between the vision established in (A) and the current reality established in (B). All possible actions that can help closing the gap are listed, including ideas for how to utilize the existing assets listed in (B). The ideas generated are scrutinized only with respect to the vision within the sustainability principles. Constraints implied by the current reality, e.g., the current infrastructure, energy system, stakeholder dependencies, financial capacity, etc., are temporarily disregarded. Just because an action is not feasible immediately, does not preclude it as a viable step later in the transition. During this C step, additional overall ‘end-goals’ may come up and can then be added to the vision, or the goals already there might be adjusted based on the new ideas. For a discussion on dematerialization and substitution as examples of broad and dynamically interrelated approaches to addressing sustainability challenges at the C-step, see, e.g., Robert et al. (2002, 2012).

D. In this step, participants apply strategic guidelines to prioritize among the possible solutions established in (C) into a strategic plan. The most basic guidelines imply that early steps should be (1) flexible platforms for forthcoming steps that, taken together, are likely to support society's transition towards sustainability and take the organization to the sustainability framed vision, while striking a good balance between (2) the pace of progress towards the vision and (3) return on investment. The guidelines must be combined. Otherwise, an actor might, e.g., run out of financial resources and find its competitive position diminished (Esty and Porter, 1998), or select actions that give quick wins but then turn out to be sub-optimized in the longer perspective (Broman et al., 2000; Holmberg and Robert, 2000). It is only in the context of coming steps and the identified gap to the vision that an action can be evaluated in a meaningful way, not in isolation. For a further discussion on prioritization, see, e.g., Robert et al. (2012, 2013a). For a discussion on additional strategic guidelines, such as transparency, accountability, etc., see, e.g., Robert et al. (2002) and Missimer et al. (2015b).

Backcasting is used with A of the ABCD process and begins with defining a vision of success in the future based on scenarios or basic principles. With this vision in mind, planners can then map the best possible course of action to achieve success (Broman and Robert 2017).
## Appendix E: Sample of primary data collection

<table>
<thead>
<tr>
<th>Expert Group A</th>
<th>Case Industry</th>
<th>Interview Sample</th>
<th>Interview Nr.</th>
<th>Interviewee</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Interview 1</td>
<td>CEO</td>
<td></td>
<td>Reusable Water Bottle company operating from Germany</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interview 2</td>
<td>CEO</td>
<td></td>
<td>Reusable Water Bottle company operating from the Netherlands</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interview 3</td>
<td>Management Advisor</td>
<td></td>
<td>Reusable Water Bottle company operating from Sweden</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interview 4</td>
<td>CEO</td>
<td></td>
<td>Reusable Water Bottle company operating from South-Africa</td>
</tr>
</tbody>
</table>

| Expert Group B | Scholars      | Interview Sample | Interview 5 | Researcher | Adjunct Professor in Strategy, Innovation and Sustainability |
|                |               | Interview Sample | Interview 6 | Researcher | Assistant Professor in Sustainable Entrepreneurship |
|                |               | Interview Sample | Interview 7 | Researcher | PhD in Sustainable Business Innovation |
|                |               | Interview Sample | Interview 8 | Researcher | Professor and Chair for Corporate Sustainability |
|                |               | Interview Sample | Interview 9 | Researcher | Senior Research Scientists in Innovation and Environment |

| Expert Group C |                           | Interview Sample | Interview 10 | Expert | Leading expert on corporate sustainability and Business Case for Sustainability (US) |
|                |                           | Interview Sample | Interview 11 | Consultant | Ethical Trade Consultancy (UK) |
|                |                           | Interview Sample | Interview 12 | Consultant | Leadership and Sustainability Consultancy (US) |
|                |                           | Interview Sample | Interview 13 | Consultant | Sustainability Consultancy (CH) |
|                |                           | Interview Sample | Interview 14 | Consultant | Change and Sustainability Consultancy (UK) |

