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SUSTAINABLE DE-GROWTH IN BUSINESS MODELLING

ALWAYS IN TRASHION

Master's thesis in
Strategic Business Development

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ABSTRACT

The poor global environmental protection and the overuse of the natural resources during the last decades has led to unprecedented increase of greenhouse gases in the atmosphere of our planet causing climate chance that is threatening all life on Earth. One of the sustainability efforts to tackle this huge challenge of mankind is the idea of sustainable de-growth which is calling for a drastic change in the relationships of the natural environment, the people and their economic activities. Thus, this thesis examines the possibility of integrating the key values and characteristics of sustainable de-growth into the value proposition, value delivery, value creation as well as value capture elements of a viable business model.

The theoretical framework of this study builds on the values and principles of sustainable de-growth as well as theories of sustainable business modelling and sustainable value creation. To gather the empirical findings, a single case study with semi-structured interviews and a business modelling workshop were conducted at Helsinki Metropolitan Area Reuse Centre Ltd which has claimed to be the first business in Finland practising de-growth

As an outcome of this study, a sustainable de-growth value framework, a table with the sustainable de-growth business characteristics compared with the four modules of a business model as well as a sustainable de-growth business modelling flowsheet were developed to assist the innovation process of a genuinely sustainable business model. The value framework visualises the need to radically change our mindset in terms of the relationship between people and their business activities and the environment. Whereas the sustainable de-growth business characteristics and the flowsheet can be used as practical and easy to use tools for managers of all kinds of enterprises to evaluate and develop their business models towards genuine environmental and social sustainability.

KEYWORDS: sustainable de-growth, sustainable business models, second-hand, reuse centre

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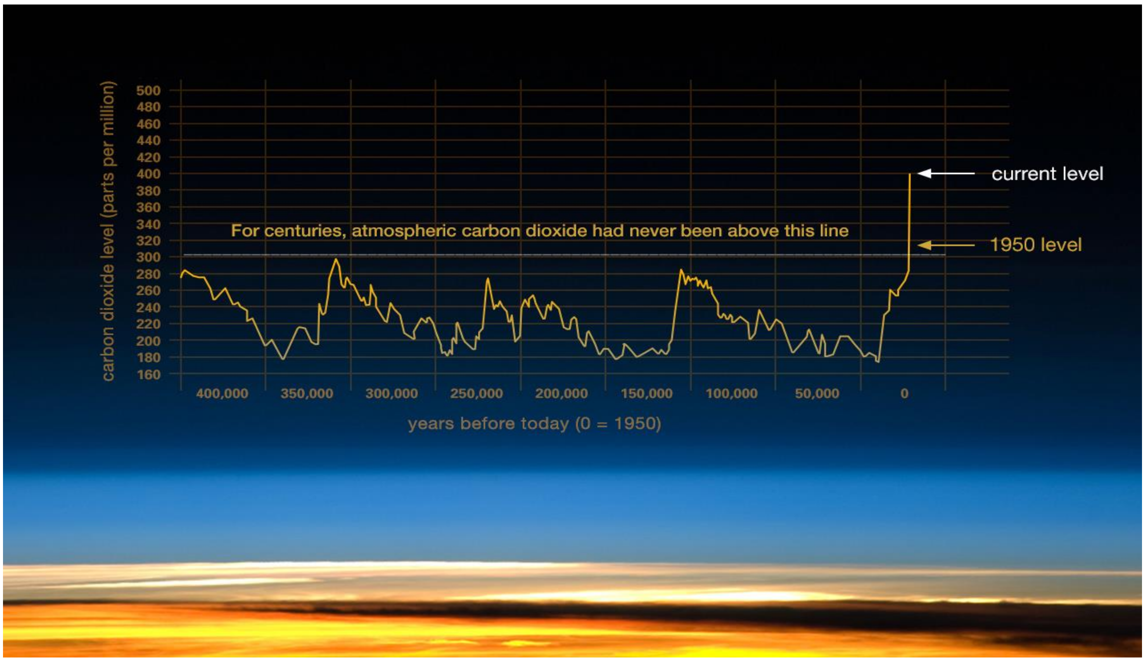
1. INTRODUCTION

Sustainability of continuous economic growth given our planetary boundaries is currently under a heavy debate. Side by side to the institutional economics there has been developing an interdisciplinary field of ecological economics, which is calling for exchange and integration between the different transformative schools of thought. Promoters of the steady-state economics (SSE), the new economics of prosperity (NE), the a-growth as well as the de-growth movements are all busy debating the socio-political aspects and defining policies for the inevitable post-capitalist transition. Their aim is to erase the growth paradigmatic resistance against policies that–in their opinion–truly and permanently improve the environmental and human wellbeing. (Farley & Daly 2006; Martinez-Alier, Pascual, Vivien & Zaccai 2010; Van den Bergh & Kallis 2012; Kallis, Kerscher & Martinez-Alier 2012; Trainer 2012.)

Still, there are only a few attempts to be found in the scientific literature at developing a business strategy, let alone a business model, that embraces the de-growth principles. The reason for this may be that the idea of de-growth is still considered as a utopian search for a fairyland that is economically unfeasible. Also, for some, de-growth ideas may resemble left-wing propaganda. Whereas, promoters of de-growth consider the blind belief in the continuous growth, even called the growth-fetish, as totally unrealistic unless we succeed to completely decarbonise the economy which, with current rates of growth, would require carbon efficiency improvements ten times faster each year than is currently the case. Those defending de-growth argue, that while waiting for a technological miracle, an equitable downscaling of economic production and consumption in the wealthy North–to assure that society's throughput of resources and emissions stays within safe ecosystem boundaries–is inevitable. (Stubbs & Cocklin 2008; Martinez-Alier et al. 2010; The Royal Society 2012:87; Van den Bergh et al. 2012; Kallis et al. 2012:173; Trainer 2012.)

Either way, the indisputable fact is, that shameless pollution and overuse of the natural resources has led to enormous increase in the levels of greenhouse gases, especially carbon dioxide, in the atmosphere since the 1950's (NASA 2017). According World

Meteorological Organization's Greenhouse Gas Bulletin (30th October 2017): “The concentrations of carbon dioxide in the atmosphere surged at a record-breaking speed in 2016 to the highest level in 800 000 years. The abrupt changes in the atmosphere witnessed in the past 70 years are without precedent.” The next graph (Graph 1) is based on the comparison of atmospheric samples contained in ice cores and more recent direct measurements. It proves the huge increase in the atmospheric carbon dioxide since the Industrial Revolution (NASA 2017).



Graph 1. This graph by NASA (2017) provides evidence of how much the atmospheric carbon dioxide has increased since the 1950’s.

Consequently, Earth’s climate is rapidly warming. According to NASA (2017), there is incontrovertible scientific evidence revealing that the current climatic warming is occurring approximately ten times faster than the average rate of ice-age-recovery warming. Thus, it is threatening the hole ecosystem of our planet. The damage already caused by the global temperature rise is shocking; oceans are warming up, ice sheets are shrinking, glaciers are retreating, snow cover is decreasing, sea level is rising and the acidity of surface ocean waters is increasing. All this has resulted in the more frequent extreme weather events causing devastation and suffering all over our planet. And on top of all, the substantial worldwide demise of amphibians, insects and other animal as well as plant species implicate that due to human impact our planet is currently facing the sixth mass extinction spasm. Alone the populations of vertebrate species are estimated to have declined by 60 % since the 1970's. (Sato 2013; UN 2015; WWF 2016; NASA 2017; Hallmann, Sorg, Jongejans, Siepel, Hofland, Schwan, Stenmans, Müller, Sumser, Hörren, Goulson, de Kroon 2017.)

By 2012, the equivalent of 1.6 Earths was needed to provide the natural resources and services humanity consumed in one year (WWF 2016). Finland alone is using resources equivalent of almost four Earths (Latva-Pukkila 2015). Therefore, de-growth promoters claim, that channelling the manufacturing and the consumption into more sustainable production methods and products is not sufficient anymore for stopping the ongoing disadvantageous progress. Instead, we need to radically change the way we think and talk about economy, society and environment. (Trainer 2012; Latva-Pukkila 2015; Sitra 2016; Hopson & Lynch 2016.)

1.1. Sustainability – Shared global agenda

Several activists, scientists and international economic, environmental and humanitarian organisations have already for decades warned us about the conflict between economic growth and environmental issues (Carson 1962; Meadows, Meadows, Randers & Behrens 1972; Goldsmith & Prescott 1972). Now, when our last minutes are at hand, it seems that at least some of the world leaders and decision makers have finally got the courage and the understanding to speak out and demand for a radical change in the economic and social systems to save our planet–the only one we have for the foreseeable future (Stern Review 2006: i-ix; China law 2008; The Royal Society 2012; European Commission 2007, 2009 and 2016).

> “There is an urgency for action. We are living beyond the resources of our one planet and destroying the resources upon which we depend.” (European Commission 2007:17.)

> “If we don’t address these issues, we will be moving to a dark future. We will be toasted, roasted and grilled if the world fails to take critical decisions on climate change.” (Lagarde IMF October 2017.)

It was the Bruntland Report, Our Common Future, published in 1987 that triggered the popularisation of the concept of sustainable development as a means of tackling the enormous economic, environmental and social challenges faced by humanity. Gro Harlem Brundtland, the former Chair of the World Commission on Environment and Development (the Bruntdland Commission) said: “Humanity has the ability, to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs.” (WCED 1987:17.)

The theory of sustainable development stresses the three main pillars of society in recovering and restoring the wellbeing of both human life and the environment: social justice, economic safety and ecological balance (Figure 1, page 11). It is also referred to as a balanced integration of social, economic and environmental performance or as the triple bottom line: people, profit and planet. The three elements are considered being interconnected and crucial for the wellbeing of individuals and societies. The objective is to promote sustainable industrialisation, innovation, consumption and production to help slow down the future climate change. (WCED 1987; UN 1992; Huber 2000; Geissdoerfer, Savaget, Bocken & Hultink 2016.) Thus, inspired by the concept of sustainable development, the United Nations Agenda 2030 for Sustainable Development is calling for every nation to implement the plan on achieving the 17 goals and 169 targets, which are congruent with the three dimensions of sustainability (UN 2015).

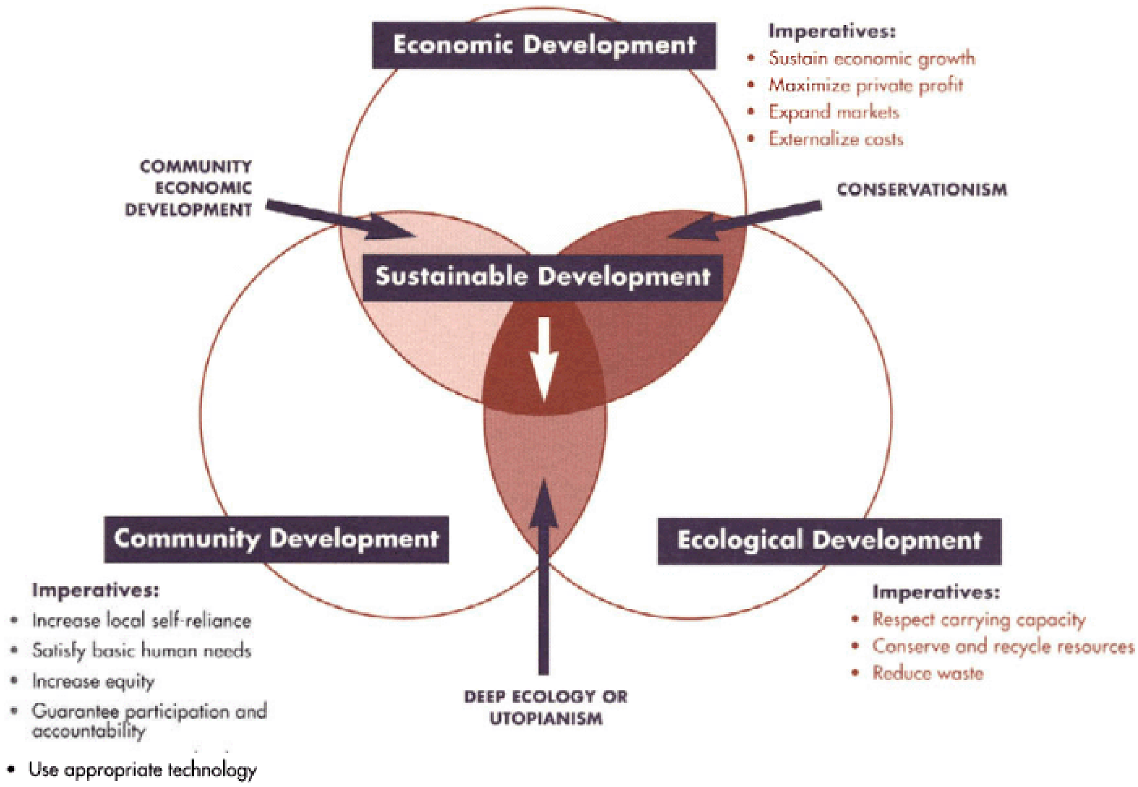


Figure 1. The sustainable development challenge by The International Council for Local Environmental Initiatives (ICLEI), International Development Research Centre (IDRC) and The United Nations Environment Programme (UNEP) (1996:1)

However, oppositional voices that are engaged in the structural roots of the problems are criticising the oxymoron 'sustainable development' as well as how the proposed sustainability goals are to be achieve: eco-efficiency, eco-design, ecological modernisation, smart agriculture, smart cities and circular and green economics. Instead of decoupling the economy from the overuse of the natural resources or dematerialising our societies, they are considered to provide insufficient and even false solutions as they all promote the dominant GDP focused growth paradigm, which is outdated and destructive leading inevitably to increased consumption of both energy and natural resources. Similarly, these 'eco-actions' are alleged to contribute to the rebound phenomenon–ever more effective energy use and production methods only leading to increased production and resource usage and thus, ending with sustainability gains far less than expected. (Hobson & Lynch 2016; Huber 2000; Jenkins, Nordhaus &

Shellenberger 2011; Kallis 2011; Johanisova, Crabtree & Franková 2013; Pueyo 2014:3432; BIOS 2018; Pollex & Lenschow 2016; Demaria & Kothari 2017.)

In addition, research shows that after a certain GDP per capita has been exceeded, further increase in GDP does not contribute to human wellbeing. Moreover, increasing GDP has proven to be a highly inefficient way to tackle poverty. Thus, the claim is, that the initial debates of the 1970's, that is The Club of Rome report The Limits to Growth, have been watered down by the UN conference in Rio de Janeiro in 1992. It is accused to have re-framed both the diagnosis and the prognosis of the ongoing ecological crisis. (Kallis 2011; Johanisova et al. 2013; Pueyo 2014:3432; Pollex et al. 2016; Demaria et al. 2017.)

Furthermore, critics argue that the negative externalities caused by the economic activities are not being internalised effectively enough by the current political and economic system. Besides enabling ecological degradation, it automatically leads to the often more expensive environmental friendly alternatives lose their competitive advantage. The dominant incumbent producers perceive the innovative ecological alternatives threatful and therefore, actively set pressure on the political decision making, which leads to lame environmental legislation. The economic strength of the supranational corporations allows them to evade regulations and taxes and externalise their costs to their workers, environment and future generations. (Huber 2000; Kallis 2011; Johanisova et al. 2013; Pueyo 2014:3432; Pollexet al. 2016; Demaria et al. 2017.)

Although the concept of sustainable development is widely accepted, it has even been criticized for being too vague and open for a variety of interpretations. The polysemy of the term sustainability leaves the door wide open for contrary opinions and theories. For example, the neoclassical economy concept of 'weak sustainability' suggests that capital, through technological innovation, can replace all types of natural capital and therefore overcome any environmental issues. Whereas, the ecological economy concept of 'strong sustainability' argues that the stock of natural resources and all ecological functions are irreplaceable and if degraded, lost forever. In other words, according to strong sustainability, Earth is a finite system and unable to endure the present and future material growth. (Huber 2000; Farley et al. 2006; Bolis, Morioka & Sznelwar 2014.)

However, with all its faults, sustainable development is the first widely acknowledged concept that at least has a hint of a possibility of revaluating the neoliberalist growth paradigm (Pollex et al. 2016). Even World Business Council for Sustainable Development admits in its Vision 2050 the New Agenda for Business that "it is time to change the value sets because currently a reduction in GDP is considered as a sign of government failure. As in the future, reduction in GDP, while improving quality of life, could be acknowledged as a success". (WBCSD 2010:15.)

Today, there can be found traces of human activities and impact–pollution and contamination–even in the most remote places and inaccessible habitats on Earth. There is no place left untouched. (Jamieson, Malkocs, Piertney, Fujii & Zhang 2017.) Moreover, according the most recent study of the biomass distribution on Earth, humanity accounts for only 0,01 % of all the life on this planet, but it has already destroyed 83 % of the wild mammals, 80 % of the marine mammals, half of all the plants and 15 % of all the fish since the beginning of its civilisation. Today, of all the mammals on Earth, 60 % are livestock, 36 % are humans and only 4 % are wild mammals. (Bar-On, Phillips & Milo 2018). Furthermore, global wealth could hardly be more unsustainably shared than it is today–1 % of the world's population own 50 % of the total world wealth while the poorest half of the world's population (3.5 billion people) only possesses 2,7 % of the global assets. Consequently, 10 % of the richest people on this planet are responsible for 50 % of the carbon emissions while the poorest half only accounts for one tenth. Moreover, this enormous gap between the richest and the poorest is constantly widening. (Oxfam 2015; Credit Suisse 2017.)

This kind of environmental and social progression can by no means be considered sustainable development. Still, despite the ongoing climate warming that is threatening all the life on Earth and despite all the glorious declarations and manifestos, saving energy and natural resources, promoting the ecological way of life and sustainable economy, consuming less and restraining the desire for more possessions is still not very popular. Instead, it seems that the overpowering marketing media and the neoliberalist political culture are doing everything to find ever more efficient ways to promote economic production and consumption of all kinds. Growth still seems to be 'the god and saviour' of all nations. There is only little support for those who see things differently and mainly want to invest in spiritual and intellectual values instead of tangible assets. It seems that politicians are still looking for an easy way out of the crisis and settling for the idea of sustainable development and continuous growth instead of acknowledging the facts pointing at the need for more radical changes. (Massa & Ahonen 2006:13-32; Sterm Review 2006; Martinez-Alier et. al 2010:1741; Porter & Kramer 2011; Pollex et al. 2016.)

1.2. The objective of the study and the research questions

The existing business modelling research including the circular economy (CE) theories are highly focused on the neoliberalist growth paradigm and maximising profits for the company shareholders. However, the current state of the environment as well as the increasing inequality between people suggest that there is an urgent need for alternative views on how to make business. (Lüdeke-Freund 2010; Demaria et al. 2017). Therefore, since the idea of sustainable de-growth has its starting point in genuine ecological sustainability followed by high level of social well-being, this study aims to examine whether it is possible to successfully integrate the values and principles of sustainable de-growth with the different elements of a viable business model.

Consequently, the objective of this thesis is to investigate how the sustainable de-growth values and principles found in literature can be applied in designing a sustainable de-growth value proposition and how to deliver and share the created value and benefits amongst multiple stakeholders. Another aim is to find out the main barriers to and challenges in applying a sustainable de-growth business model.The research question is: "How to create a business model by applying the sustainable de-growth values and principles?"

The following sub-questions are to be answered first:

1. What are the values and principles that should be considered when creating a sustainable de-growth business model?

2. How to incorporate these sustainable de-growth characteristics into the business model value proposition, value creation, value delivery and value capture elements?
3. What are the main obstacles to applying a sustainable de-growth business model?