<table>
<thead>
<tr>
<th>Sample</th>
<th>Questionnaire Nr.</th>
<th>Respondent</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert Group A</td>
<td>Questionnaire 1</td>
<td>Business Developer</td>
<td>Reusable Water Bottle company operating from UK</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 2</td>
<td>PR</td>
<td>Reusable Water Bottle company operating from Germany</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 3</td>
<td>Marketing Executive</td>
<td>Reusable Water Bottle company operating from the Netherlands</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 4</td>
<td>Sales Director</td>
<td>Bottled Water company operating from Finland</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 5</td>
<td>Management</td>
<td>Bottled Water company operating from Switzerland</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 6</td>
<td>Marketing Director</td>
<td>Reusable Water Bottle company operating from Australia</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 7</td>
<td>Owner</td>
<td>Reusable Water Bottle company operating from Sweden</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 8</td>
<td>Owner</td>
<td>Reusable Water Bottle company operating from the Netherlands</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 9</td>
<td>Customer Engagement</td>
<td>Reusable Water Bottle company operating from the USA</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 10</td>
<td>Anonymous</td>
<td>Reusable Water Bottle company chose the option to stay anonymous</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 11</td>
<td>Anonymous</td>
<td>Reusable Water Bottle company chose the option to stay anonymous</td>
</tr>
<tr>
<td></td>
<td>Questionnaire 12</td>
<td>Anonymous</td>
<td>Reusable Water Bottle company chose the option to stay anonymous</td>
</tr>
</tbody>
</table>
## Appendix F: Question catalogue

<table>
<thead>
<tr>
<th>THEMES</th>
<th>*</th>
<th>QUESTION</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td></td>
<td>[Image of four systems] Please elaborate on your perception on the dominant understanding?</td>
<td>Future Fit Foundation (2017), FSSD</td>
</tr>
<tr>
<td></td>
<td>A,B,C</td>
<td>Is the current infrastructure supportive for business moving towards systems value and sustainability?</td>
<td>FSSD</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>Who do you consider as your stakeholder? (Customers, Environment, Society)</td>
<td></td>
</tr>
<tr>
<td>Success</td>
<td>A</td>
<td>How do you consider success/growth in (your) business?</td>
<td>Daly (1996), FSSD</td>
</tr>
<tr>
<td>Strategic Guidelines</td>
<td>B,C</td>
<td>Do you think that decision makers in the businesses struggle to extract guidelines from theory?</td>
<td>FSSD</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>How are decisions made in your company?</td>
<td></td>
</tr>
<tr>
<td>Action</td>
<td>B,C</td>
<td>After designing Business Model for Sustainability are there any struggles that businesses have with the execution?</td>
<td>FSSD</td>
</tr>
<tr>
<td></td>
<td>B,C</td>
<td>If businesses want to move towards sustainability, what key factors should be considered in the decision-making process?</td>
<td></td>
</tr>
<tr>
<td>Tools</td>
<td>A,B,C</td>
<td>What tools are you using/ can be used to measure sustainability efforts?</td>
<td>FSSD</td>
</tr>
<tr>
<td></td>
<td>A,B,C</td>
<td>How could systems value be measured? Are there tools for measuring beyond financial value?</td>
<td></td>
</tr>
<tr>
<td>Business Model</td>
<td>A,B,C</td>
<td>What is your definition of a Business Model for Sustainability?</td>
<td>Lüdeke-Freund, Nancy Bocken</td>
</tr>
<tr>
<td></td>
<td>A,B,C</td>
<td>What are the key elements that a business needs to transition towards a SBM?</td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>A,B,C</td>
<td>How do you think shared value/systems value can be incorporated into value proposition design?</td>
<td>Nancy Bocken</td>
</tr>
<tr>
<td></td>
<td>A,B,C</td>
<td>How can systems value be captured?</td>
<td></td>
</tr>
</tbody>
</table>
Appendix G: Online questionnaire template

1. Hello again, great that you are here and supporting our research by taking time to answer the questions! We would love to learn who you are! Please enter your company name: *

2. Please enter your Job Title/Current Position: *

3. Please share your Email address with us if you are interested in receiving the results:

4. An easy question to start with: In which markets is your company mainly operating?
   Choose all that apply
   - North America
   - South America
   - Europe
   - Asia
   - Oceania
   - Other

   Now we want to learn a little bit more about who you are and what drives you.