1.3. Delimitations of the study

For now, it is hard to find businesses applying the de-growth principles as the idea is still very marginal. Therefore, this single case study concentrates on Helsinki Metropolitan Area Reuse Centre (later Reuse Centre) which in 2010 has claimed to be the first business in Finland practising de-growth. It is the largest reuse centre in the country at the time of the study and it can be considered as a pioneer in recycling and reusing the post-consumer items and materials in Finland.

Besides examining the overall practises of the Reuse Centre, this study focuses on their Plan B brand which is a collection of special furniture, clothing and accessory established for ten years ago. The idea of Plan B is to extend the value of the second-hand materials and items by upgrading them in co-creation with suppliers, customers and artisans. Currently, there is a need to expand the Plan B production due to increased second hand material flow–a growing number of businesses within a variety of industries are looking for associates that can make use of the by-products, surpluses and used items that are being generated in their processes. Their interest lies in donating the material for reuse and thus avoiding the cost of waste processing. It is also a question of image–promoting reuse looks good in the annual report of the company. In addition, some of the firms are looking for ways to upgrade their surplus material into business gifts and other marketing material for their own purposes.

There are some other small private companies in Finland practising the similar concept of reusing the post-consumer items and materials in the production of clothes and furniture, but they are not implementing the de-growth principles. Although many of them are referring to their sustainability practises, saving the natural resources, as a means of marketing and image improvement.

1.4. Structure of the study

This study is divided into five chapters and organised as follows. After justifying the study and clarifying the research gab and objectives in the first chapter, the chapter two consists of a literature review first on de-growth and secondly on the current sustainable business modelling as well as some sustainable value creation theories. Thus, the section 2.1. focuses on determining the main de-growth values, principles and characteristics that should be considered in business modelling. The subsection 2.1.1. is a literature review on de-growth. The subsection 2.1.2. presents some examples of existing businesses applying the non-growth principles whereas the subsection 2.1.3. visualises the sustainable de-growth value framework (Figure 4) and presents the sustainable de-growth business characteristics in tabular form (Table 1).

The section 2.2. concentrates on a literature review on definitions and characteristics of sustainable business modelling. Also, the main barriers to the execution of these sustainable practises are discussed. Thereafter, different perspectives to sustainable value creation as well as some examples of existing sustainable business modelling ideas are presented. Then, the different variations of the business model canvas are presented as practical tools for sustainable business modelling. The knowledge in section two is shortly summarised in the subsection 2.2.6. Finally, the section 2.3. builds and presents the theoretical framework for the study.

The third chapter is about the methodological choices of this study; the research philosophy and strategy. In addition, the case company is introduced in the light of the sustainable business model architypes. Also, the data collection and analysis methods are described. The last section in the chapter three discusses the validity and reliability of the study.

The fourth chapter presents and discusses the empirical findings of the interviews and the business modelling workshop that was arranged for the case company employees. Lastly, the fifth chapter contains the conclusions; analysis of the key findings and answers to the research questions as well as the theoretical contribution of the study and implications for managers. It also discusses the limitations of the study and makes suggestions for future research. After the reference list, there is the list of the case company interviewees and the interview schedule as well as the frame for the semi-structured interview questions available in the appendices.

2. SUSTAINABLE DE-GROWTH AND BUSINESS MODELLING

A sound business model should be based on a unique business strategy which expresses the reason for the firm's existence–its values, mission and goals. A good business strategy also motivates the people by giving them a future vision and incentives to gain that vision Furthermore, it is about defining the value network which the company relies on. And finally, it indicates how the competitive edge of the organisation is to be achieved and maintained. (Watkins 2007.) Mintzberg (1978) defined a business strategy as "a pattern in a stream of decisions". According to Porter (1996) "the essence of strategy is choosing to perform activities differently than rivals do." Likewise, Collis & Rustad (2008) argue that "the strategic sweet spot of a company is where it meets customer's needs in a way that rivals can't, given the context in which it competes".

Consequently, the first task for any company making a transition towards sustainability is to determine its strategy statement (Collis et al. 2008). Correspondingly, Huber (2000) has identified three general transformational strategies aligned with the global sustainable development goals: 1) *Sufficiency* regarding the population growth along with the level of affluence, life-style and consumption patterns, 2) *Efficiency* regarding the production processes and the use of products and 3) *Ecological consistency* of production processes and products regarding compatibility between the industrial and natural metabolism. Huber refers to sufficiency as "self-limitation of material needs, withdrawal from the free world-market economy and egalitarian distribution of the remaining scarce resources". Whereas, efficiency is referred to as a revolutionary strategy adopted mainly by the industry and businesses. It is meant to allow the continuous economic growth by improving the efficient use of material and energy. However, according to Huber, strategy of consistency as a third transformational strategy is crucial for creating the major technological innovations needed to bring the industrial production in line with the natural principles. (Huber 2000.)

2.1. Sustainable de-growth values and principles

Integrating sustainability into the business imperatives requires considering the different elements of environmental, social and economic systems and their interrelations. Thus, to co-create both profits and social and environmental benefits according the triple bottom line requires a total change in the mindsets of people from top to bottom. Organisations need to change their business rules and behavioural norms that hinder the introduction of new business models. They must allocate resources to business model innovation and start interacting actively with multiple stakeholders. In many cases they are even meeting the challenge of integrating new technology. Therefore, according researchers, firms are in need for practical tools to assist their sustainable business model innovation efforts. (Evans, Vladimirova, Holgado, Van Fossen, Yang, Silva & Barlow 2017; Short, Rana, Bocken & Evans 2013:175-176, Vladimirova, Holgado, Van Fossen, Yang, Silva & Barlow 2017:599-601.)

From the de-growth perspective, the challenge is even bigger since most of the existing sustainable business modelling methods and tools still have their focus on the firm growth and maximising returns on the shareholder investments. It seems, that there is still room for compromises at the expense of both the environment and the people. (Evans et al. 2017.) Thus, to define the role of producing firms in the future there is a need for both academic and political discussion about the practical business guidelines embracing the genuine sustainability principles. Therefore, this section examines the de-growth literature seeking for the key values, features and principles that should be considered in sustainable de-growth business modelling. In addition, some examples of businesses applying the non-growth principle are introduced. The findings are then visualised in a sustainable de-growth value framework (Figure 4, page 31) and summarised in a table aggregating the sustainable de-growth business characteristics (Table 1, page 33).

2.1.1. Literature review on de-growth

Conference on Economic De-growth for Ecological Sustainability and Social Equity in 2008 in Paris brought up the concept of sustainable de-growth into the international discussion by challenging the capitalistic thinking and the demand for continuous growth as a source of wellbeing of man and as the main ambition for a society (Research & De-growth 2010; Latva-Pukkila 2015). Moreover, the conference discussed the opportunities for as well as obstacles to voluntary social actions towards de-growth and whether implementing de-growth is possible without radical institutional changes. The final claim of the conference was that self-purposeful economic growth is not sustainable and that human progress without economic growth is possible. (Research & De-growth 2010; Schneider, Kallis & Martinez 2010.)

> "The truth is that there is as yet no credible, socially just, ecologically sustainable scenario of continually growing incomes for a world of 9 billion people. In this context, simplistic assumptions that capitalism's propensity for efficiency will allow us to stabilize the climate or protect against resource scarcity are nothing short of delusional" (Jackson 2009:86).

Sustainable de-growth is defined as "an equitable downscaling of production and consumption that increases human well-being and enhances the ecological conditions at the local and global level both in the short and long term." (Schneider et.al 2010.) Thus, de-growth proponents are suggesting a change in relationships of economy, people and nature. Instead of subjugating everything under economy, we should fit everything within the boundaries of our planet and its natural resources. Also, people's needs should be put before the economy (Figure 2, page 25).

The de-growth movement seeks to design and implement democratic policies combined with voluntary practices in the wealthy North to decrease the economic throughput to an ecologically sustainable level and at the same time to preserve a stable and sufficient economy, which also includes the developing South. The throughput to be reduced is primarily physical: energy, matter, unrenewable natural resources and emissions. However, the key attribute distinguishing de-growth from other approaches to sustainability is its resigning from the objective of increasing GDP. To be clear, degrowing GDP is either not the objective. But, as a result from the necessary sustainable de-growth actions, GDP will inevitably decrease. Thus, the idea is "to degrow by design, not disaster". In fact, sustainable de-growth does not work in an economic system designed for growth, because negative GDP in such an economy causes recession, and if prolonged, depression. Therefore, to make way for the truly transformative ideas and to implement permanent social and environmental sustainability, the established growth paradigm must be challenged. (Kallis 2011:874; Pueyo 2014:3431-3433; Weiss & Cattaneo 2017:221.)

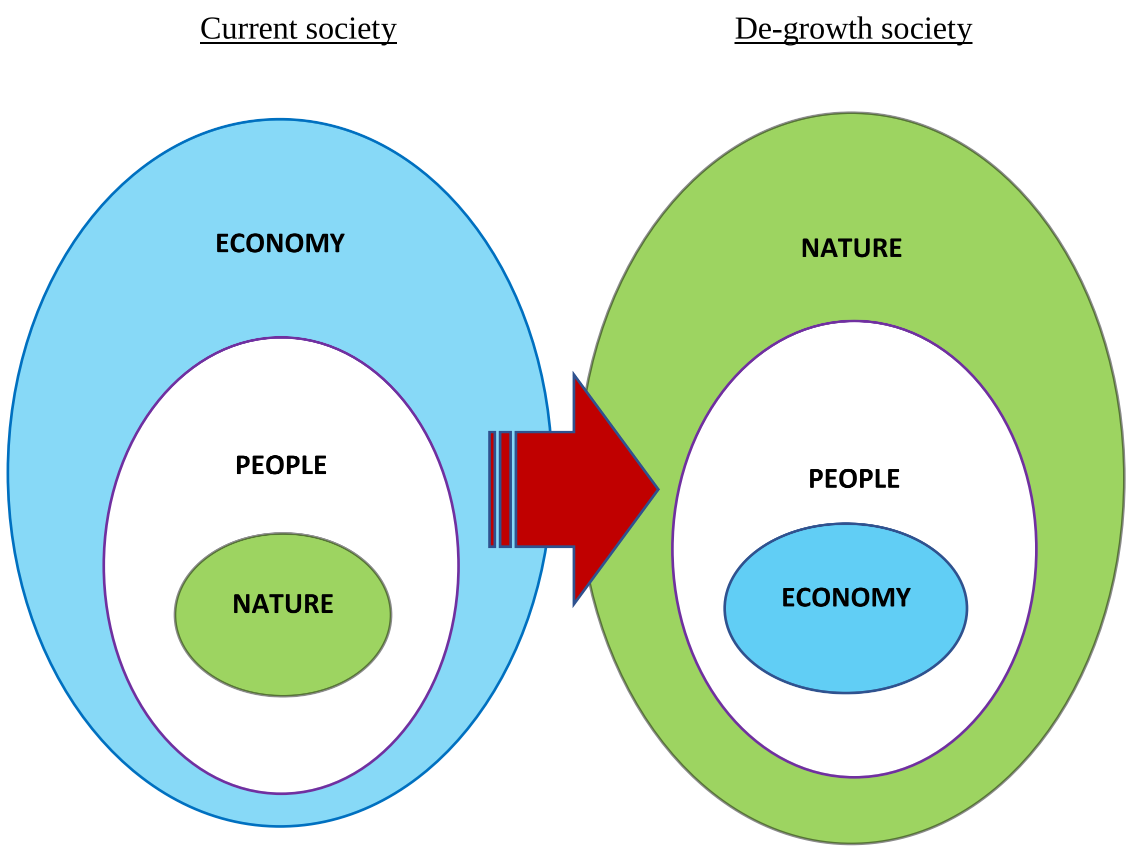


Figure 2. The change in the relationships of nature, people and economy in the de-growth scenario.

Romanian-American mathematician, statistician and economist Nicholas Georgescu-Roegen (1906-1994) established the concept of 'enjoyment of life' which is associated with an attitude of frugality and voluntary simplicity and dissociated from consumerism. In addition, de-growth reverberates the anti-utilitarian ideas of Ghandi, Illich, Schumacher and Latouche drawing from anthropology, sociology and philosophy and linking the interdisciplinary research on ecological economics, social ecology and industrial ecology. The de-growth objective is a society with the dominant values of solidarity and quality of life within the boundaries of one planet. Reinventing the conception of value–instead of much-having we need to aspire for wellbeing and various forms of collective prosperity–rewarding better instead of more consumption, public instead of private and natural rather than man-made. The three, broad sustainable de-growth objectives are: 1) to reduce the environmental impact of human activities, 2) to redistribute income and wealth both within and between nations and 3) to promote the transition from a materialistic to a convivial and participatory society. (Martinez-Alier et. al 2010; Kallis 2011; Cosme, Santos & O'Neil 2017; Weiss et al. 2017.)

One of the fundamental de-growth visions is outlined in Jackson's (2009) book Prosperity Without Growth. According him we need to build a system that seeks to minimise consumption and maximise societal and environmental benefits rather than economic growth by constructing 1) a closed-loop system of reusing and repairing as well as emphasising delivery of functionality and experience, rather than product ownership 2) a system providing fulfilling and rewarding work experiences enhancing human creativity and skills, and finally 3) a system built on collaboration and sharing, rather than aggressive competition. (Bocken, Short, Rana & Evans 2014.)

Likewise, Latouche's book Farewell to Growth (2009: 31-42, published in French in 2007) offers a similar view to a future society with altruism and cooperation. The pleasure of leisure, the ethos of playfulness and a vivid social life replacing the obsession with work and consumerism. Re-evaluating our values, winning back the deep concern for truth, sense of justice, responsibility, celebration of differences, respect for democracy and solidarity is what is needed to achieve the balanced society of wellbeing. Instead of trying to dominate nature we should find a way of harmony with our environment.

Latouche introduces eight interdependent steps reinforcing one another needed to build an autonomous de-growth society: re-evaluate, reconceptualise, restructure, redistribute, re-localise, reduce, reuse and recycle. The 'virtuous circles of eight R's' are interdependent goals meant to trigger a process of de-growth that will be smooth, serene, convivial and sustainable. He writes: “This utopia is an intellectual construct that functions on an ideal basis, but it is also concrete in the sense that it takes as its starting point elements that already exist and changes that can be implemented. If we want it, we can have another world that is at once desirable, necessary and possible.” (Latouche 2009: 31-42.) Jackson and Latouche are supported by Kallis (2011:874): “Big social change does not take place by appealing to those in power, but by bottom-up movements that challenge established paradigms.”

So, according de-growth advocates, we need to save the scarce natural resources and slow down the CO2 emissions by drastically reducing the production and consumption in countries where per capita footprint is greater than the sustainable global level. Thus, they are calling for a paradigm shift from continuous economic growth to a concept of ‘right-sizing the global and national economies’. As mentioned before, one of the practical means suggested is the reuse of already existing items and materials that is the post-consumer materials or simply second-hand articles.

In fact, promoting reuse and refurbishment is in line with both de-growth and the three sustainable development goals. Giving livelihood for the local artisans while saving the natural resources, it enhances the social cohesion of people by uniting those who have something to give away and those in need. In addition, reusing provides an advisable alternative to other waste management options. (Castellani, Sala & Mirabella 2015:374; Latva-Pukkila 2015:32; ISO 14021 2016.) Also, the European Union Waste Framework Directive (European Commission 2008) is calling for strengthening the 3 R policies: reducing, reusing and recycling of resources. Furthermore, in Bocken & Short’s (2016) waste hierarchy reusing, recycling and recovering are presented as potential sustainable business model innovations (Figure 3, page 24).

The Second International Conference on Economic De-growth for Ecological Sustainability and Social Equity in Barcelona in 2010 proposed limitations to international trade, re-localization of enterprises, establishment of local networks of small businesses (co-operatives), work-sharing and restrictions to advertising as practical ideas of how to define the role of businesses in a de-growth society. These readjustments are meant to reduce the transport of goods and the urge to consume and rat race and make work-sharing more tempting and desirable as people would value their own leisure time over money and possessions. (De-growth declaration Barcelona 2010.)

Business model innovation	Example
Avoid overconsumption, avoid planned obsolescence	Patagonia "Don't buy this jacket advertisement" encouraging customers to think before they consume (Chouinard & Stanley, 2012)
Reduce material/ resource use	Lightweighting of aluminium drink cans.
Reuse products over time or across multiple people	Car sharing schemes (reuse across multiple people), Second hand and vintage markets (reuse over time)
Make use of recycled materials	Aluminium industry focusing on continuous recycling of aluminium (Wells & Seitz, 2005)
Recover - Create value from 'waste'	Industrial Symbiosis – for instance creating new product lines from waste (Short et al., 2014); Anaerobic digestion
Source landfilled or otherwise discarded raw materials	Healthy Seas initiative – sourcing fishing nets from sea to be used as a raw material to carpets (healthyseas.org)

Figure 3. Waste hierarchy and potential business model innovations by Bocken & Short (2016:52).

2.1.2. Examples of non-growth businesses

Liesen, Dietsche & Gebauer (2015) have conducted a study on ten successful small and medium-sized companies within different industries that are deliberately not aiming to grow and maximise the traditional management indicators such as sales, market share, profit or number of employees. Instead, their intention is to remain roughly constant in size. The oldest one of these companies was established already in 1628 (brewery) and the latest one in 2005 (it-consulting). Their sales vary from 1,6 to 100 million euros per year and they employ from 6 to 120 people. Motivations for these firms to follow a non-growth strategy are multiple: managing and controlling costs related to organisational structure, considering small more productive and effective, wanting to offer personal service to customers, balancing work vs. leisure, avoiding risk, gaining limited amount of ingredients for production and finally valuing the environment and social well-being. (Liesen et al. 2015.)

These firms assess their performance with several non-financial indicators: high quality of products and services, high efficiency in production and effective use of resources, good quality of life, decent working conditions and adding local social and environmental value. Instead of doing more they aim to do better by improving quality rather than increasing resource use. Their focus is on enhancing their internal processes by cost-cutting, efficiency and stability and positioning themselves in market niches as well as reducing dependencies on a few big customers. The strategic focus of the producing companies is on durability and reparability of their products complemented with repair service offerings. Consequently, their service offerings have resulted in constant profits despite a decrease in production and sales during recessions. Two of the companies have even set a limit on wage differences within the company, which has limited their overall wage costs. So, these companies have given growth in qualities a preference over growth in quantity and they are doing well. (Liesen et al. 2015.)

According to Hankammer & Kleer (2017) one option for the design of a business model in alignment with de-growth is collaborative value creation (CVC). They argue that promoting closer relationships between the producing firm and the consumer–connecting consumers into the organisational processes and assessing the technologies that enable such relationships–enhances the customer-driven paradigm. The aim is to ensure that products are more congruent with the customer needs: “Turning consumers into prosumers, who co-create products, co-fund production and contribute to challenges with their own ideas, could support the transition to sufficient consumption.”

Hankammer et al. (2017) are presenting several concepts of CVC: 1) mass customization which allows customers to purchase products that meet their individual needs more closely, 2) crowdsourcing to address larger consumer groups simultaneously (open innovation and crowdfunding) and 3) commons-based peer production, which makes use of distributed knowledge and task division with the example of Wikipedia. The implantation of CVC methods into a de-growth business model is meant to facilitate sufficient consumption by reducing overproduction and obsolete production capacity and by extending the meaningful lifespan of products. CVC could even enhance resilient and self-sufficient local economies by gradually decentralising and re-localising the economy by producing knowledge and goods according to the needs of the local community. And finally, since CVC models actively involve consumers in the decision, design and production processes, it can also lead to more collective and democratic downscaling of consumption and production. (Hankammer et al. 2017.)