5. Does your company have a vision? *
   - Yes
   - No

6. If your company has a vision please state it here:

7. What was the intention behind/reason for starting the company?
   - Business opportunity
   - Support affordable drinking water
   - Tackling single-use Plastic bottles
   - Supporting sustainability
   - Do not know
   - Other

8. How aligned are your current operations with your vision? *
   *Not aligned: 1 - very aligned
   - 1
   - 2
   - 3
   - 4
   - 5

9. What brings you closer to your vision?
   Please tell us what you are doing:

10. What hinders you from reaching your vision?
    Please name a few reasons:

11. Describe what success looks like for your company?

12. Which image describes the position of your company best? *

13. Please briefly explain your choice:

   Now we want to learn a bit more about what you are doing and how you are doing it.

14. What would you say is your company’s most outstanding value offering?
   - Our bottle
   - The Environmental Projects we support to address the drinking water challenge
   - Social Projects and CSR activities that we engage in
   - Other

15. Do you consider the users of your products as one of your main stakeholders?
   - Yes
   - No

16. If yes, please give a short description of how you deliver value to that stakeholder group (user):

17. Do you consider the society as one of your main stakeholders?
   - Yes
   - No

18. If yes, please give a short description of how you deliver value to that stakeholder group (society):

19. Do you consider the environment as one of your main stakeholders?
   - Yes
   - No

20. If yes, please give a short description of how you deliver value to that stakeholder group (environment):

   Almost there... some details and suggestions to finish this survey.

21. What is the main material used for your bottles?
   - Stainless Steel
   - Plastic
   - Glass
   - Paper
   - Other

22. Do you use tools to measure your sustainability efforts?
   - Yes
   - No

23. If yes, what kinds of tools do you use to track your progress?

   x
24 How supportive is the drinking water infrastructure in the markets you operate in? (Public water fountains, tap water availability, legislation)

1 = not supportive 5 = very supportive

25 What do you think the future of the drinking water industry should look like?

26 Would you be open for a quick follow up interview in case we have questions?

○ Yes  ○ No

27 Please provide us an email which we can contact back for a quick follow up interview.

28 Thank you! You are awesome! We will provide you with our results in June 2018. If you have any comments please feel free to share them with us.

Submit
### Appendix H: Nominal data results from the online questionnaires

#### An easy question to start with: In which markets is your company mainly operating?

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>7 / 30</td>
</tr>
<tr>
<td>North America</td>
<td>7 / 40</td>
</tr>
<tr>
<td>Asia</td>
<td>2 / 10</td>
</tr>
<tr>
<td>Africa</td>
<td>2 / 10</td>
</tr>
<tr>
<td>Oceania</td>
<td>4 / 30</td>
</tr>
<tr>
<td>South America</td>
<td>2 / 10</td>
</tr>
</tbody>
</table>

#### Does your company have a vision?

| Yes | 7 / 30 |

#### What was the intention behind/for starting the company?

<table>
<thead>
<tr>
<th>Intention</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting sustainability</td>
<td>5 / 20</td>
</tr>
<tr>
<td>Teaching single-use plastic bottles</td>
<td>5 / 20</td>
</tr>
<tr>
<td>Business Opportunity</td>
<td>2 / 10</td>
</tr>
<tr>
<td>Other</td>
<td>2 / 10</td>
</tr>
<tr>
<td>Support affordable drinking water</td>
<td>2 / 10</td>
</tr>
<tr>
<td>Did not know</td>
<td>2 / 10</td>
</tr>
</tbody>
</table>

#### How aligned are your current operations with your vision?

<table>
<thead>
<tr>
<th>Rating</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>7 / 30</td>
</tr>
<tr>
<td>Average</td>
<td>2 / 10</td>
</tr>
<tr>
<td>Good</td>
<td>3 / 10</td>
</tr>
</tbody>
</table>

#### Which image describes the position of your company best?

<table>
<thead>
<tr>
<th>Image</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLL</td>
<td>9 / 30</td>
</tr>
<tr>
<td>Nested</td>
<td>2 / 10</td>
</tr>
<tr>
<td>Not connected</td>
<td>1 / 5</td>
</tr>
<tr>
<td>Only Business</td>
<td>0 / 5</td>
</tr>
</tbody>
</table>

#### What would you say is your company's most outstanding value offering?

<table>
<thead>
<tr>
<th>Offering</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Environmental Projects we support to address the drinking water challenge</td>
<td>4 / 20</td>
</tr>
<tr>
<td>Our Bottle</td>
<td>3 / 10</td>
</tr>
<tr>
<td>Social Projects and CSR activities that we engage in</td>
<td>2 / 10</td>
</tr>
</tbody>
</table>

#### Do you consider the users of your products as one of your main stakeholders?

| Yes | 10 / 100% |

#### Do you consider the society as one of your main stakeholders?

| Yes | 10 / 100% |

#### Do you consider the environment as one of your main stakeholders?

| Yes | 10 / 100% |

#### What is the main material used for your bottles?

<table>
<thead>
<tr>
<th>Material</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass</td>
<td>4 / 20</td>
</tr>
<tr>
<td>Plastic</td>
<td>3 / 10</td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>5 / 20</td>
</tr>
<tr>
<td>Other</td>
<td>1 / 5</td>
</tr>
<tr>
<td>Paper</td>
<td>0 / 5</td>
</tr>
</tbody>
</table>

#### Do you use tools to measure your sustainability efforts?

| Yes | 6 / 30 |
| No  | 5 / 40 |

#### How supportive is the drinking water infrastructure in the markets you operate in? (Public water fountains, tap water availability, legislation)

<table>
<thead>
<tr>
<th>Support</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>3 / 10</td>
</tr>
<tr>
<td>Average</td>
<td>2 / 10</td>
</tr>
<tr>
<td>Low</td>
<td>1 / 5</td>
</tr>
</tbody>
</table>

#### Our last question: Would you be open for a quick follow up interview in case we have questions?

| Yes | 7 / 50 |
| No  | 5 / 40 |
### Appendix I: Predefined codes for the first round of coding

<table>
<thead>
<tr>
<th>Decision making</th>
<th>Definition</th>
<th>Interviewee Title and Expertise</th>
<th>Purpose</th>
<th>Sustainability challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actions</td>
<td>Education</td>
<td>Intrinsic Values</td>
<td>Push factor</td>
<td>Sustainable Business Model</td>
</tr>
<tr>
<td>Background</td>
<td>Environment</td>
<td>Lack of a Common Understanding</td>
<td>Recommendation</td>
<td>Systems Understanding</td>
</tr>
<tr>
<td>Barriers</td>
<td>Environmental impacts</td>
<td>Lack of Understanding</td>
<td>Recycling</td>
<td>Target market (people and projects)</td>
</tr>
<tr>
<td>Bright Spots</td>
<td>Existing Gap to SBM</td>
<td>Measurement</td>
<td>Risks</td>
<td>Tools</td>
</tr>
<tr>
<td>Business Canvas</td>
<td>External Obstacles</td>
<td>Mindset</td>
<td>Shared Value</td>
<td>Transformation</td>
</tr>
<tr>
<td>Business Case</td>
<td>Founding story</td>
<td>Mind-shift</td>
<td>Size</td>
<td>Understanding</td>
</tr>
<tr>
<td>Business Innovation</td>
<td>FSSD</td>
<td>Obstacle</td>
<td>Social</td>
<td>Value</td>
</tr>
<tr>
<td>Business Model</td>
<td>Future/Trends</td>
<td>Other</td>
<td>Society</td>
<td>Value Capturing</td>
</tr>
<tr>
<td>Business Innovation</td>
<td>FSSD</td>
<td>Obstacle</td>
<td>Social</td>
<td>Value</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Ideas</td>
<td>Paradigm status quo</td>
<td>Stakeholders</td>
<td>Value Definition</td>
</tr>
<tr>
<td>Communication</td>
<td>Incentives to become sustainable</td>
<td>Patterns</td>
<td>Strategic Guidelines</td>
<td>value destroyed</td>
</tr>
<tr>
<td>Company Culture</td>
<td>Influence of Leadership</td>
<td>Plastic waste</td>
<td>Success</td>
<td>Value Proposition</td>
</tr>
<tr>
<td>Company Status quo</td>
<td>Infrastructure</td>
<td>Profit</td>
<td>Supply Chain</td>
<td>Vision</td>
</tr>
<tr>
<td>Customer</td>
<td>Internal Obstacles</td>
<td>Projects / CSR</td>
<td>Sustainability</td>
<td></td>
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</tbody>
</table>
## Appendix J: Clustered codes generated from the second round of coding