In conclusion, the idea of sustainable de-growth represents a matrix of alternatives for a multidimensional exit from the capitalist economy, which is inherently limited in its capability to efficiently and truly address social challenges and ecological degradation. Thus, de-growth activists desire to design a set of non-capitalistic practices defying the logic of maximising private profit at human and environmental expense as well as accumulation of wealth in the hands of the few. (Videira, Schneider, Sekulova & Kallis 2014.) De-growth is claimed to be both totalitarian and romantically idealistic and too difficult to implement by its opponents (van den Bergh 2011). Still, Kallis (2011) argues that all it takes is a slightly stronger belief on our collective capacity to plan political and social change.

2.1.3. The sustainable de-growth business characteristics

This subsection summarises and visualises the knowledge and understanding gathered from the de-growth literature in the previous section by introducing the de-growth value framework (Figure 4, page 31) and a table aggregating the sustainable de-growth business characteristics (Table 1, page 33).

De-growth literature suggests that the deep ecological values–sustaining the biodiversity and our natural heritage–should construct the frame for all human actions. In addition, people’s wellbeing should be put before business. The quest for continuous growth and maximising profits at any cost should be prohibited. The objective is to promote equality and to enhance the quality of life for all by aspiring after solidarity and social wellbeing instead of progressive private profits and possessions. The aim is to radically change our mindset from the survival of the fittest to altruism, to cherish the human creativity, talent and ability to collaborate, share and care.

The de-growth value framework (Figure 4, page 31) visualises the idea of the planet Earth as the ultimate boundary for all our actions and the source of well-being for humanity as well as all other living species. We need to preserve the biodiversity of our planet–or what is still left of it. Also, we as humans should concentrate on enhancing the genuine quality of our lives and social wellbeing both locally and globally. Finally, the economic system should serve, not only businesses, but the local community, the society and the planet as well by generating positive externalities and removing the negative ones. In other words, economic profits and the created value should benefit all stakeholders.

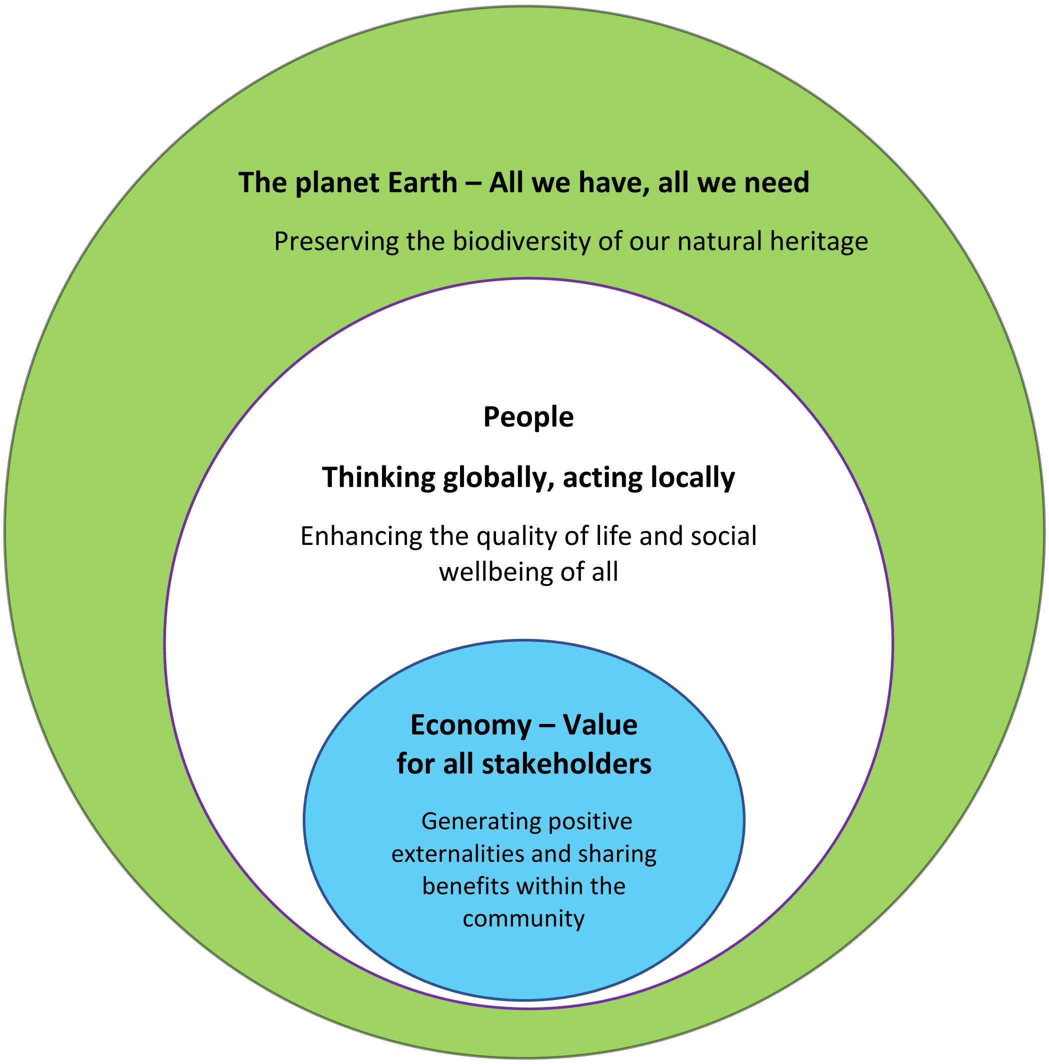


Figure 4. The de-growth value framework with the planet Earth and people as the primary stakeholders.

The table on the next page (Table 1, page 33) aggregates the features found in de-growth literature that should characterise a business aligned with sustainable de-growth. The characteristics are grouped into seven broad categories that are based on the main themes aligned with sustainable business activities. Category number one–valuing and cherishing the natural environment and enhancing social well-being, good quality of life and decent working conditions–was mentioned in all the five sources defining the idea of a sustainable de-growth. So was the category number two, arguing that firms should have shareholders emphasising other objectives than merely financial and profits should be primarily a means to gain the future sustainability goals. Thus, economic growth should not be the main objective of the business. Instead, the invested capital should be used to strengthen the sustainability and viability of the local communities.

The characteristics in categories from three to five were mentioned in all together four out of five sources. Organisations should focus on voluntary long-term mutual value creation and collaborating with all stakeholders, even competitors. They should have a genuine willingness to establish value networks and to share resources. Overall, firms should act ethically and do 'the right thing' which refers to conscious sales and marketing techniques as well as promoting sufficiency and offering service and functionality rather than ownership. Furthermore, they should promote efficient production processes and use of material and thus, be open to new technological innovations that enhance the ecological sustainability and biodiversity. Consequently, manufacturing should be concentrated on ecological long-lasting products and avoiding built-in obsolescence. Furthermore, all design and production should facilitate reducing the use of material as well as repairing, reusing and/or recycling of the products. The category number six regarding business model experiments and innovation was promoted in one of the sources. And, so was the last one regarding internalisation of the negative externalities by taxation and regulation which refers to influencing the societal and political decision making.

The next section presents research on definitions and characteristics of sustainable business modelling to see whether there can be found similarities between them and the de-growth characteristics in the table 1. Also, some research on the transformative business strategies and the main obstacles found regarding their implementation are discussed. Thereafter, views to and a practical tool for sustainable value creation are examined. The last two subsections present some examples of sustainable business model innovations as well as different variations of the business model canvas as practical tools to assist a sustainable business modelling process.

Table 1. The sustainable de-growth business characteristics found in literature.

	Sustainable de-growth business characteristics	Jackson (2009)	Latouche (2009)	Videira et al. (2014)	Liesen et al. (2015)	Hankammer et al. (2017)
1	Valuing and cherishing the natural environment and enhancing social well-being of people, good quality of life and decent working conditions.	x	x	x	x	x
2	Having shareholders emphasising other objectives than financial. Profits are means to gain the future sustainability goals. Economic growth not being the primary goal. Keeping the capital local and (re)investing locally to strengthen the community.	x	x	x	x	x
3	Focusing on voluntary long-term mutual value creation. Collaborating with all stakeholders, even competitors. Establishing value networks. Willingness to share resources.	x	x	x		x
4	Doing 'the right thing'. Being ethical. Conscious sales and marketing techniques. Promoting sufficient consumption in terms of level of life-style, level of affluence, consumption habits, consumer engagement (CVC, prosumer). Satisfying needs not wants. Offering functionality and service rather than ownership.	x	x	x		x
5	Promoting efficient production processes and use of products and technology innovations. Manufacturing long-lasting products and avoiding build in obsolescence. Repairing, reducing, reusing, recycling.	x	x		x	x
6	Business model experiments and innovations.					x
7	Furthering consistent ecological production by promoting establishment of pro-sustainability taxation and regulation systems as well as incentives to sustainability innovations. Internalising negative externalities by monetising them.			x		

2.2. Sustainability in business modelling

Business models, sustainable or not, are always about designing the value proposition together with the value creation, value delivery as well as the value capture elements. They are also referred to as the four pillars of a business model: value proposition, customer interface, infrastructure and financial aspects. Business model innovations in turn, are considered as the key to business success since innovating a new business model is about differentiating from competitors by changing the way business is done rather than what is done. Therefore, radically transformative and novel value propositions and business model innovations are also offering a potential opportunity to promote the environmental and social sustainability in production and consumption. (Evans et al. 2017; Short et al. 2013:176; Bocken et al. 2014; Lüdeke-Freund 2010; Boons & Lüdeke-Freund 2013.)

The section 2.2. seeks to define a sustainable business model. It also discusses some research on the main barriers to the execution of the sustainable choices in business. In addition, different views on sustainable value creation are presented, after which some of the existing sustainable business model innovations are examined to see whether there has been found ways to attach the explicit sustainable social and environmental goals to the economic objectives and imperatives of a business. In the fifth subsection, some variations of the business model canvas are presented as practical tools for sustainable business modelling. The last subsection shortly summarises the knowledge gathered so far in the chapter two.

2.2.1. Definitions of a sustainable business model

A sustainable business model (SBM) is defined by Ludeke-Freund (2009:56) as “the firm’s activity system allocating resources and coordinating activities in a value creation process which overcomes the public/private benefit discrepancy”. This means designing the business model proactively–improving the competitiveness of the business through excellent voluntary social and ecological performance–to align both the sustainability and the business imperatives.

Likewise, Stubbs et al. (2008) have identified several structural and cultural characteristics contributing to sustainable business modelling:

- Redefining the purpose of business in wider terms than economic profitability and shareholder returns by acknowledging that profits are both an outcome and a facilitator of environmentally and socially sustainable activities. Doing what is 'right and smart'. Shifting the focus from short-term financial returns to long-term mutual value creation by aligning shareholder, board and staff expectations.
- Establishing a reporting system integrating and indicating all the three sustainability aspects.
- Finding shareholders that are willing to invest in the company for reasons other than financial. Engaging shareholders by relentless communication and education on sustainability issues. Building relationships based on trust and two-way loyalty, honesty, integrity, fairness and equity. Also, firms' willingness to share resources–people, profit, time and natural resources–among all stakeholders is crucial.
- Leaders being natural-born sustainability agents and their main task being to institutionalise the idea to all the stakeholders and into the organisational culture.
- Cherishing nature and restoring the environment. Sharing the costs of technology and processes that enhance the sustainability actions with other stakeholders, even competitors. Developing sustainability solutions collaboratively for the whole system rather than for an individual firm.
- Keeping capital local and reinvesting locally.
- Promoting establishment of a pro-sustainability taxation system to move the tax burden from income and labour to ecological damage and consumption of non-renewable resources and to encourage businesses to eliminate negative social and environmental externalities by redesigning their processes. (Stubbs et al. 2008.)

Whereas Boons et al. (2013) are proposing four normative requirements for a sustainable business model innovation:

- Value proposition focusing on measurable ecological and/or social value together with economic value.
- Applying the principles of sustainable supply chain management and involving all

stakeholders of both the focal firm as well as the suppliers. The focal firm not burdening its suppliers with its own socio-ecological issues.

- Encouraging customers in taking responsibility for their consumption habits and forming closer relationships with other firm stakeholders.
- Distributing the economic costs and benefits equally among all stakeholders.

Bocken et al. (2014) have identified eight different sustainable business model architypes (Figure 15 on page 58). They are grouped according the main types of sustainable business model innovations: technological, social and organisational. The technological archetypes are defined as:

- Maximising material and energy efficiency by doing more with fewer resources, generating less waste, emissions and pollution.
- Creating value from waste by eliminating the concept of 'waste' by turning waste streams into useful and valuable input to other production and making better use of under-utilized capacity.
- Reducing environmental impacts and increasing business resilience by addressing resource constraints on non-renewable resources and current production systems.

The social archetypes are defined as:

- Delivering functionality rather than ownership by providing services that satisfy users' needs without having to own physical products.
- Adopting a stewardship role by proactively engaging with all stakeholders to ensure their long-term health and wellbeing.
- Encouraging sufficiency by solutions that actively seek to reduce consumption and production.

The organizational archetypes are defined as:

- Re-purposing the business for society/environment by prioritizing delivery of social and environmental benefits rather than economic profit and shareholder value maximization through close integration between the firm, the local communities as well as other stakeholder groups.
- Developing scale-up solutions by delivering sustainable solutions at a large scale to maximize benefits for society and the environment.

Evans et al. (2017) argue that sustainable value incorporates both economic, social and environmental benefits conceptualised as value forms. Thus, according to them, a SBM requires a system of sustainable value flow among multiple stakeholders including the natural environment and society as the primary ones. Consequently, a SBM requires a value network with a new purpose, design and governance as well as a systemic consideration of stakeholder interests and responsibilities for mutual value creation. Their proposal is that internalizing externalities through a product-service-system (PSS) firms could provide their customers mostly intangible services and functionalities instead of merely tangible products.

Thus, they encourage firms to get to the bottom of their current business model while at the same time embracing the concepts of SBM and innovating entirely new future business models by experimentation and learning through trial and error. They as well, call for policy makers to make pertinent interventions such as regulation, legislation, taxation, education and incentives concerning energy use, resource depletion, waste management, emissions and wealth creation. The political aim should be to monetise the environmental and social externalities: costs of products' end-of-life recovery, reuse, re-treatment and disposal. (Evans et al. 2017.)

To conclude, a sustainable organisation expresses itself in terms of the three sustainability goals: addressing the economic, social and environmental issues. Profits are a means to achieve sustainable outcomes–firms are bound to make a profit to exist, but they don't exist solely to make a profit. They cherish the natural environment and put the success of stakeholders first simply because it is the right thing to do. It appears, that the sustainable business model definitions and characteristics suggested by all the previous (Stubbs et al 2008; Lüdeke-Freund 2009; Boons et al. 2013; Bocken et al. 2014; Evans et al. 2017) are totally in line with the sustainable de-growth principles. So, the knowledge to true sustainability is already gained. Why then, is it so difficult to integrate sustainability in the business imperatives?

2.2.2. Main excuses for not applying sustainability

Laukkanen & Patama (2014) have analysed the key barriers to the diffusion of the technologically, socially and organisationally sustainable business architypes (Figure 15) by Bocken et al. (2014). They have found three main categories of obstacles: 1) regulatory, 2) market and financial and 3) behavioural and social.

Regulatory barriers:

- Lack of long-term legal regulatory frameworks
- Inconsistent and overlapping regulatory mechanisms
- Operational environment stability (regulatory risks)
- Lack of encouragement to innovativeness
- Lack of flexibility and chance of iteration
- Lack of normative rules/industrial standards
- Lack of involvement of stakeholders in decision making
- Lack of economic incentives

Market and financial barriers:

- Financial risk
- Short-termism
- Lack of awareness and understanding among market participants
- Lack of marketing know-how

Behavioural and social barriers:

- Lack of consumer/customer acceptance
- No stakeholder pressure
- Lack of risk-taking
- Enterprise culture
- Leadership, management
- Lack of motivation
- Profitability of existing business models/satisfaction

These findings point to the need for stricter and coherent political decision making in terms of environmental legislation and regulation. Also, there is lack of political as well as economic incentives to innovating ecological solutions and to engage all stakeholders to the decision making and production processes. Consequently, there is a clear need for educating the different stakeholders in the environmental and social issues to raise the awareness of both the public, the political decision makers and the investors. Organisational culture can only change by the initiative of the leadership which also has the keys to designing and implementing any strategic change.

Similarly, Lüdeke-Freund (2010) has examined the main barriers to the execution of the three transformational business strategies by Huber (2000), (Table 2). The most interesting part is the examination of the main obstacles to applying the sufficiency and consistency strategies.

Table 2. Overview of the ecological sustainability strategies and their main barriers by Lüdeke-Freund (2010).

Strategy	Objectives and approaches	Main barriers
Sufficiency Change of consumption and production patterns through change of lifestyle; focus on conservation of nature	*Psychological* • Definition of what is ‘enough’, ‘doing without’ • Modesty and renunciation based on discernment *Behavioural* • Change of consumer habits and consumption structures • Re-definition of which products to demand • Substitution of non-sustainable behaviour *Technological* • Change of technological basis of consumption structure • Reduction of impacts on the natural environment and resource use	• Psychological and behavioural barriers of utilitarian consumers • Business is stuck in growth paradigm • Lack of definition of the economic and moral limits

Strategy	Objectives and approaches	Main barriers
Efficiency Reduced environmental damage per unit of output; focus on improving technologies, organisations	*Organizational* • Environmental management systems (EMS) for continuous improvements • New product-service-systems for consumers *Technological* • Optimization of input-output ratios of production and consumption • Reduction of material and energy inputs with constant or increasing productivity • Reuse and longevity of materials and products • Recycling and cascade reprocessing of materials	• Lack of attention which is hindering innovations • Lack of knowledge about inefficiencies and improvements • Missing demand for efficient products and services • Uncertainties during transition phases
Consistency Bringing industry in line with natural principles; focus on new technological paradigms	*Paradigmatic* • Re-integrate industrial metabolism into natural metabolism (industrial ecology) • Ecological modernization through structural change • Circular economy based on clean energy and pure, high quality materials • Avoidance of artificial and possibly incorrect limit setting *Technological* • Material and energy flows either in own, separate technological cycles, or consonant with their natural setting • Substitution of non-renewable resources and technologies	• Limits to closed-loop procedures on large scale are imposed by economics rather than physics • Innovations are of basic or systemic type and conflict with given situation • Mobilization of necessary capacities requires multi-level efforts and support

There is a conclusion to be drawn that since firms are consistent in their quest for growth they cannot succeed in their sustainability efforts regardless of what other strategies they apply. For example, the efficiency strategy would only be successful in the combination with sufficiency. Otherwise, efficiency gains will, at least to some extent, lead to the rebound effect–increased production and use of resources. Whereas the consistency innovations are claimed to be of “a systemic type and thus conflicting with existing dominant designs and the positions of incumbents, which can lead to social and political conflicts”. This reveals the real power of large businesses and their interest groups. They always seem to have their way to affect the political decisions in their own favour. And, they are the last ones to accept policies that would affect them negatively and force them to change the way they do business. Or even, make them to vanish. Instead, they are prepared to take the most drastic actions to protect their businesses–according to the Guardian (17th of November 2017) 164 environmental defenders around the world had so far been killed in 2017 while protecting their community’s land or natural resources.

Lüdeke-Freund (2010) continues: “Mobilizing the necessary innovative and economic capacities requires multi-level efforts and support from industry, finance, research and political leadership and, as for sufficiency, societal acceptance”. This refers to the issue of psychological and behavioural barriers of utilitarian consumers which has proven to be a fallacy. There are examples in the history of mankind proving that nations can change their customs and behaviour very quickly if needed (Brown 2003:203-206). All people seem to need is a good enough reason and saving the Planet might just be one. As a matter of fact, the current throw-away society is a new phenomenon. There are still those, born before the 1950’s, who still live very modestly and to whom moderate consumption does not seem to be a problem.

Besides this, the younger generations of the Western world, who have had the privilege to be born in societies of wealth and abundance, are also the first ones to experience the consequences of it all–environmental degradation and climate change. So, they may very well be willing to change the track that mankind is currently on by re-defining the economic and moral limits for what is considered sufficient and just. According to Xie, Sreenivasan, Korniss, Zhang, Lim, & Szymanski (2011): “The prevailing majority opinion in a population can be rapidly reversed by a small fraction of randomly distributed committed agents who consistently proselytize the opposing opinion and are immune to influence”. Their research shows that once the number of promoters of any minority opinion reaches its tipping point, which is only 10 % of the population, the minority opinion is always going to be adopted by the majority of the society. So, there may still be hope.

All the other barriers to applying sustainable strategies analysed by Ludeke-Freund (2010) are practical and technical and thus, can be solved if there is the will to do so. Although her analysis is, that “the three strategies need to be combined as an integrative concept of ecological sustainability” she still concludes: “Possible overlapping with business imperatives is thoroughly discussed regarding efficiency, while sufficiency and consistency still seem to be countercultural strategies.” In other words, instead of proposing political and legislative support for voluntary-based sufficiency actions of consumers, she agrees with the growth paradigm: “In the eyes of utilitarian consumers sufficiency threatens individual unfolding and, if imposed by force, destroys civil rights and liberties.” So, is the depletion of the natural resources not destroying anyone’s rights and liberties? Do the industry and the utilitarian consumers have the right to cause environmental degradation just to be able to produce and consume without limitations? What about the rights of the people who value the overall environmental and social wellbeing instead of new shoes in their closet every week?

To conclude, it appears that the sole barrier to creating a truly sustainable (de-growth) business model is the blindness for a possibility to move away from the urge to produce and consume without any limitations. Next, an introduction to some viewpoints on value creation and business modelling of which at least some still seem to have faith in people.

2.2.3. Views on and a tool for sustainable value creation

Societies are fundamentally based on a set of values which form the basis for the societal norms as whole: “Values are group conceptions of the relative desirability of things.” (Manichander 2016:4.) Likewise, the underlying values of the owners and decision makers have a crucial impact on the strategic choices of a firm. Therefore, different views on the concept of value and a practical tool for sustainable value creation are presented and discussed next.

Den Ouden (2012) argues that the perception of value has been developing from the commodities in the 1950’s industrial economy, to the targeted experiences in the 1980’s experience economy and to the enabling of self-development in the current knowledge economy. Eventually, this continuous progress will lead to an era of ethical value exchange in the future transformation economy. So, den Ouden predicts a paradigm shift from the current knowledge economy into a new era of transformation economy, which she describes as a system that restores the dynamic equilibrium between the economic, social and environmental dimensions in societies. (den Ouden 2012.)

The future paradigm shift den Ouden is predicting, could mean a huge possibility for the different unconventional and radical economic theories to be finally fully recognised. The economic driver for businesses in the transformation economy will be the design of meaningful innovations and new kinds of business models through inclusive value networks and cooperation. The value proposition for the user will be “a pleasurable experience seducing them into changing their behaviour to increase their quality of life”. Businesses will be members of organisational ecosystems providing the sustainable value propositions for all stakeholders and at the same time ensuring the continuity and viability of the business. The outcome of this transformation is a society capable of improving the quality of life while taking care of both people and planet. (den Ouden 2012.)

Value framework for the transformation economy

In her value framework (Figure 5), den Ouden makes a distinction between the four overlapping levels of value which need to be aligned: value for the user, the organisation, the organisational ecosystems and the society. In addition, the suggested framework takes account of all the four levels' different perspectives on value: economic, psychological, sociological and ecological.Although den Ouden is not promoting de-growth per se, the value framework she is suggesting has many of the sustainable de-growth attributes: wellbeing, happiness and belonging, meaningful life, wealth and stability, reciprocity, social responsibility, shared drivers, ecofootprint and sustainability. And most importantly, she has excluded ‘growth’. However, from a de-growth perspective, her framework is lacking ‘Earth’ as the ultimate level of value. This may be interpreted as animism but is nevertheless necessary in a de-growth value framework, where Earth is considered the basis and the limit for all our actions. Earth has only one perspective on value–preserving its biodiversity, our lifeblood.

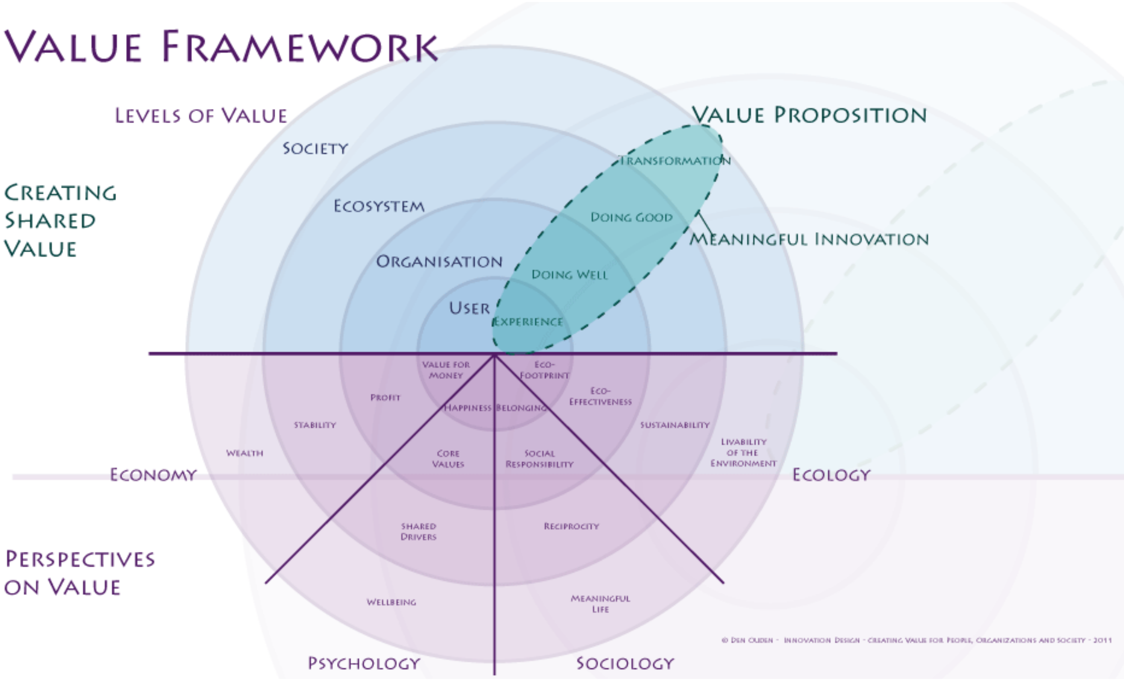


Figure 5. Value framework by den Ouden (2012).

Shared value

Porter et al. (2011) are also taking part in the transformative value creation discussion, but from the capitalist point of view. They are suggesting that businesses should create shared value representing, not philanthropy, but self-interested behaviour to create economic value by creating societal value. The idea is to reinvent capitalism by making profit by offering shared value for those in need mainly in the developing world. The hunt for enormous growth potential and profitmaking is veiled in creating social value. Social and environmental goals are made subordinate to the primary goal of creating continuous economic value and profits for the already wealthy shareholders. Porter and Kramer have the survival of the fittest approach to value creation, which understates the environmental challenges the increased consumption followed by population growth is about to bring. Furthermore, it takes advantage of the most vulnerable in the poorest countries–the ones that already suffer most of the impacts of the climate change. Therefore, the concept of shared value is just business as usual–the antithesis of de-growth.

The sustainable value mapping tool

Bocken, Short, Rana & Evans (2013) have introduced a value mapping tool (Figure 6) which facilitates the sustainable business model innovation process by identifying the current value proposition and the opportunities for new forms of value creation both for existing and new stakeholders. This model introduces a concept of missed value meaning the under-utilised assets, resources and capabilities of a firm. Whereas the concept of destroyed value refers to the overall negative environmental and social externalities a firm is generating.

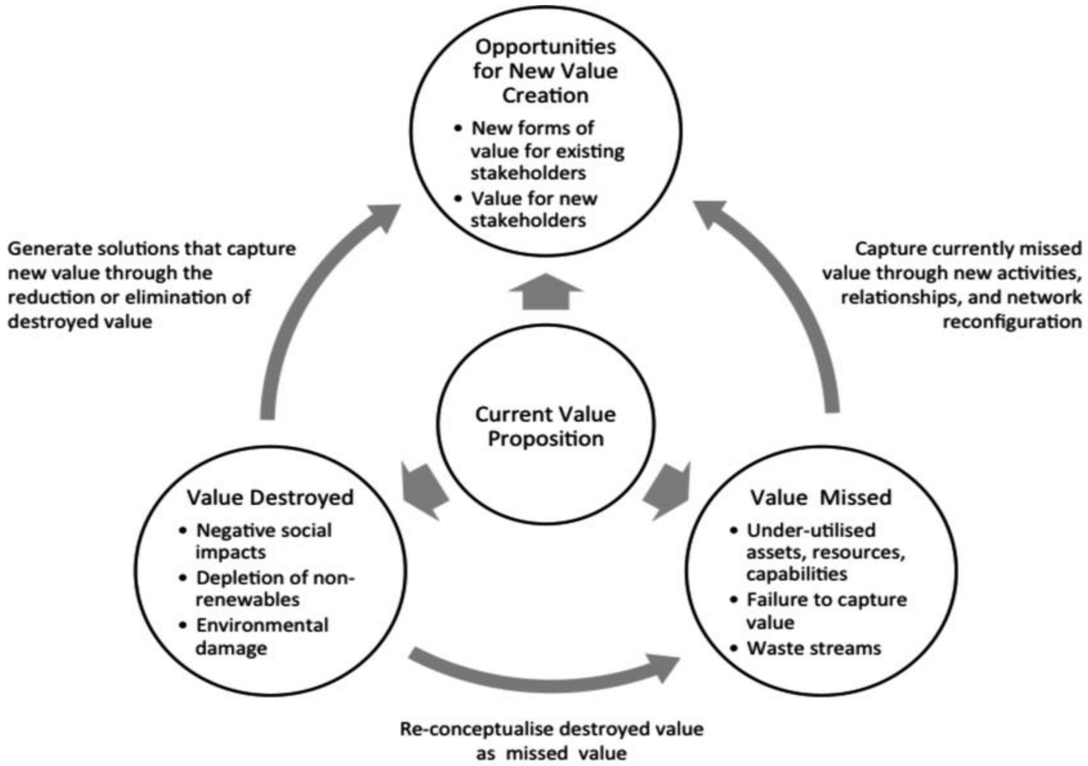


Figure 6. The value mapping tool by Bocken, Short, Rana & Evans (2013).

The idea behind this managerial tool is to help to capture the currently missed value by establishing new activities and relationships as well as by reconstructing the existing value network. Another aim is to re-conceptualise the destroyed value, which is generating negative environmental and social externalities, as missed value to find ways to innovate possibilities for new value capture. In other words, the objective is to generate solutions that capture new value through the reduction or elimination of the negative impacts on society and environment.

As a conclusion, this value mapping tool by Bocken et al. (2013) aims to identify and assess the key issues in the overall value innovation process within a firm and its multi-stakeholder networks. Thus, it can as well be used in sustainable de-growth business modelling as it takes account of the value requirements of all stakeholders: the customer, the focal firm, the business network, the society and the environment. However, it may be a bit too complex and academic with many new concepts for the busy entrepreneurs and managers to use. Moreover, it still leaves room for compromises when it comes to the negative externalities. In a de-growth context there should be none. Next, a presentation of two examples of transformative business models that attempt to rethink the imperatives of a business.

2.2.4. Examples of sustainable business model innovations

Sufficiency-driven business model

Bocken et al. (2016) are presenting a sufficiency-driven business model as an innovation to tackle the pressing sustainability issues. In their proposal sufficiency is a driver for a sustainable business model innovation that seeks to restrain the overall resource consumption. The aim is to curb the demand by actively educating and engaging the consumers, manufacturing long-lasting products and avoiding built-in obsolescence. Additionally, firms should focus on satisfying needs rather than promoting wants by implementing conscious sales and marketing techniques. They should also strive to innovate new revenue models and innovative technology solutions that support the true environmental and social sustainability. So, at least Bocken et al. seem to be brave enough to think beyond the behavioural and psychological barriers of utilitarian consumers.

A real-life example of a company applying the sufficiency-driven business model is

Patagonia, which is a manufacturer of outdoor clothing and gear. They are often remembered for their advertising campaign ‘Don’t by this jacket’. Patagonia is also known for supporting environmental grassroot efforts already since the 1970’s by donating either 10 % of their profits or 1 % of their sales (whichever was greater) each year for smaller groups of people who are working all over the world for saving or restoring the environment. They have also organised yearly environmental education campaigns and they are constantly looking for more ecological solutions for their own production of clothing. Their mission is to “deliberately bring doing good to the heart of their business by challenging the conventional wisdom, living a simpler and more examined life and doing business without losing their soul”. Patagonia’s mission statement is “to build the best product, cause no unnecessary harm, use business to inspire and implement solutions to the environmental crisis”. (Bocken et al. 2016; eu.patagonia.com)

Social business model

Yunus, Moingeon & Lehmann-Ortega (2010) are presenting a social business model which, according to them, could be applied to environmental sustainability issues as well. First, they make a clear distinction between a social business, a profit maximizing business and a not-for-profit organisation. They define a social business as “a no-loss, no-dividend, self-sustaining company that sells goods or services and repays investments to its owners, but whose primary purpose is to serve society and improve the lot of the poor” (Figure 7). Thus, a social business is designed and managed similarly to any profit-maximising company since it needs to generate enough revenue streams to cover all the expenses to be self-sustainable. Profits are reinvested in the business and thus, ultimately, passed on to the target group of beneficiaries in such forms as lower prices, better service or greater accessibility. In a social business model, no dividends are paid for the invested capital, but the investors and owners are entitled to get their money back if they wish (Figure 8). (Yunus et. al 2010.)

As it seeks self-sustainability, a social business only relies on its investors at the beginning. There are two specificities of a successful social business. Firstly, favouring social profit-oriented shareholders and secondly clearly specifying social profits objectives. "The value proposition and value constellation of the social business model must link all stakeholders, including shareholders who understand and accept its social mission." (Yunus et. al 2010.)

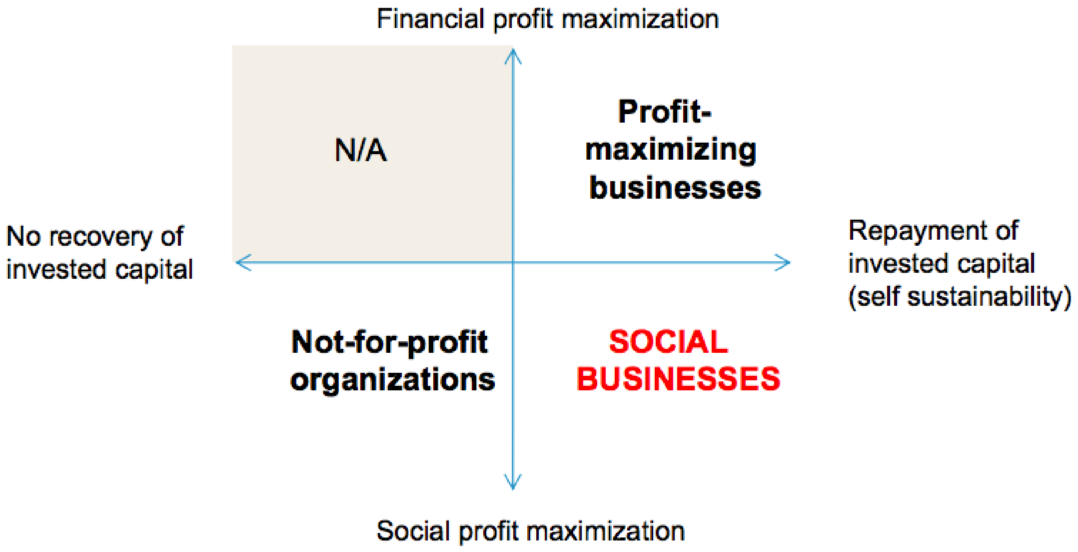


Figure 7. Social business vs. profit maximizing business and not-for-profit organisations by Yunus, Moingeon & Lehmann-Ortega (2010:310).

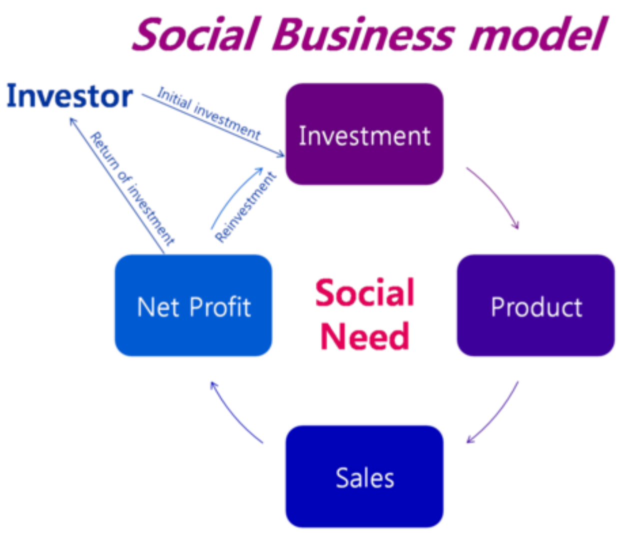


Figure 8. Social business model by Yunus et al. (2010).

A social business model consists of four components: 1) the social profit equation, encompassing both social and environmental profits, 2) the economic profit equation, encompassing sales revenue, cost structure and capital employed, 3) the value proposition, encompassing all stakeholders and the product/service and 4) the value constellation, encompassing the internal and external value chains (Figure 9). (Yunus et. al 2010.) To sum up, the social business model resembles the original idea of a co-operative–acting as any other business but using the surplus to enhance the wellbeing of its own members, who also are the 'owners' entitled to get their subscription repaid if they so wish.

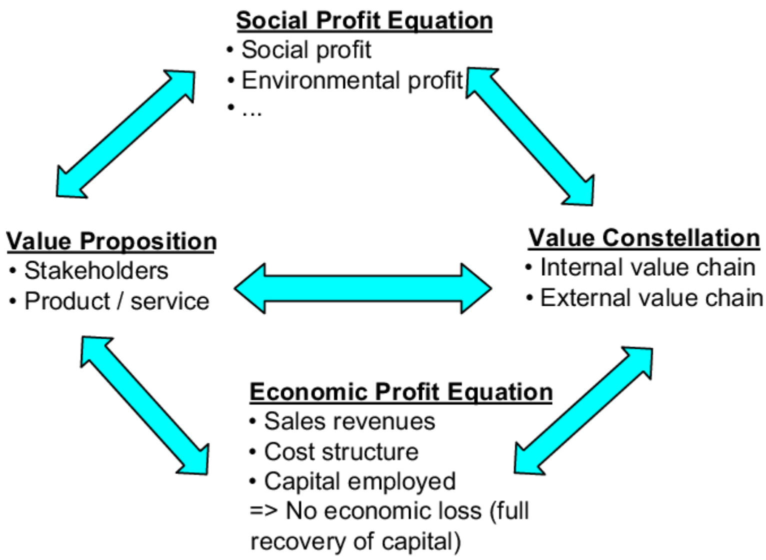


Figure 9. Four components of a social business model by Yunus et. al (2010).