<table>
<thead>
<tr>
<th>Codes grouped into clusters based on patterns found</th>
<th>Cluster group 1</th>
<th>Cluster group 2</th>
<th>Cluster group 3</th>
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</thead>
<tbody>
<tr>
<td>Bright Spots</td>
<td>Barriers</td>
<td>Success</td>
<td></td>
</tr>
<tr>
<td>Ideas</td>
<td>Existing Gap to SBM</td>
<td>Decision making</td>
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</tr>
<tr>
<td>Incentives to become sustainable</td>
<td>External Obstacles</td>
<td>Influence of Leadership</td>
<td></td>
</tr>
<tr>
<td>Push factor</td>
<td>Lack of a Common Understanding</td>
<td>Intrinsic Values</td>
<td></td>
</tr>
<tr>
<td>Recommendation</td>
<td>Lack of Understanding</td>
<td>Mind-shift</td>
<td></td>
</tr>
<tr>
<td>Transformation</td>
<td>Mindset</td>
<td>Purpose</td>
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</tr>
<tr>
<td></td>
<td>Obstacle</td>
<td>Vision</td>
<td></td>
</tr>
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<td></td>
<td>Risks</td>
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<td></td>
<td>Infrastructure</td>
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<td></td>
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<tr>
<td>Cluster group 4</td>
<td>Cluster group 5</td>
<td>Cluster group 6</td>
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<td>Business Innovation</td>
<td>Value Capturing</td>
<td>Sustainability challenge</td>
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</tr>
<tr>
<td>Business</td>
<td>Value Creation</td>
<td>Understanding</td>
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</tr>
<tr>
<td>Business Model</td>
<td>Value Definition</td>
<td>Sustainability</td>
<td></td>
</tr>
<tr>
<td>Sustainable Business Model</td>
<td>value destroyed</td>
<td>Definition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value Proposition</td>
<td>FSSD</td>
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<td>Shared Value</td>
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<td></td>
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<td>Cluster group 8</td>
<td>Cluster group 9</td>
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<td>Social</td>
<td>Tools</td>
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<td>Society</td>
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<td>Recycling</td>
<td>Society impacts</td>
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<tr>
<td>Plastic waste</td>
<td>Stakeholders</td>
<td></td>
<td></td>
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<tr>
<td>Projects / CSR</td>
<td>Supply Chain</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Target market (people and projects)</td>
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<td></td>
</tr>
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<td></td>
<td>Collaboration</td>
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<td></td>
</tr>
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<td>Company Culture</td>
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<td>Customer</td>
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<td>Cluster group 12</td>
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<td>Future/Trends</td>
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<tr>
<td>Size</td>
<td>Founding story</td>
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### Appendix K: Clustered codes in themes

<table>
<thead>
<tr>
<th>Internal Obstacles and Recommendations</th>
<th>External Obstacles and Recommendations</th>
<th>Business</th>
<th>System</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Decision making</td>
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<td>Business Case</td>
<td>Systems Understanding</td>
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<td>Influence of Leadership</td>
<td>Future/Trends</td>
<td>Business Innovation</td>
<td>Sustainability challenge</td>
<td>Value Capturing</td>
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<td>Growth</td>
<td>Business Understanding</td>
<td>Value Creation</td>
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<td>Mind-shift</td>
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<td>Sustainability</td>
<td>Value Definition</td>
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<tr>
<td>Purpose</td>
<td>Society</td>
<td>Sustainable Business Model</td>
<td>Definition</td>
<td>value destroyed</td>
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<td>Vision</td>
<td>Society impacts</td>
<td>Projects / CSR</td>
<td>FSSD</td>
<td>Value Proposition</td>
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<td>Bright Spots</td>
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<td>Shared Value</td>
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<td>Ideas</td>
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<tr>
<td>Incentives to become sustainable</td>
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<td>Push factor</td>
<td>Lack of a Common Understanding</td>
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<td>Recommendation</td>
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<td>Environmental impacts</td>
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<td>Stakeholders</td>
<td>Plastic waste</td>
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</tr>
<tr>
<td>Supply Chain</td>
<td>Actions</td>
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</tr>
<tr>
<td>Target market</td>
<td>Strategic Guidelines</td>
<td></td>
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</tr>
<tr>
<td>(people and projects)</td>
<td></td>
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</tr>
<tr>
<td>Collaboration</td>
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<tr>
<td>Company Culture</td>
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<tr>
<td>Customer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Understanding</td>
<td></td>
<td></td>
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<td>Mindset</td>
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<td></td>
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<td></td>
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<tr>
<td>Risks</td>
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<tr>
<td>Recycling</td>
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<td>Size</td>
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<td></td>
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</tr>
<tr>
<td>Tools</td>
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<td></td>
</tr>
<tr>
<td>Business Canvas</td>
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<td>Actions</td>
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</tr>
<tr>
<td>Patterns</td>
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</tr>
<tr>
<td>Strategic Guidelines</td>
<td></td>
<td></td>
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</table>
Appendix L: Business, system and value information from three Expert Groups evaluated against the Five-Levels of the FSSD