To conclude, both, the sufficiency driven business model and the social business model are examples of a possibility to think beyond the box and to build viable businesses based on the sustainable environmental and social values. To conclude the investigation on sustainable business modelling definitions, methods and tools in the chapter two, the original business model canvas together with some variations of it are presented next.

2.2.5. Variations of the business model canvas

The business model canvas by Osterwalder & Pigneur (2010) is a practical and user-friendly tool for designing a new business model or enhancing a current one (Figure 10). Thus, it has become a widely adopted template for describing, evaluating and designing new innovative business models for all kinds of companies. There are nine blocks to be filled in visualising the planned processes of the value creation, value delivery and value capture elements. The advice is to start the process with defining the customer segments and the unique value proposition for each of them after which one can proceed filling in the other value delivery elements described in the canvas. The second task is to design the value creation processes. How is the designed value proposition to be performed? What kind of key resources, activities and partners is needed? And finally, the question of the cost structure and sales revenues. How to capture and share the value, meaning, how to create enough revenue streams for all the stakeholders to make the business viable?

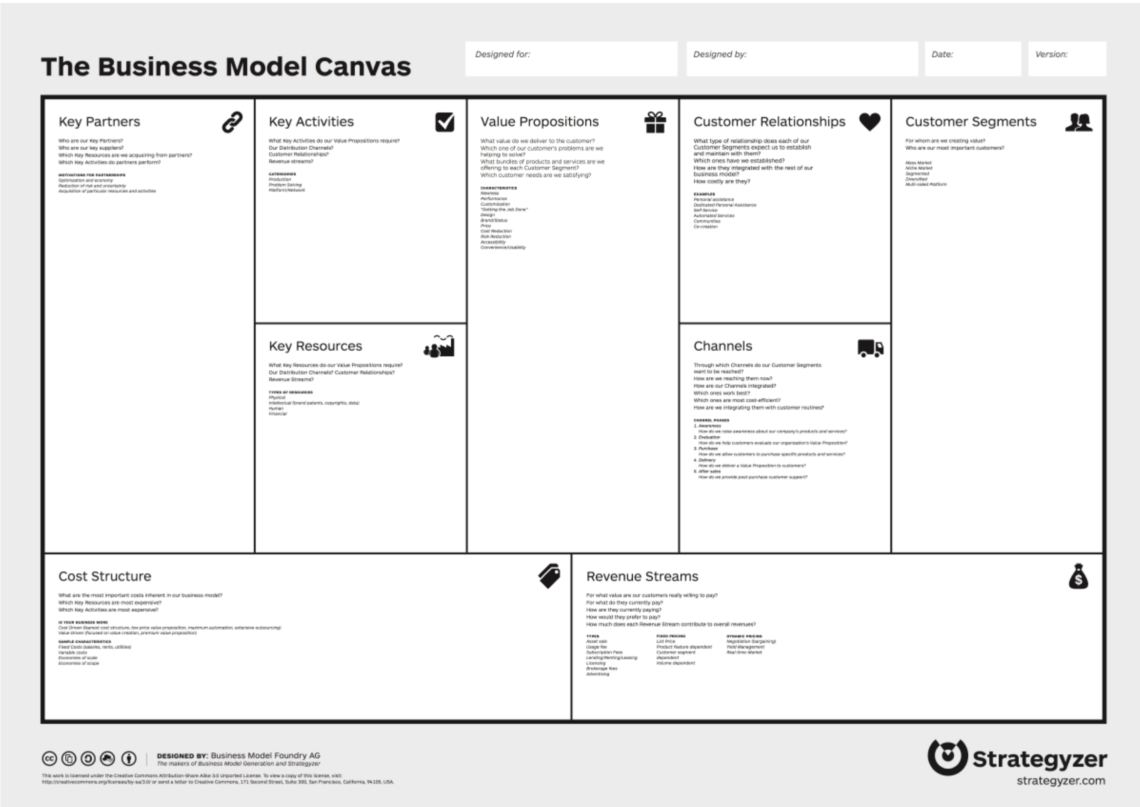


Figure 10. The business model canvas by Osterwalder & Pigneur (2010).

However, since the purpose of Osterwalder’s and Pigneur’s business model canvas is mainly to describe the money earning logic of a firm, it has been criticised for focusing only on the profit first philosophy. Thus, it is not agreed to be the most suitable for sustainable business modelling. Therefore, two different variations of the original business model canvas are presented next.

The sustainable business model canvas (Figure 11) details the environmental and social impacts of a business model separately besides the economic criteria of cost structure and revenue streams (CASE project 2018). Thus, this enhanced business model template aims to incorporate sustainability into the core of the business by evaluating both the negative and positive societal and environmental impacts of the business activities.

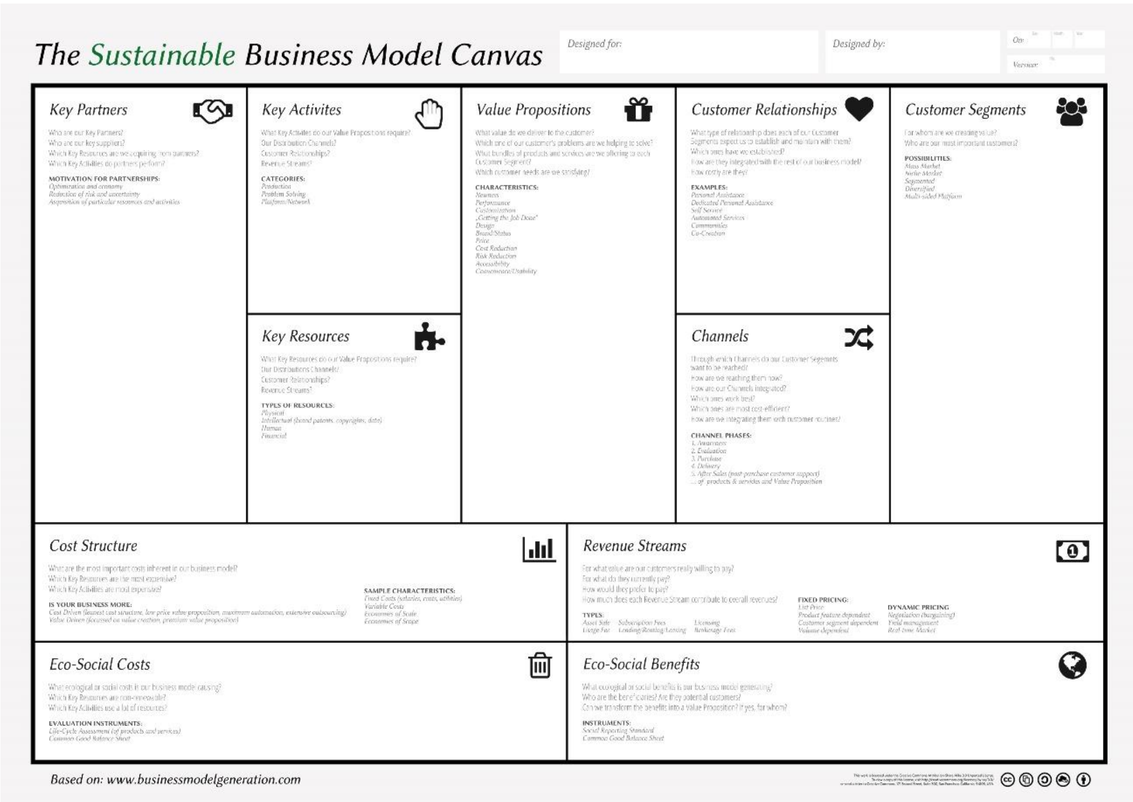


Figure 11. Sustainable business model canvas by CASE project (2018).

Similarly, Joyce, Paquin & Pigneur (2015) have carried on the development of the original BM canvas into the triple layered business model canvas (Figure 12). It is built on the original by adding a second layer with nine environmental elements following a life cycle approach and a third layer with nine social elements following a stakeholder approach.

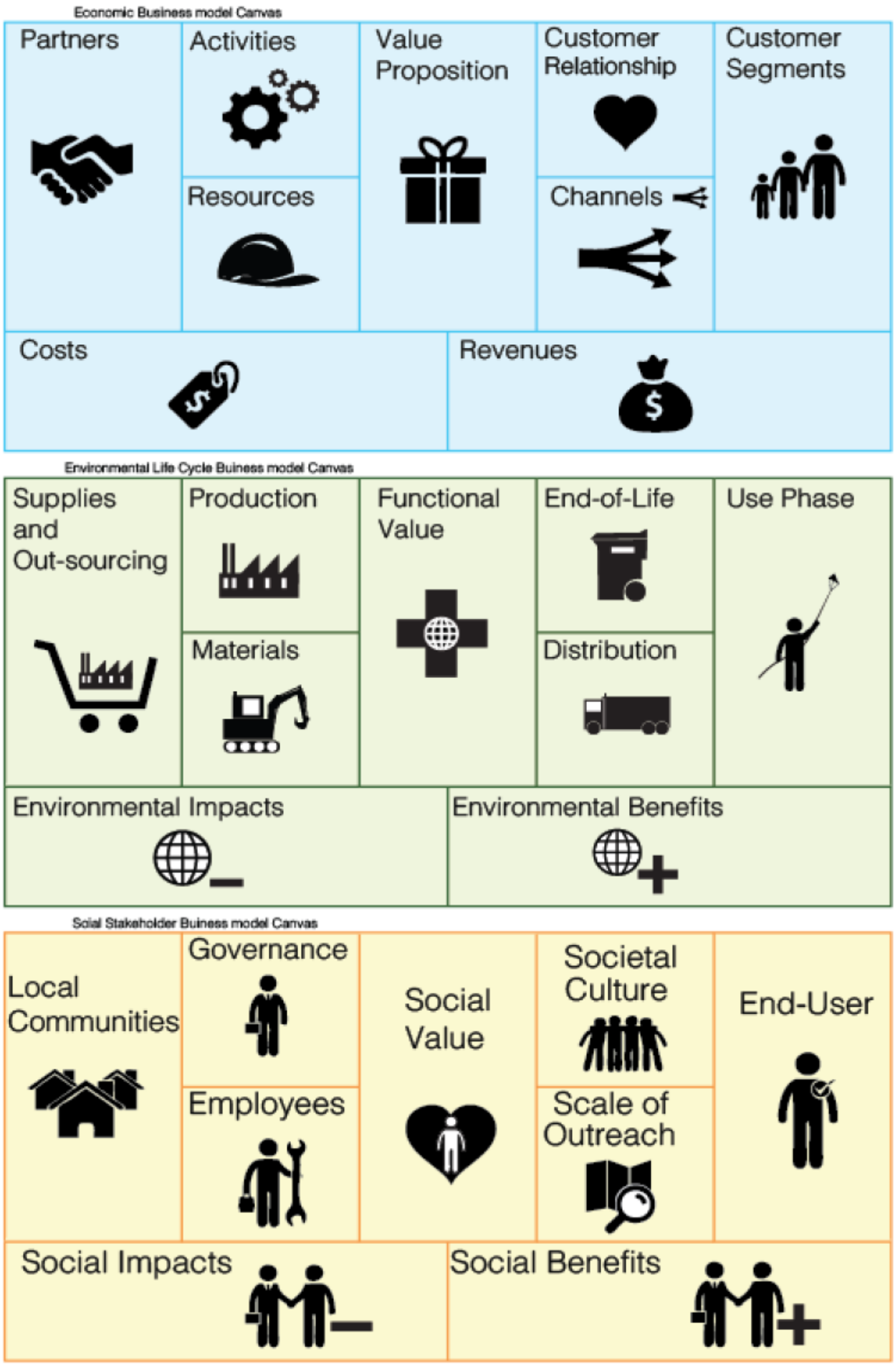


Figure 12. Triple layered business model canvas by Joyce & Paquin (2016).

The Life Cycle Assessment (LCA) is a standardised method using multiple indicators and accounting the environmental impacts of all the stages of a product or service life cycle: extraction of raw materials, manufacturing, distribution, use and disposal. The idea is to prevent transferring the environmental burden further in the life cycle. Whereas the stakeholder theory has its objective in maximising the interests of all the stakeholders of an organisation: employees, shareholders, community, customers, suppliers, governmental bodies, interest groups and even competitors. The aim is, through specific indicators, to measure the satisfaction of various social groups affected by the business. Thus, the triple layered business model canvas aims to hold both horizontal (economic, social and environmental) and vertical coherence of the nine business model elements. It can also be used to investigate whether the vertical nine blocks of the business model are coherent and consistent with each other. (Joyce et al. 2015.)

The original business model canvas as well as the different variations of it together with the value mapping tool, are all practical instruments facilitating a business model innovation aiming to design a sustainable triple bottom line business model or enhancing the current one. Naturally, they can without difficulty be applied in sustainable de-growth business modelling too. However, business model transformation and innovation per se does not guarantee the true sustainability of a business. It is the underlying values that guide the way to the genuinely sustainable outcome. Thus, when designing a sustainable de-growth business model, one should not settle for merely evaluating the negative societal and ecological impacts of the business activities. Instead, there should be made every effort to find ways to erase them totally by focusing on producing as much positive externalities as possible.

2.2.6. Summary

When working on a sustainable de-growth business model innovation there is a need to design a value proposition that offers benefits firstly for the environment, secondly for the society and thirdly for all the other stakeholders meaning the customer and the whole business network including the focal firm. So, the outcome should be an exceptional value proposition for the customer who is paying the party. In other words, the profits of the business should be shared between the focal firm and all the business partners in the way that benefits the society and the environment with positive externalities. Or, at least it should meet the minimum requirement of not generating any negative externalities–to be neutral in terms of environmental and societal impacts. However, it is hard to think of any such business because everything we consume has an impact on the environment; food, clothing, cosmetics, household items, furniture, transportation, heating, energy, information, you name it.

After conducting the research on in sections 2.1. and 2.2. it has become clear that all the knowledge and understanding needed for truly sustainable one planet life for humanity has already been gained. There is an overabundance of academic research as well as practical tools and methods for innovating the sustainable solutions for practically all business elements and activities. This thesis presents only a couple of them. Also, there are a multitude of environmental-friendly solutions and inventions to be found to replace the traditional unecological processes, products and technologies. Furthermore, sustainable de-growth and the ideas of how to apply it in business life can be considered being equal to the general theories of sustainable business modelling.

However, it is also clear that the political decision-making of legislation and regulation is not keeping up with the demands of the sustainable development. There is a lack of economic incentives to transform both business activities and consumption habits of the consumers towards the genuinely sustainable alternatives. Unfortunately, the authorities–even when they are fully aware of the negative impacts of the current systems–don't seem have the courage nor the will to explicitly and quickly put the environmentally friendly decisions into effect. Thus, there is a lack of wisdom to quickly integrate the sustainable solutions into the everyday practises of all organisations. So, strict and coherent global and local political decisions that support the already existing sustainable solutions as well as the discovery of even better ones are urgently needed to steer the progress into sustainable consumption and production.

The next section concludes the chapter two by summing up the literature review and thus, building the theoretical framework for this study.

2.3. Building the theoretical framework

This section presents a summary of the knowledge gained in the sections 2.1. and 2.2. The first subsection aggregates the de-growth as well as the sustainable business modelling and sustainable value creation characteristics found in literature to emphasize the uncompromising ecological and social de-growth values and principals needed in an innovation process of a sustainable de-growth business model. The second subsection presents the theoretical framework for this study.

2.3.1. The sustainable de-growth business characteristics

The table number three on the next page (Table 3, page 56) aggregates the sustainable business features found both in the de-growth (blue columns) and the sustainable business modelling and value creation (green columns) literature in sections 2.1. and 2.2. These are the principles that should characterise a sustainable de-growth business and should therefore be considered in a de-growth business model innovation process. The characteristics are grouped into ten broad categories. They can be considered as the practical guidelines to realise the explicit environmental and social de-growth values presented in the de-growth value framework (Figure 4, page 31).

The characteristics in the first category–focus on voluntary long-term mutual value creation and collaboration with all stakeholders, even competitors as well as willingness to share resources within the established value networks–was emphasised in altogether eleven out of thirteen sources. The characteristics in *the categories number two and three* were mentioned in ten out of thirteen sources. These features referred to valuing and cherishing the natural environment and enhancing social well-being of people including the notions of good quality of life and decent working conditions as well as being ethical and doing the right thing by promoting conscious sales and marketing techniques to promote sufficient consumption habits and life-style. They also stress the need to engage consumers in the production processes by facilitating collaborative value creation. The objective should be to satisfy needs instead of wants, to offer functionality and service instead of ownership of new products.

Table 3. The aggregated features and principles characterising a sustainable de-growth business that were found in literature in the sections 2.1. and 2.2.

	Sustainable de-growth business characteristics	Jackson (2009)	Latouche (2009)	Videira et al. (2014)	Liesen et al. (2015)	Hankammer et al. (2017)	Lüdeke-Freund (2009)	Stubbs et al. (2008)	Boons et al. (2013)	Bocken et al. (2014)	Evans et al. (2017)	Huber (2000)	Bocken et al. (2016)	Yunus et al. (2010)
1	Focusing on voluntary long-term mutual value creation. Collaborating with all stakeholders, even competitors. Establishing value networks. Willingness to share resources.	x	x	x		x	x	x	x	x	x	x		x
2	Valuing and cherishing the natural environment and enhancing social well-being of people. Promoting good quality of life and decent working conditions.	x	x	x	x	x		x	x	x	x			x
3	Doing ‘the right thing’. Being ethical. Conscious sales and marketing techniques. Promoting sufficient consumption in terms of life-style, level of affluence, consumption habits, consumer engagement (CVC, prosumer). Satisfying needs not wants. Offering functionality and service rather than ownership.	x	x	x		x		x	x	x		x	x	x
4	Having shareholders emphasising other objectives than financial. Profits are means to gain the future sustainability goals. Economic growth not being the primary goal. Keeping the capital local and (re)investing locally to strengthen the community.	x	x	x	x	x		x	x	x				x
5	Promoting efficient production processes and use of products and technology innovations. Manufacturing long-lasting products and avoiding build in obsolescence. Repairing, reducing, reusing, recycling.	x	x		x	x				x		x	x	
6	Furthering consistent ecological production by promoting establishment of pro-sustainability taxation and regulation systems as well as incentives to sustainability innovations. Internalising negative externalities by monetising them.			x				x			x	x		
7	Business model experiments and innovations.					x					x		x	
8	Leaders being natural-born sustainability agents.							x			x			x
9	Educating all stakeholders on sustainability issues.							x			x		x	
10	Reporting system integrating and indicating all three sustainability goals.						x	x	x					

The category number four–having shareholders keeping the capital local and emphasising other objectives than financial and profits being a means to gain the future sustainability goals while restraining from pursuing continuous economic growth–got altogether nine mentions out of the thirteen. *The category number five* which referred to promoting efficient production processes, manufacturing long-lasting products, using new and innovative technology, repairing, reducing, reusing and recycling was mentioned in seven out of thirteen articles. *The category number six* emphasising the need for influencing the societal and political decision making got four mentions out of thirteen. Finally, the last four *categories from seven to ten* regarding the need for broad-minded business model innovation, importance of leadership and education as well as setting up a consistent triple bottom line reporting system, were supported by three of the examined thirteen references.

2.3.2. The theoretical framework for the study

These characteristics (Table 3, page 56) together with the de-growth value framework (Figure 4, page 31) aggregate and visualise an overview of the values and principles needed to create a sustainable de-growth business. Thus, to conclude the chapter two, they are presented as the theoretical framework for this study on the next page (Figure 13, page 58). Thus, to be able to answer the research questions, the objective of the case study is to examine whether the sustainable de-growth values and characteristics found in literature can be integrated into the business model value proposition, value delivery, value creation and value capture elements.

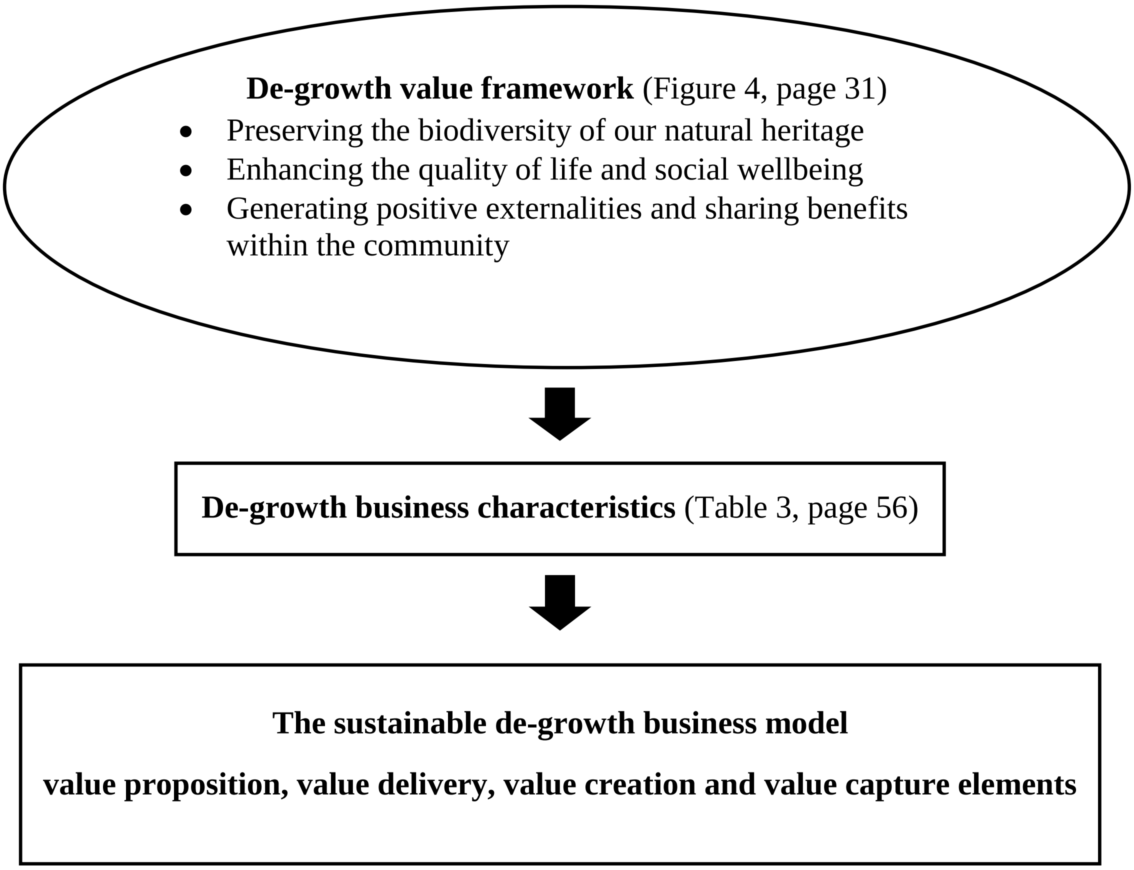


Figure 13. The theoretical framework for the study.

3. RESEARCH METHODOLOGY

The choice of research philosophy in a study refers to the way knowledge is developed and the nature of that knowledge. Thus, the chosen research philosophy as well as the research approach reflect the assumptions about the way the world is viewed. They also underpin the research strategy and the chosen data collection as well as the analysing methods and techniques (Figure 14). (Saunders, Lewis & Thornhill 2009:106-129.) The research approach applied in this study is deductive because it is the most suitable way to find the answer to the research question that has been set. The intention is to examine the existing theoretical themes to find the characteristics and principals to be evaluated in a context of one case company. The aim is to generate and analyse qualitative data and to reflect it upon the theory.

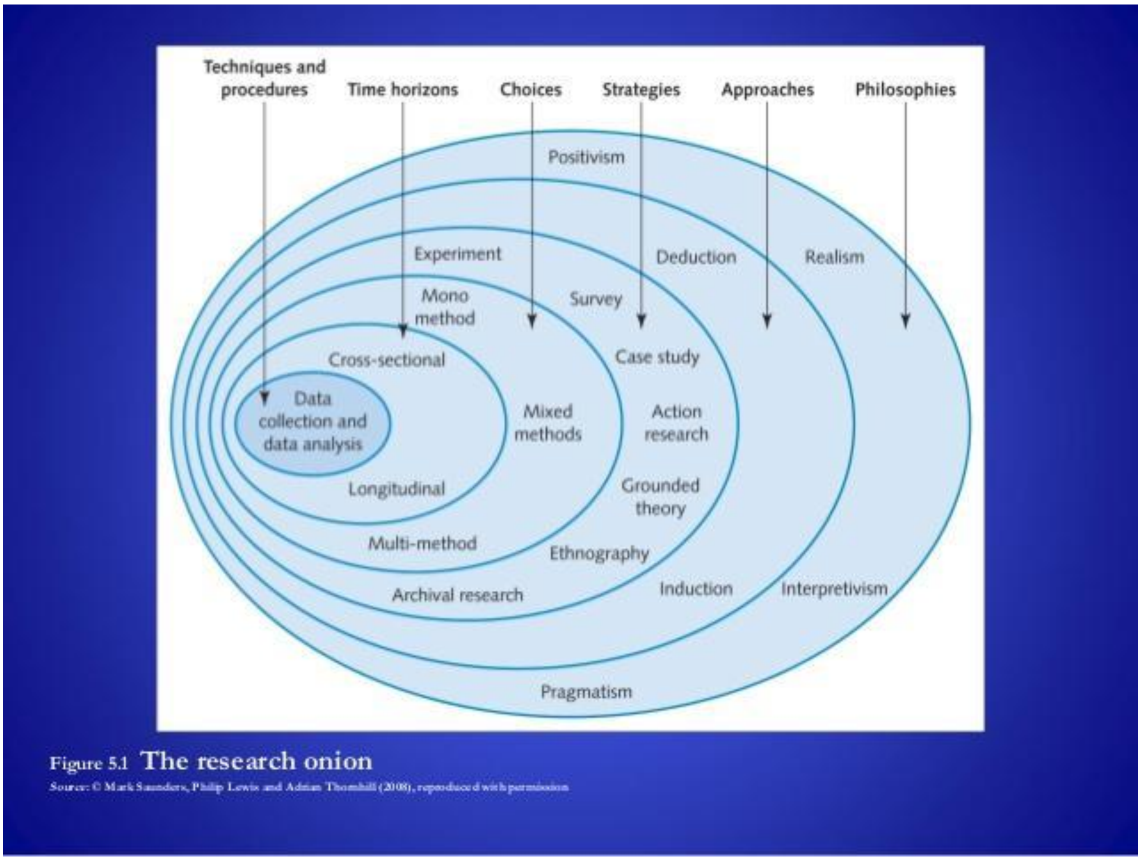


Figure 14. Research onion by Saunders, Lewis & Thornhill (2009:108).

3.1. Research philosophy

In this study, the ontology meaning the researcher's view of the nature of reality or being is both interpretivism and pragmatism. The interpretivism suggests that we as humans interpret our everyday life as socially constructed and subjective and we may have multiple views which may change. We interpret our social roles in accordance with the meaning we give to these roles. We also interpret the social roles of others in accordance with our own set of meanings. The pragmatism in turn stresses the importance of the research question and the possibility to work with variations of ontological, epistemological and axiological paradigms and to use mixed methods. (Saunders et al. 2009:106-129.)

Epistemology refers to the researches view regarding what constitutes acceptable knowledge in a field of study. In this study, pragmatism is applied meaning that either or both observable phenomena and subjective meanings can provide acceptable knowledge. The focus is on practically applied research which integrates different perspectives to help interpret the data. Axiology indicates the researcher's view of the role of values in research. In this study, again the pragmatism is chosen: values play a large role in interpreting results, the researcher adopting both objective and subjective points of view. (Saunders et al. 2009:106-129.)

3.2. Research strategy

The strategy chosen for this research is a mono-method, cross-sectional single case study. The qualitative primary data was collected over a short period of time by conducting semi-structured interviews and arranging a work-shop for some of the case company employees. Especially one group of employees who are working on a specific project were chosen for the study. Secondary data was gained in the annual reports of the case company as well as the company's webpage. The results were then analysed and discussed in the light of the theory. The theoretical framework consists of the sustainable de-growth as well as the sustainable business model characteristics found in the literature on de-growth, sustainable business modelling and value creation. These features and characteristics are then compared and integrated into the four elements of the original business model canvas by Osterwalder et al. (2010).

3.3. The case "ALWAYS IN TRASHION"

Helsinki Metropolitan Area Reuse Centre Ltd has in 2010 claimed to be the first company in Finland practising de-growth. Its mission is to promote economic activities that are within the boundaries of one planet–improving the state of environment by reducing the amount of waste and increasing the ecological consciousness and awareness of the public. Although the Reuse Centre is a limited company, it is breaking the first rule of business; it doesn't seek for profit for the owners, but for the development of its own activities. Thus, Helsinki Metropolitan Area Reuse Centre Limited can be considered as a for-profit organisation working for the benefit of its own community.

There are seven Reuse Centre stores in the metropolitan area selling a wide range of second-hand goods at reasonable prices. They also provide information about sustainable modes of consumption for the customers. Donations of usable items and materials are welcomed. A key part of the Reuse Centre concept is to benefit the community by increasing environmental awareness among people, companies and organizations in the Helsinki metropolitan area. Thus, part of the income from selling reused items is used to provide environmental education and consulting services to more than 40.000 children, youngsters, adults and educators each year. In addition, they organise environmental awareness events and provide different kinds of educational material. Furthermore, being a social enterprise, it offers work for disabled people, the long-term unemployed, students of Finnish language, on-the-job trainees and people performing a community service. Although the Reuse Centre has the status of a social enterprise, its primary focus however is in promoting material reuse and recycling. The social status comes second providing the resources for the transporting, sorting and selling of the enormous material flow.

Helsinki Metropolitan Area Reuse Centre is practising several sustainable business model architypes (Figure 15) classified by Bocken et al. (2014). The eight business model archetypes are classified in three higher order groupings describing the main type of business model innovation: technological, social and organisational. For each of the eight archetypes there are also a value proposition, a value creation and delivery as well as a value capture definition to be found. In addition, there are several examples illustrating each of the architypes. Many of them are already practised be the Reuse Centre: lean manufacturing, reuse/recycle/remanufacture, move from non-renewable to renewable energy source, radical transparency about environment/societal impacts, consumer education models, demand management and premium branding/limited availability, social enterprise for profit and collaborative approaches.

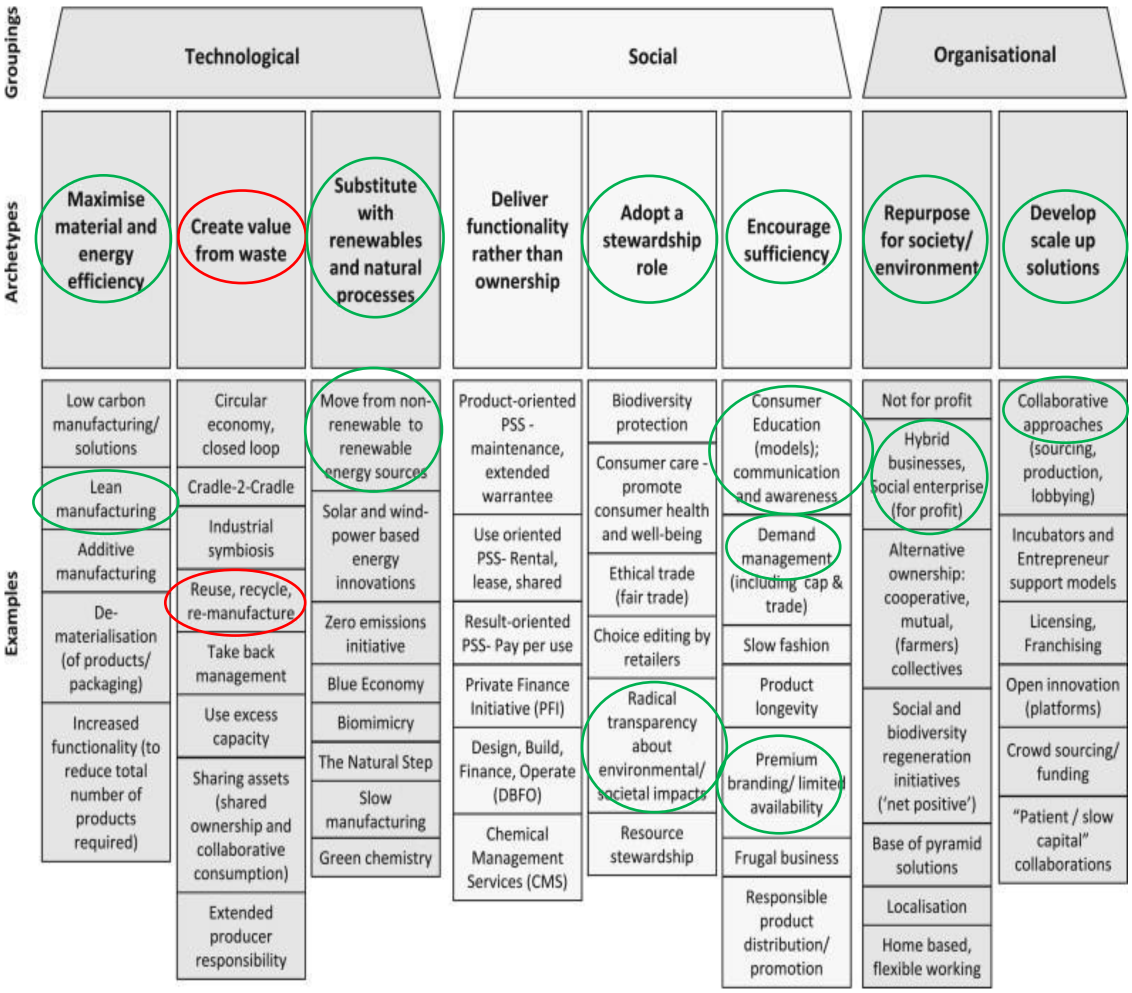


Figure 15. Sustainable business model archetypes by Bocken et.al (2014).

As stated in the introduction, besides examining the overall praxis of the Reuse Centre, this case study focuses at the technological ‘creating value from waste, reuse/recycle/remanufacture’ business model in the context of the Reuse Centre Plan B business to business sales. The value proposition for this model suggested by Bocken et. al (2014) is: “The concept of waste is eliminated by turning existing waste streams into useful and valuable input to other production”. The value creation and delivery definition for the model is: “Activities and partnerships to eliminate life cycle waste, close material loops and make best use of underutilised capacity. Introduction of new partnerships, potentially across industries, to capture and transfer waste streams.” And finally, the definition for the value capture:” Economic and environmental costs are reduced through reusing material and turning waste into value. Positive contribution to society and environment through reduced footprint, reduced waste and reduced virgin materials use.”

In addition, many of the social as well as the organisational business examples are connected to the Plan B. Thus, the assumption is that all these three architypes are going to be included to some extend in the b to b business model for the Plan B. So, most probably, sustainable de-growth business model innovation entails aspects from all the three groupings: technological, social and organisational.

Plan B

Plan B is a unique brand of clothes, accessories, furniture and interior design articles made of the second-hand material; fabrics and furniture, that are donated to the Reuse Centre. Plan B products are (re)designed and handmade by local artisans and craftsmen and sold in the online shop and at three out of six Reuse Centre shops located in the capital region of Finland. In the shops, also all the conventional second-hand items are sold: furniture, clothes, toys, books, sports gear, cookware and cutlery which are all donations from public or businesses. In addition, tens of thousands of repaired bicycles, personal computers and other electronic equipment are sold each year.

However, the Plan B has a different customer segment than the other products and services offered by the Reuse Centre. The potential Plan B customer segment are individuals and firms who value tailormade ecological products and who are willing to pay extra for them. Thus, the objective is to prolong the life-cycle of materials and to extend the customer value by engaging customers in the design process of turning waste into exclusive, tailored and customised items. Hence, there is a need to develop a whole new business model for the plan B business sales: a network of actors co-creating extended value for the customer firms, subcontractors as well as the Reuse Centre itself.

Finally, to clear the focus of this study, businesses of all kinds keep producing surplus and cast-offs which are often of good quality, durable and expensive when new. Helsinki Metropolitan Area Reuse Centre Ltd is in a process of innovating a sustainable de-growth b to b business model which aims to give new life for this kind of materials. The aim is to increase the business to business sales by engaging the large companies with ecological image by offering a service package for the reuse of their surplus and cast-off items and materials. Hopefully, in time, the good practises will inspire other companies to develop and improve their waste management processes towards more sustainable solutions. Thus, the objective of this study is to examine whether the sustainable de-growth values and principles can be incorporated into the new b to b business model and what are the hinders for the execution of such a model.

3.4. Data collection and analysis methods

The case study data was collected at the Reuse Centre premises in Helsinki. Five interviews with six employees and one business modelling workshop for three employees was conducted in Finnish within two days. The workshop participants were amongst those who were personally interviewed as well. Both, all the interviews (all together 6,5 hours) and the workshop (1,5 hour) were recorded. The recorded interview material was grouped according to the interview questions. The most relevant parts of the material were then translated in English and entered in the findings chapter of the thesis. The interviewees are marked with different colours to preserve their anonymity. Lastly, the workshop was transcribed and translated directly in English and more information was added in the revised business model canvas (Figure 16) to complete the paper version of the canvas (Picture 1).

The findings in the chapter four are grouped according the sustainable de-growth business characteristics in the table three. The aim of the interviews as well as the workshop was to examine whether the characteristics in the sustainable de-growth and sustainable business modelling literature can be connected to the Reuse Centre practises and whether the characteristics can be found generally applicable when designing a sustainable de-growth business model. Another objective was to find out the main challenges and barriers to the execution of the truly sustainable practises in businesses. The key findings are analysed in the chapter five which also concludes the study by answering the research questions.

3.5. Validity and reliability of the study

Reliability of a study refers to the exact repeatability of the test and–particularly in the case of a qualitative research–the consistency of the results. Whereas validity in qualitative research refers to appropriateness of the tools, processes and data and whether the study is investigating the right things to produce valid data to answer the research questions. Thus, the findings in this qualitative single case study are based on the writer's interpretation of the nonnumerical information that was gathered during both the semi-structured interviews as well as the business modelling workshop that was conducted for the case company employees. All the interviews as well as the workshop were documented in recordings and thus, can be verified. Since this is a qualitative study that aims to investigate a specific issue in a single case context, generalizability is not expected (Yin 2009: 41-45; Leung 2015.).

The broad and general interview questions were directly based on the theoretical findings in the chapter number two. These questions were meant to lead the discussion into specific procedures and practises that are applied within the case company. The interviewees were encouraged to speak freely and from their own perspective and understanding of the matter. Both the interviews and the workshop were translated and transcribed according the recordings. Furthermore, in the results and discussion chapter, several direct quotations have been added to support the analyses of the research material.