<table>
<thead>
<tr>
<th>System</th>
<th>Business</th>
<th>System</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academics:</td>
<td>Short term thinking rules</td>
<td>Consultants:</td>
<td>Scholars:</td>
</tr>
<tr>
<td>Problems of rebound effects</td>
<td>5 (nested system)</td>
<td>5 (nested system)</td>
<td>Shared values/value can have system effects when delivered --&gt; required a good understanding of impacts that it can have</td>
</tr>
<tr>
<td>Needs growth to survive</td>
<td>Clients: A &amp; C as systems understanding.</td>
<td>TBL is now very mainstream but not good enough</td>
<td></td>
</tr>
<tr>
<td>If there is no need to fulfil, business make one.</td>
<td>Companies lack system understanding.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Consultants:</strong></td>
<td></td>
<td>Case Experts:</td>
<td></td>
</tr>
<tr>
<td>Customer comes first</td>
<td>5 (nested system)</td>
<td>A = 9; B = 1; C = 0; D = 4</td>
<td>Systems value is not yet fully understood</td>
</tr>
<tr>
<td>SBM is an eco-system.</td>
<td>Clients: A &amp; C as systems understanding.</td>
<td>&quot;Business case is needed to ensure long term success without dependency&quot;</td>
<td></td>
</tr>
<tr>
<td>Money &amp; growth over the rest</td>
<td>TBL is now very mainstream but not good enough</td>
<td>&quot;Environment can’t be put on top&quot;</td>
<td></td>
</tr>
<tr>
<td>TBL is main understanding - used for offsetting (CSR).</td>
<td>Companies lack system understanding.</td>
<td>TBL explanation: &quot;we are equal parts&quot;</td>
<td></td>
</tr>
<tr>
<td><strong>Case Experts:</strong></td>
<td></td>
<td>Nested: Clearly the only option</td>
<td></td>
</tr>
<tr>
<td>Customer is in the centre</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flat hierarchy (SMEs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stay away from charity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More local solutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success= sales</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainability challenge: water availability, distribution, and consumption.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Success

<table>
<thead>
<tr>
<th>Business</th>
<th>System</th>
<th>Value</th>
</tr>
</thead>
</table>
| **Academics:**
  Incorporate sustainability at core;
  core = Value Proposition
  Deliver customers, societal and environmental values and can maintain capitals society relies on.
  Short-term consideration.
  Defined by profit & growth. | **Consultants:**
  Sustainability is a journey, not end point/goal
  Don't undermine future generation to flourish
  Be fair
  Decouple
  Compliance with 8 SP's | **Academics:**
  Shared value for all; beyond economic gains
  Profits (equity) should be equally distributed to all throughout supply chain
  Shared value is nothing but a very narrow business case interpretation. |
| **Consultants:**
  If a SBM grows, the positive impact grows more than the negative impacts (responsible growth).
  Profit & growth
  Meeting or creating customer needs. | **Consultants:**
  System value inside the boundaries and not undermining anything else. | **Case Experts:**
  Value proposition: see a need and solve it from multiple stakeholders (customers, society and business)
  Create a feedback loop
  Use VP to educate, reaching out to customers. |
| **Case Experts:**
  All business have a vision
  - sustainability incorporated in the vision
  - most lack a clear future orientation
  Focus was:
  - business opportunities (4)
  - affordable drinking water (2)
  - tackle single use plastic waste (4)
  - support sustainability (5)
  Description of success goes from very wide to very detailed.
  Enter new market to bring benefits for customers.
  Good reputation in the market
  Known to help social causes. |
<table>
<thead>
<tr>
<th><strong>Strategic Guidelines</strong></th>
<th><strong>Business</strong></th>
<th><strong>System</strong></th>
<th><strong>Value</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scholars:</strong> Business case make business sense (use profit to regenerate environment) Innovation needs to be sustainable. Plan value beyond profit. ROI (short-term) Fulfilling needs.</td>
<td></td>
<td></td>
<td><strong>Academics:</strong> Value proposition is the core of business Value proposition needs to consider stakeholders, and need holistic approach (understanding of nested system) when being designed.</td>
</tr>
<tr>
<td><strong>Consultants:</strong> Business case explain the rational why sustainability should be incorporated: - give framing - make business sense - tap into intangible values - do the right thing. Laws ROI Manager/leadership - Top down approach Customer needs.</td>
<td></td>
<td></td>
<td><strong>Consultants:</strong> Value creation requires collaboration, engagement with stakeholders and supply chain Value creation needs system perspectives Shared values = collaboration, facilitation, education.</td>
</tr>
<tr>
<td><strong>Case Experts:</strong> Measurement of the impact is not done at all or in very different ways Vision as a guiding start To maintain the focus be selective and hire good people Educate.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actions</strong></td>
<td><strong>Business</strong></td>
<td><strong>System</strong></td>
<td><strong>Value</strong></td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td>------------</td>
<td>-----------</td>
</tr>
<tr>
<td><strong>Academics:</strong></td>
<td>Business innovation (prototype involving communities)</td>
<td></td>
<td><strong>Academics:</strong> Collaboration with stakeholders and supply chain. <strong>Consultants:</strong> Value needs to be measured to understand and monitor progress (both tangible and intangible)</td>
</tr>
<tr>
<td>CSR:</td>
<td>Plan for life span of VP</td>
<td>Generate a multi-actor setting</td>
<td><strong>Consultants:</strong> Reinforce understanding of the biological world we live in (nested system) through education.</td>
</tr>
<tr>
<td>- marketing for green washing/window dressing</td>
<td>Educate stakeholders on core of business.</td>
<td></td>
<td><strong>Consultants:</strong></td>
</tr>
<tr>
<td>- overuse of &quot;sustainability terminology&quot;</td>
<td><strong>Consultants:</strong></td>
<td></td>
<td><strong>Consultants:</strong></td>
</tr>
<tr>
<td><strong>Consultants:</strong></td>
<td>Business innovation:</td>
<td></td>
<td><strong>Consultants:</strong></td>
</tr>
<tr>
<td>- make better resources</td>
<td>- Decentralize work with networks</td>
<td></td>
<td><strong>Consultants:</strong></td>
</tr>
<tr>
<td>- create new products for people who never had access</td>
<td>- Embedd sustainability into all areas of the business</td>
<td></td>
<td><strong>Consultants:</strong></td>
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<tr>
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<td>- SBM requires collaboration.</td>
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Appendix M: Prototyped guidelines

Prototype 1
Guidance: How can Business Models for Sustainability be used to create system value that supports Strategic Sustainable Development:

Focus 1
Establish a common language:
- Identify a science-based definition of sustainability that fits the operations of the company and uses a systems approach (e.g. Sustainability Principles by Broman and Robert 2017)
- Define what sustainability means to your organization
- Communicate the defined terms throughout the organization to create a shared understanding

Focus 2
Create System Understanding:
- Create employee development programs with the focus on building capacity of system understanding,
- Incorporate system understanding into business development and strategy to identify otherwise unforeseen issues. This allows negative trade-offs to be anticipated, avoided, or at least addressed.
- Be transparent about positive and negative impacts

Focus 3
Bringing system value to the core of business:
- Utilize the business model on the Flourishing Business Model Canvas by Upward (2017) to capture the current state and identify gaps; optimize intangible assets and use resources optimally
- Use the value mapping tool by Bocken et al. (2013) to understand the positive and negative aspects of the value proposition in the value network

Focus 4
Mindshift and strategic decision making:
- Create clarity around the long-term vision of success
- Prioritization for decision making;
- Create criteria to identify the environmental and social performance thresholds next to financial ones that can guide decision processes
(e.g. Future-Fit Benchmark indicators)

Focus 5
Leadership & Collaboration:
- Foster Stakeholder Engagement
- Empower others to maximise system value for all
- Rethink ownership to collaborate in circular models
Appendix N: Flourishing Business Model Canvas by Upward and Jones (2016)