4. EMPIRICAL FINDINGS

This chapter presents the case study findings in the light of the theory. First, there is the discussion about the de-growth value framework (Figure 4, page 31) and how its principles are shown in the case company practises. Secondly, each of the ten de-growth characters in the table number three (page 56) are analytically discussed with the help of the knowledge gathered during the interviews and the workshop. Thirdly, the sustainable de-growth characteristics are compared with and integrated into the value proposition, value delivery, value creation and value capture elements of a business model. Thereafter, the sustainable de-growth business modelling flowsheet that was developed as an outcome of this study is presented. In the last section, the main obstacles to the practical execution of these de-growth business features are discussed.

4.1. Discussing the de-growth value framework

De-growth literature suggests a change in the relationships of nature, people and economy compared to the traditional way of doing business (Jackson 2009; Latouche 2009; Videira et al. 2014). This change is visualised in the de-growth value framework (Figure 4, page 31) with the planet Earth and the people as the primary stakeholders. The first interview question was to find out whether the company employees agree with this framework and whether they think their company carries out this order in practise. Also, concepts of de-growth, circular economy and sustainable development were discussed and compared.

In 2010, the Reuse Centre was very active arranging the de-growth seminar in co-operation with the Finnish de-growth network and that is when they declared to be the first company in Finland practising de-growth. It was due to their vision and the idea behind their existence–using the natural resources in the way that makes sure there is enough to be used for others too and that the environment comes first and the economy second. During the interviews, it became very clear that the sustainable de-growth ecological and social values still form the basis for the Reuse Centre practises. Especially the ecological ones which are building the foundation for the whole business at the first place. Also, for many of the employees, these values seem to be the reason for choosing the Reuse Centre as their work place.

> "De-growth is not forgotten in our company, it is just so much at the core, that we don't need to emphasise it here in our everyday lives. Everything we do concentrates on the sustainable use of natural resources and issues of sustainable development. We also try to inspire our customers to consume sustainably and sufficiently." (Yellow)

However, they are sometimes criticised for their business model–some people think that instead of saving the natural resources the Reuse Centre is more like promoting consumption and giving the donators a quiet consciousness for buying new stuff by enabling the reuse of their old items. That is of course a relevant viewpoint, but on the other hand, if people would only buy second hand in the first place, then it is not. Moreover, if places like the Reuse Centre would not exist, all the used items and materials would end up in the waste collection points. So, the biggest challenge for the Reuse Centre employees is to figure out how to enlighten the consumers to be aware of and cherish the sufficiency principle of de-growth and start evaluating their consumption habits from the ecological point of view.

The concept of circular economy was understood as one of the means to build a sustainable future that, at its best, could promote de-growth. However, the interviewees agreed with the rebound theory (Jenkins, Nordhaus & Shellenberger 2011). Also, the circular economy with its energy and material efficiency efforts was not seen as equal to sustainable development since the actual process of how the natural resources circulate in the system is not the most essential issue, but rather to what extent the natural resources are removed from the natural system. Until now, all the steps that have been taken–energy and material efficiency–have not reduced the use of the new natural resources (Jenkins, Nordhaus & Shellenberger 2011; BIOS 2018). There is a risk of not noticing that the system still requires more of the new resources. Thus, it is only making the 'circle' bigger. In addition, de-growth, contrary to the circular economy, was considered being more than just an economic model because it aims to encompass the functions of the whole society.

Then, when asked about how the case company practises differ from the practises of their competitors and partners who are not practising de-growth, the de-growth values and principles became clearer.

> "I could imagine that if we would look at this business mainly from the economic point of view, we would only accept the donations that are most valuable and through away all the rest. We could also export most of the textiles to the Third World countries and get paid for it, which many other organisations do. However, we refuse to do that, because it is not ecologically sustainable to export enormous amounts of second-hand textiles into countries that don't have the modern waste management systems. Currently, nobody knows where the stuff that is being sent there ends up to." (Red)

So, they have deliberately chosen a strategy to accept all donations, even the ones that end up in trash and cause them economic loss. They also try to innovate new ways to reuse the huge number of second-hand textiles here in Finland instead of sending them abroad to unknown destinations. And, if that is not possible, they rather send them further to the Finnish waste management processes, simply because it is more environmental friendly, even though that too is an economical loss for them.

The fundamental de-growth principle concerning the criticism towards the quest for the continuous economic growth (Jackson 2009; Kallis 2011; Latouche 2009; Videira et al. 2014) was not considered a problem in the Reuse Centre case since when a business is in compliance with the ecological and social de-growth values, growth is even desirable. Hopefully, increasing the businesses in line with de-growth decreases the need for businesses that are harmful for the nature and society. Therefore, inventing new business ideas that contribute to the welfare of the natural environment and society is one of de-growth objectives. (Liesen et al. 2015: Hankammer et al. 2017).

> "The more people buy second-hand instead of new stuff, the more they save the natural resources. Furthermore, we use our income to promote the environmental education and awareness by educating 40.000 people every year. Also, in every aspect of our business we try to think ecologically. That's why there is no conflict between our growth and practising sustainable de-growth." (Blue)

> “When de-growth values are at the core of all actions and operations, then growth actually promotes de-growth. For example, we use all our business profits to educate people in the environmental issues, which hopefully will promote de-growth thinking and awareness outside our own stores too so that people would learn to remember the principles of modest consumption, when buying new stuff, food or transportation.” (Yellow)

However, many of the interviewees agreed on that they could be more critical when examining the ecological footprint of their own business. For example, they acknowledge the fact that heating their large business premises as well as transporting their employees and goods by cars cause environmental damage too. In general, these are among the most challenging issues in terms of environmental sustainability. In global scale, transportation is estimated to be responsible for 14 % and electricity and heating for 25 % of the greenhouse gas emissions (EPA 2018). So, the problem is worldwide and cannot be solved by a single company but rather by stricter political regulation both globally and locally.

Still and all, transporting the items and other materials from the customer to the Reuse Centre premises and again delivering the ready products is a crucial customer channel in their Plan B business model. Therefore, to be eco-friendlier, they have now, by the time this study is under its final revision, switched their vehicles to use bio-diesel, which also is a clear sign of their genuine efforts to decrease their own environmental footprint. Still, they should make more effort in finding a suitable electric model to change their vehicles to since charging electric vehicles with renewably produced electricity (solar, wind or hydroelectric power) is the most ecological solution for transportation currently to be found. Also, they could evaluate the possibility to install solar panels on the roofs of their business premises to cover at least a part of their energy use more ecologically. Naturally, since they don’t own the premises, they should start with negotiating and convincing the owners about the benefits of it all. Instead, they have made the ecological choice of using wind energy in all their business premises.

4.2. Discussing the sustainable de-growth business characteristics

According both de-growth and sustainable business modelling literature, there are several features and principles that should characterise a sustainable de-growth business (Table 3, page 56). Naturally, all the single characters gathered in the ten broad categories cannot be found in every company since organisations differ a lot in terms of size and industry. Therefore, the interviewees where asked whether they can recognise some of the characteristics of each category being applied in their company and in the Plan B production.

4.2.1. Category number 1

Focusing on voluntary long-term mutual value creation and collaboration with all stakeholders, even competitors. Willingness to share resources within established value networks. (Jackson 2009; Latouche 2009; Videira et al. 2014; Hankammer et al. 2017; Lüdeke-Freund 2009; Stubbs et al. 2008; Boons et al. 2013; Bocken et al. 2014; Evans et al. 2017; Huber 2000; Yunus et al. 2010.)

All the interviewees strongly agreed on the Reuse Centre being an open organisation, always ready for collaboration and networking with other experts and authorities whether they are non-profit organisations, firms or municipal actors or even rivals. They have carried out quite a few big projects and thus witnessed the power of co-operation. They are also happy to employ people with different viewpoints, which naturally sometimes causes some pain. But, in the long run they think it is much more advancing to listen to all the different opinions and viewpoints and try to find the best combination there.

> "Everyone is welcome to visit us and our 'backstage', even our competitors. We have no secrets really. People here are somehow more humane. The way of thinking is clearly different from the traditional business. It has its pros and cons. It is essential to find the right focus on everything. If we try to embrace the whole world, nothing gets done." (Red)

Consequently, issues relating to competitors and the interviewees' definition of a competitor came up at several points during the interviews because the line between a competitor and a partner was considered somewhat indistinctive. Additionally, the Reuse Centre competitors vary depending on the business in question. The common viewpoint of the personnel was that any other business or organisation that promotes ecological living is welcomed and can be considered as a potential partner which is well in line with the de-growth principle of establishing value networks and collaborating even with competitors.

> "We collaborate with many of our stakeholders, even competitors. Currently, we have a textile project going on together with one of our competitors–we are developing a national training scheme for assorting the second-hand clothes. So, albeit we are rivals and our missions are a bit different, we are both still social enterprises working for the common good." (Yellow)

When it comes to the Reuse Centre department stores, the competitors are firstly the conventional stores selling new goods and secondly other second-hand shops as well as the online second-hand shopping sites, Facebook, Tori.fi et cetera, also called peer deals. Whereas the environmental education business competes with other environmental consultant firms of various sizes. In addition, there are some non-profit organisations, for example the Nature School offering same kind of environmental education. In the case of the Plan B, the competitors are basically all the other handicraft shops in the Helsinki metropolitan area.

> "The environmental work is the filter through which we look at all our actions. Our competitors' operations have different starting points. The other second-hand stores have the objective of fund raising for their charity work. Also, all the other reuse centres in Finland are operating in the social context. Their environmental work is a means to give labour to the long-term unemployed people. We employ too, but for us the employees are primarily a resource to be able to circulate the scarce natural resources." (Blue)

However, the most competed field is the extended producer responsibility (EPR) sector, where producers of electronic equipment are responsible for organising the recycling and waste management of their products on the market. In that sector, the Reuse Centre is easily considered as a rival because there are several companies looking for the most lucrative streams of the used electric products. Furthermore, the big producer firms have their own interests to look after. They are mostly keen on getting the material back for new production instead of enabling the repair of their products for reuse. Thus far, EPR program has not fulfilled its objective in Finland where only 50 % of the sold products end up in recycling. The destiny of the other half seems to be a mystery. Also, today the products are manufactured easier to recycle rather than to be repaired for reuse. So, to take part in the EPR business, the Reuse Centre needs to build trustful partnerships instead of rivalry.

> “We should be able to offer goods of such a high quality that people don’t need to buy new stuff. However, the juxtaposition of us and the rivals is not necessarily a good thing either. We should find a way of collaboration instead.” (Red)

The Reuse Centre has established a partnership with a logistics and removals company with the aim of optimising the logistics of big donations. The idea is that customers can leave the things they don’t want to keep to the business partner that has undertaken to bring them to the Reuse Centre instead of throwing them to waste bins. Customer gets value from not having to transport the extra stuff anywhere and still acting ecologically. In fact, it seems to be more natural for the Reuse Centre employees to form partnerships instead of customer relationships within their stakeholder network. However, this was considered as one of the challenges when trying to develop their business to business sales for the Plan B.

> “We have quite many partners that could easily use our services as customers too, but we have put ourselves in the position of a partner of some reason. We should develop our services focusing on the b to b business. We should let others know our strengths and what we are good at.” (White)

Currently, the Reuse Centre is actively seeking for partners and investigating many new options for the future manufacture of their Plan B products and services. Their aim is to find the best possible way of increasing the manufacturing of the Plan B products since they are receiving a lot of donated material that they can't utilise by themselves due to lack of equipment and professional people. So, they are looking for subcontractors that could produce some of the items. Thus, their aim is to establish long-term value networks that are beneficial for all. Also, through close collaboration they are looking for a chance to enhance the environmental awareness of their partners too which is one of their de-growth objectives.

4.2.2. Category number 2

Valuing and cherishing the natural environment and enhancing the well-being of people. Promoting good quality of life and decent working conditions. (Jackson 2009; Latouche 2009; Videira et al. 2014; Liesen et al. 2015; Hankammer et al. 2017; Stubbs et al. 2008; Boons et al. 2013; Bocken et al. 2014; Evans et al. 2017; Yunus et al. 2010.)

Being a social enterprise makes the Reuse Centre work community challenging at times– employing many long-term unemployed people with difficulties in coping their everyday life as well as immigrants who have limited skills in the Finnish language. Furthermore, the Finnish law on employment subsidy cannot always be considered as humane and just. Therefore, they have developed their own method of work coaching. They have three professional trainers whose job is to execute the coaching process together with the help of a supporting team. So, every worker who is willing, can get coaching both in groups and individually. Workers are also offered a possibility to take different kinds of courses and even to participate in language clubs managed by volunteers to enhance their working knowledge and skills.

The permanent personnel can basically decide the amount of their working hours themselves. Thus, there are many who work 80 % or less of the fulltime working hours. Overall, working time and place are very flexible and one can use his/her own common sense as long as the work gets done. Furthermore, personnel get quite a lot of education and training to help to improve their professional skills.

> "I think we have a lot of freedom, but we are also expected to bear the responsibility for our work. In my opinion, this is a good system. People are actually very responsible in terms of their tasks. Sometimes even too responsible, doing everything always tip-top. So, sometimes we have to be told to ease up a little." (Yellow)

> "Yes, I have worked in many places before this and nowhere have I experienced such a sense of community. People, no matter what the background, are treated with respect and understanding. And everybody is seen as an individual with individual challenges and needs but also skills and interests. We are offered support and training to help us to get back to normal working life." (Green)

However, the high turnover of the labour is a real challenge, especially in the workshops. They are trying to overcome that by offering an apprenticeship contract for someone who doesn't have the formal training but has proved to be very skilful. So, the benefit is mutual, the Reuse Centre gets to keep the good worker who gets a free education and a certificate for that.

Developing the managerial work is a continuous process, which never really reaches the final goal. Thus, they have established a professional human resource unit which task is to ensure that everybody enjoys their work. Still, the permanent personnel bear the most responsibility and they work under a lot of pressure–managing a business unit with certain objectives and at the same time with a lot of uncertainties and moving parts, is very stressful. Yet, they have gained better than the average results in the levels of wellbeing at work in their regular surveys. Wages of the permanent personnel are at 'the municipal level' but the foremen are considered just and easy to approach according the survey. Since the wages don't match up with the hard work and high responsibility, they try to compensate that with freedom to choose the working hours and to influence the job descriptions.

> "Our philosophy is that the objectives we set can only be reached with a help of a satisfied personnel, which is doing 'the right things'. The selection criteria for the personnel is a humane attitude and anthropocentrism. If you are not interested in people's welfare, but rather get your satisfaction out of other things, this is not a job for you." (Red)

4.2.3. Category number 3

Doing 'the right thing' and being ethical. Conscious sales and marketing techniques. Promoting sufficient consumption by paying attention to life-style and level of affluence and raising awareness of the individual consumption habits. Engaging consumers in collaborative value creation. Satisfying needs instead of wants and offering functionality and service rather than ownership. (Jackson 2009; Latouche 2009; Videira et al. 2014; Hankammer et al. 2017; Stubbs et al. 2008; Boons et al. 2013; Bocken et al. 2014; Evans et al. 2017; Yunus et al. 2010.)

Changing the consumption habits of the public was considered the most challenging task of all. During recent years, they have placed different kinds of environmental information in the stores as well as the webstore. In addition, there are bicycle stands and information of the environmental benefits of bicycling beside all the stores. They also offer bicyclists some discounts. Besides this, they have installed a natural resource counter developed by the German Wuppertal Institute into their cash register system. The counter is based on material input per service unit providing customers information of how much natural resources he/she has saved by purchasing a used item instead of a new one.Overall, they try to engage and encourage the customers to evaluate their own consumption habits and life style in many ways, but there is surely still a lot to be done. In addition, they offer trailers and bicycles with carriers for the customers to be loaned.

> "If you compare us with any traditional firm, here at the Reuse Centre the social and environmental values are constantly fighting their way forward amid the economic objectives. All the three aspects should walk hand in hand so, that not any of them gets the priority. It is a question of the right balance. This is what makes the discussions here colourful, having all the balls in the air during the decision making. This is far from procedures of any traditional limited company. Definitively." (Red)

Furthermore, since recycling is 'in', the traditional companies are trying to find ways to take economic advantage of it. They get people to buy new stuff by offering a possibility to bring the old items into recycling. However, this is not the behaviour that the Reuse Centre wants to encourage. Therefore, if they arrange joint collection-of-goods events with some other company, they want to make sure that the message is not about promoting consumption, but rather about de-growth and sufficient consumption. Moreover, they have set up a self-service collection point in the Cello trade centre where people can bring their used small stuff and clothing while doing their everyday shopping. The key point is, that this service is not in any way associated with buying new stuff since people need to buy food anyway. Also, by bringing their items to the collection point people avoid driving extra to the Reuse Centre. From the Cello perspective it is just an easy extra service and value for their customers.

> "Our marketing is not ethically challenging because natural resources are saved every time we get people to buy a used item instead of a new one, which is in line with de-growth." (Yellow)

Naturally, the Reuse Centre has its own webpage and they are also active in the different social medias: Facebook, Instagram, Twitter and even LinkedIn. Also, the traditional outdoor advertisements as well as tv and radio channels are used every now and then in bigger marketing campaigns. The ecological message however, is always incorporated into all advertising. Furthermore, the Reuse Centre Näprä workshop encourages people to be less dependent on consumption by learning handiwork and thus being able to produce some of the things they need themselves.

> "We want to make people to think before they purchase. Do I really need to buy this? That's the main angle in our marketing. Also, we want to give people ideas of how to make things by themselves of the materials they already have at home. That is something that has motivated me when working with Näprä and Plan B." (Green)

The Reuse Centre bread-and-butter items are: clothing, shoes, bags, books, kitchen ware and other small household items, furniture and electronic equipment. All in all, almost four million items pass through the Reuse Centre processes every year. For example, roughly 70.000 pieces of furniture and 65.000 pieces of repaired electronic equipment are sold yearly. The interesting point is that in Finland only 1,5 % of the used electronic equipment end up in repair and reuse and all in all 25 % of them flow through the Reuse Centre repair shop. Consequently, most of the used electronic equipment in Finland end up in material recycling, although they could be repaired. Moreover, approximately one million second-hand books are received and sorted yearly. Most of them are sold, some are given away for free and the rest ends up in paper waste collection. So, just to organise the logistics of the huge amount of goods coming in and going out is quite demanding.

However, the Plan B collection is challenging this ‘easy sales, goods in and goods out’ business model by focusing on a totally new customer segment–people who are looking for individually designed and hand-made clothing and furniture and are prepared to pay extra for them. It is a question of reaching the right customer segment and finding the right price for the items to get enough sales volume and revenue streams. Also, there is the challenge of the varying demand and thus, uneven production volume. That is one reason for trying to find partner handicrafts who could even out the work load when handling bigger orders.

Yet, the Reuse Centre employees know that recycling the used goods and materials is just the first step towards the truly ecological way of living within the one planet boundaries. Thus, their next objective is to be able to offer such products and services that people could truly live a one planet life. Therefore, they should also be able to serve the customers that are not interested in ownership. Otherwise they will continue serving only those on the ‘elementary level’ of the sustainable lifestyle. According to one of the employees, we are currently witnessing ‘the stone age’ phase in terms of ecologically sustainable living–consuming products and services that demand a lot of material and energy in their production phase. So, they are trying to imagine what the future services could be like and how to develop their know-how together with their customers. For example, the future services could include renting and being able to tune own clothing and furniture or to exchange one’s own used items to the donated ones for free. So, they are constantly struggling to find ways to teach people to buy either second-hand or even preferably use services that would help to decrease their carbon footprint.

4.2.4. Category number 4

Having shareholders emphasising other objectives than financial. Profits are means to gain the future sustainability goals. Economic growth is not the primary goal. Keeping the capital local and (re)investing locally to strengthen the community. (Jackson 2009; Latouche 2009; Videira et al. 2014; Liesen et al. 2015; Hankammer et al. 2017; Stubbs et al. 2008; Boons et al. 2013; Bocken et al. 2014; Yunus et al. 2010.)

Helsinki Metropolitan Area Reuse Centre is a subsidiary of the city of Helsinki and it is owned by the cities of Helsinki, Espoo, Vantaa and Kauniainen, the Helsinki region Environmental Services Authority (HSY), Martta organisation, Finlands Scouter ry, Finnish Association for Nature Conservation, Kepa ry as well as some private citizens. It is a public enterprise which purpose is to produce public good. Thus, it is a limited company, but it doesn't share profits with its owners. Instead, the objective is to use the yield to enhance and to extend the services. In 1990, they started with one store. Today they have seven stores, the webstore and they are offering environmental education for tens of thousands of people every year. So, the invested capital is local, and profits are used for the good of local communities which is totally aligned with the sustainable de-growth objectives.

The two service offerings of the Reuse Centre are the employment services that are bought by the municipals and the environmental education and recycling and reusing services. The end-users for the employment services are the long-term unemployed individuals but the municipals make the order and pay the bills. However surprisingly, it turns out that the municipals that also are the owners of the Reuse Centre, don't always appreciate the offered services.

> "The municipals are very unpredictable, and they can easily ruin us if they decide to start buying the services from somewhere else. This is a huge risk for us." (White)

Half of the Reuse Centre revenue comes from the employment substitute and another half from the sales. With these they can reach a break-even economic result and sometimes even make some profit. They are the key organisation for the municipals in offering job opportunities for the long-term unemployed. The municipals use the services to avoid being punished by a fine. So, the Reuse Centre needs to consider the uneconomic sorting and pricing tasks as easy jobs to perform for the many hands they employ. In some other kind of business, they would not be able to offer these jobs.

> “If we were a traditional business, we would hardly give anything away for free. Also, pricing the one-euro products is not economically wise and not even from the environmental point of view. But in my opinion, because our business is also to offer employment, we have the ‘hands’ to do that kind of jobs too.” (White)

Thus, they are performing some tasks that can’t be considered economically productive but are necessary from the employment and social point of view. But, the rules for the employment subsidies as well as the employment politics change frequently, which really complicates the work.

4.2.5. Category number 5

Promoting efficient production processes and use of products as well as technological innovations. Manufacturing long-lasting products and avoiding build in obsolescence. Repairing, reducing, reusing, recycling. (Jackson 2009; Latouche 2009; Liesen et al. 2015; Hankammer et al. 2017; Bocken et al. 2014; Yunus et al. 2010.)

The very first Reuse Centre shop was established in Kyläsaari in 1990. Thus, they have gained almost thirty years of experience and knowledge about lengthening the life-cycle of different materials and products by repairing, reusing and recycling. For instance, they know what kind of features would make an electronic product easier to repair.

> “So, we are a big player in this field but the politicians nor the municipal representatives don’t seem to understand that. Also, the environmental and social authorities don’t interact with each other very much. They may understand the needs of the other but in the end, they are only interested in solving their own issues. We possess the skills and know-how of the future

> and we need to make it visible and learn how to productise it to be able to sell it." (White)

They have made a lot of effort in updating their administrative it-systems during the last ten years. They have also established the webstore and a virtual learning environment. In addition, they have learned to apply lean management methods to develop the sorting and logistics units which are still mostly handiwork since it is hard to apply technology there.

> "This year we have been concentrating on developing our value chain–have left out many of the unnecessary operations and put the emphasis on the tasks that truly enhance the customer value experience. It is about enhancing the processes in the sorting centre and the stores, learning our customers better by reading the information we get from the cash register system. It is important to do the right actions already in the beginning of the value chain because it contributes to all the following phases." (Red)

The amount of textile that flows through the Reuse Centre sorting is huge, but the overall quality of the textiles is getting worse. Therefore, they are involved as a guinea pig in a project where they try to use infrared in identifying the textile fibre, which is a difficult task for a person to learn. Also, as stated before, they are trying to figure out how to do this business in the future. The world changes rapidly and they need to keep up with the progress. For instance, they are trying to develop remote electronic services to help to decrease the carbon footprint of themselves and their customers.

So, even after thirty years in business, the current employees still seem to have a goal-directed will to constantly develop the Reuse Centre processes also by applying modern technology. The strange thing is that the municipal authorities and politicians don't seem to understand the value of the know-how they possess through the Reuse Centre within their area.

4.2.6. Category number 6

Furthering consistent ecological production by promoting establishment of a pro-sustainability taxation and regulation system as well as incentives to sustainability *innovations. Internalising negative externalities by monetising them. (Videira et al. 2014; Stubbs et al. 2008; Evans et al. 2017; Huber 2000.)*

The Helsinki Metropolitan Area Reuse Centre has gained the credibility of being professional in recycling and they get regular inquiries about these issues: how to prevent waste production, how to prolong the life-cycle of products, what kind of resources are needed and what are the costs. This is a result of a long, persistent and disciplined environmental work through trial and error. Approximately 800.000 customers visit their stores and 40.000 people participate in their environmental education each year. However, all the advocacy work the Reuse Centre professionals keep doing behind the scenes is not well known for the public.

> "We think it is important to participate and try to spread the knowledge but sometimes when the discussion is totally lost, and the level of understanding is a zero, it feels quite useless to even open one's mouth. Discussing with environmental professionals is of course much more effective." (White)

Many of the interviewees mentioned the importance of networking and collaboration with other organisations and professionals when trying to influence the political decisions in terms of both social and environmental issues. Also, being aware of the trends and changes in recycling and waste management legislation and regulation in the EU and in Finland was considered vital. Furthermore, being an active participant in the professional networks helps to boost the image and status of the entire company.

However, trying to influence the politicians and other decision makers through networking and active participation in different working groups requires a lot of time and energy. Thus, to do it properly, the Reuse Centre would need to hire personnel just for that. Currently it is the duty of the personnel who already have too much on their hands. Yet, it is a question of allocating funding for hiring extra personnel to do the professional lobbying which again becomes a political issue in the eyes of the owners. So, as long as the political and societal debate don't start addressing the ecological issues, it is quite hard to get one's voice heard.

4.2.7. Category number 7

Business model experiments and innovations (through trial and error). Hankammer et al. 2017; Evans et al. 2017 Bocken et al. 2016.)

The Reuse Centre has established a whole new unit of three people for the development of the recycling services. They do a lot of testing that sometimes fail but every time, they learn something new.

> "We have never had a shortage of innovative ideas! Quite the contrary. It is more of a question of who has the time and energy to bring them forward. New innovations are often extremely time-consuming. We need to carefully weigh one plan against the other before deciding which ones to proceed with." (Blue)

Currently, their main aim is to bring about the customer view in their product/service design processes. Especially in the case of the Plan B they are trying to involve their customers in the designing process, so that the customer gets an individual product, made especially for him/her. To manage this, they need everybody in the organisation to collaborate: the webstore, communications department and the artisans. In addition, they need to constantly become ecologically more effective to get to the 'next level' and to be able to facilitate people and organisations to live their lives within the one planet boundaries. Also, it is a matter of becoming economically more independent.

> "Oh yes, innovativeness and creativity are inside our spinal cord. It is a must. The public financing (employment subsidy) has decreased every year. So, we need to increase to amount or our own financing. Thus, we need to get better all the time. No time to loiter around, never." (Red)

> "Even the short-term workers are welcomed to bring their ideas forward. Absolutely, we stress the need for innovative ideas and creativity. In Plan B, the only restriction we have is that the outcome should look different from the others." (Green)

4.2.8. Category number 8

Leaders being natural-born sustainability agents. (Stubbs et al. 2008; Evans et al. 2017; Yunus et al. 2010.)

The most variation in opinions appeared at this point during the interviews. According their own surveys, the Reuse Centre leaders are considered very value oriented by their subordinates. However, they may have lacking skills in managing the daily processes of their business entities. Thus, lately they have deliberately employed personnel with education and experience within commerce without the environmental angle. Yet, people in the environmental expertise and education unit are truly value oriented in the ecological issues. In the communications department people are also very professional and thus, can communicate the ecological and social values in a professional manner. Naturally, in the human resource department it is the social values that reign.

> “Yes and no. We have many people with certain clear values, but we also have people who have only come to look for work. Certainly, when working here for a while, one gets easily ‘brainwashed’ with the ecological thinking. There are conflicts of course sometimes, but all the different viewpoints are valuable for us to reach the best results.” (Red)

It is interesting to point out that the same person that was one of the first to establish the first Reuse Centre store in 1989 is still working there as the CEO. And, according to the interviewees, he certainly is a natural-born sustainability agent.

4.2.9. Character number 9

Educating all stakeholders on the sustainability issues (Stubbs et al. 2008; Bocken et al. 2016; Evans et al. 2017).

Environmental education and promoting the ecological awareness is one of the Reuse Centre main objectives and societal missions. They educate tens of thousands of people every year. They also have 450 employees every day and all of them get educated in the basics of waste management, ecological procurement and energy issues.

> “The ecological knowledge we gather here spreads through us to our families and friends. It is really a question of ‘wakening up’ and identifying one’s own consumption habits.” (Green)

Being educated is especially useful for the immigrant workers who are only getting to familiarise with the Finnish society and rules of the everyday life. Furthermore, offering environmental education for the customer and partner organisations is one way of promoting the de-growth values and gain new customers too.

4.2.10. Category number 10

Reporting system integrating and indicating all three sustainability goals (Lüdeke-Freund 2009; Stubbs et al. 2008; Boons et al. 2013).

The Reuse Centre is using the reuse figure, which indicates the relation of the number of items that have been reused to the recycled material, mixed waste and energy. The natural resource savings as well as the CO_2 emissions are reported too. They use wind energy and every store has its own environmental specialist whose task is to make sure that the stores are run as ecologically as possible.

> “We could be better in reporting the social benefits: human rights, equality, length of employment... Currently, we only report the things that are ‘socially acceptable’… and which are in the interest of the other customer, the municipals. The environmental impacts are reported much better because we have professional people doing it.” (White)

So, there is lacking expertise in the social reporting. They also have problems with the negative environmental effects of the store buildings and the transportation equipment.

> "Our transportation services that are driving daily around the city are very visible to people and thus, affect our image." (White)

For example, there is a big risk that the business customers who buy from the Reuse Centre because they want to act ecologically, start wondering why the vehicles are not environmentally friendly. On the other hand, this is due to the un-functionality of the current electric vehicle models. Therefore, every time they must replace a car they try to find a suitable electric or gas version.

Next, an examination of whether these de-growth characteristics that have been discussed during the interviews can be incorporated into the different business model elements of the Plan B business to business sales.

4.3. Sustainable de-growth business model elements

De-growth is about learning to live our lives within the one planet boundaries to preserve the natural resources and the biodiversity of the Earth, which is also claimed to be the prerequisite for the well-being of the people. Thus, in a de-growth society, all kinds of organisations, including all the businesses within all industries need to learn to respect the environmental and societal values and rules and to redesign their practises accordingly. (Jackson 2009; Latouche 2009; Videira et al. 2014.) So, how can the sustainable de-growth values and characteristics found in the literature (Figure 4, page 31 and Table 3, page 56) be incorporated into the different elements of a viable business model? To examine this in practise, a business modelling workshop for developing the Plan B business to business sales with the help of the original business model canvas (Osterwalder et al. 2010) was arranged for three of the case company employees who are most closely engaged with the Plan B production.

According the instructions for the use of the business model canvas, the first task when designing a business model is to define the value proposition for the chosen customer segments (Osterwalder et al. 2010). Thus, in the de-growth context there is a need to create a value offering that is tempting for the customers who acknowledge and appreciate the deep ecological and social values. Thereafter, the task is to fill in the rest of the value creation, value delivery and value capture modules in the business model canvas while constantly assessing the continuous environmental and social sustainability of the model.

Picture 1. The Plan B business model canvas for b to b sales developed at the workshop.

The business model canvas at the picture one above does not include every aspect that was discussed at the workshop because the writing of the post-it papers could not keep up with the lively discussion. Therefore, the missing points have been added in according to the recording of the workshop. The revised version of the Plan B business model canvas for b to b sales (Figure 16) can be found on the next page (page 88).

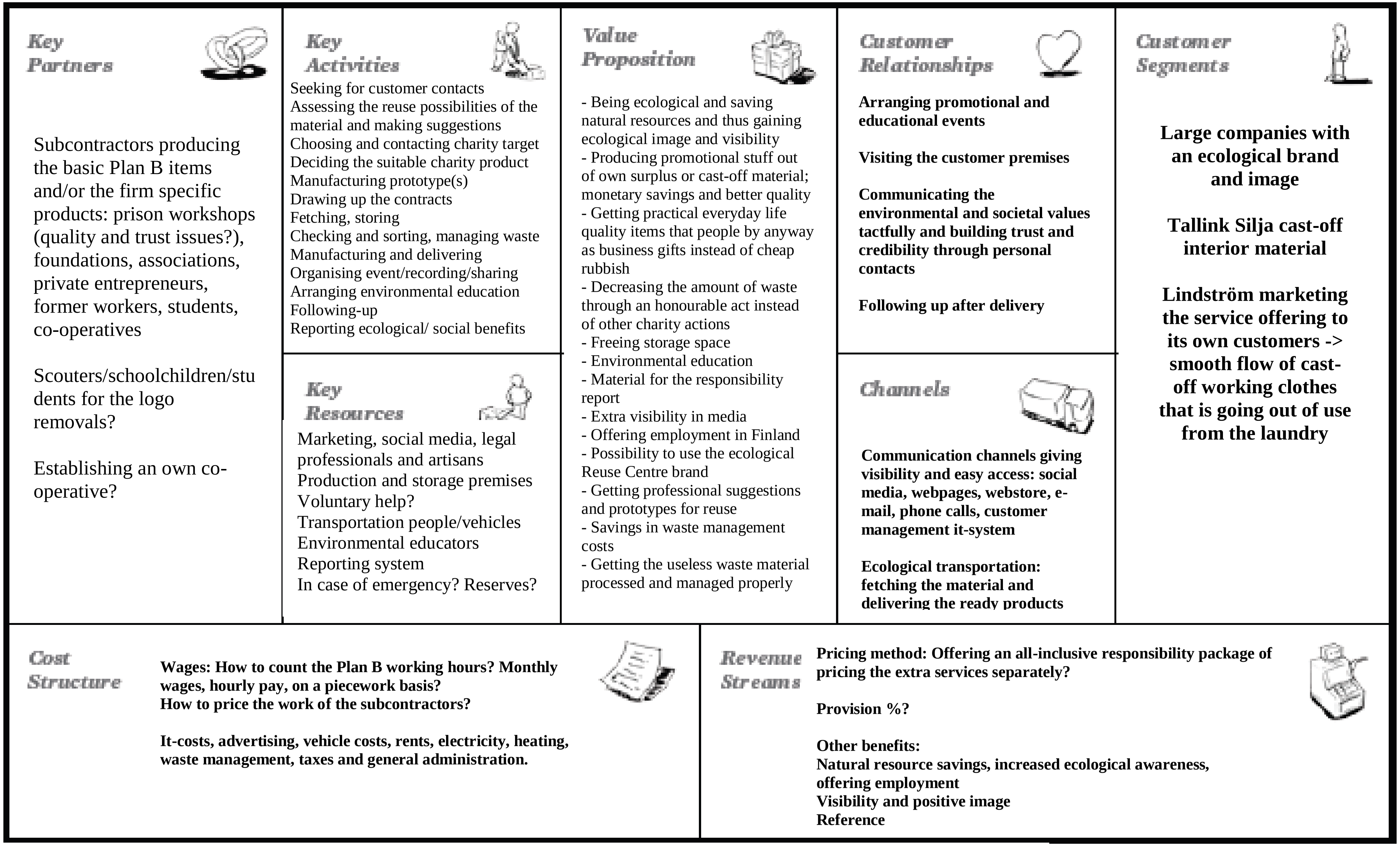


Figure 16. The revised Plan B business model canvas for b to b sales developed during the workshop.

4.3.1. The value offering

Doing business is about designing a unique value proposition that satisfies the needs of the chosen customer segment by bringing additional benefit in terms of quality, image or cost or risk reductions. According the principles of sustainable de-growth, recycling and reusing products and materials is ecologically more sustainable (and therefore more valuable) than sending them to waste treatment processes (Jackson 2009; Latouche 2009). Consequently, Plan B aims to prolong the use of items and materials by preserving and upgrading the material and work value that has been invested in them previously.

Thus, the Plan B business to business value proposition is to offer firms an opportunity to upgrade their surplus material into something valuable either for themselves to be reused or as a donation for a third party with image benefits for the firm. Some of the redesigned and recycled products could also be sold in the Reuse Centre stores. So, the service offering for the company customer is “decreasing the waste management costs and getting new products and image benefits in return by reusing the surplus and cast-offs”.

The idea is to add value by Finnish handy-work, which makes the company representatives to cherish the products more and thus, share them with consideration. Hopefully the reused products will substitute the new cheap products that firms are ordering from the Far East and spreading around carelessly as business gifts. To conclude, it is more ecological to give the old material a new life instead of sending it to recycle or incineration since the natural resources as well as the work that have previously been invested in the item or material keep having a function. Also, reusing the old materials and items decreases the need for buying new products which in turn decreases the need for new natural resources and energy.

Plan B service offering for the reuse of the surplus and cast-offs for business customers:

- Gaining ecological image and visibility by saving the natural resources
- Getting promotional stuff out of own surplus or cast-off material. No need to order from the Far East (monetary savings and better quality)

- Getting practical everyday life quality items that people by anyway as business gifts instead of cheap rubbish
- Decreasing the amount of waste through an honourable act (instead of other charity actions = > charity work 2.0, hospitals, scouters, day care, nature schools, association of all kind. A way to differentiate from Globehope etc. Also, promoting the fund raising of different associations, scouters etc.
- Gaining savings in the waste management costs
- Getting the useless waste material processed and managed properly
- Freeing storage space
- Being able to offer environmental education for own employees
- Getting readymade material for the responsibility report
- Extra visibility in media when arranging a delivery event
- Offering employment in Finland
- Possibility to use the ecological Reuse Centre brand
- Getting professional suggestions and prototypes for the reuse of their materials

4.3.2. The value delivery elements

The value delivery phase of the business modelling process entails the elements of finding the right customer segment(s) and deciding what kind of relationships to build with the different customers as well as the channels through which to communicate with them (Osterwalder et al. 2010). In the case of the Plan b business sales the potential customers are the large companies with true willingness to invest in ecologically and socially sustainable solutions. So, the big question is how to reach this customer segment. They have already found out that the potential new customers can most easily be approached by attending seminars with ecological themes. They have also send marketing letters and arranged their own promotional events for both individual and firm customers. This way they have got two large business customers with whom they are developing the new b to b business model.

> "People are very excited about the environmental issues today and they are eager to participate in our events. But, it is a bit scary because they all seem

> to want to play with us and we are not yet sure what we can offer them. There is a risk that we can't keep the promises if we don't have the resources and processes ready. I am worried of how we are going to cope with this ongoing transition phase." (Blue)

> "We are currently designing new products out of cast-off working clothes of a firm. We want to develop this value chain model further so that it would serve every actor in it. Next, we need to decide what are the key tasks that the firms are willing to pay for and how to build a process that is both remunerative and easy for them. We do it together with the customer firm because we don't want to produce something that nobody wants to buy. Also, we need to decide whether we need to engage the firms to take back at least some of their reused material because there can be huge amounts of it and we don't necessarily have use for it all." (Yellow)

So, the traditional Reuse Centre stores are not the right channels for the hand-made and more expensive Plan B products nor business to business sales. In addition, they need an efficient transportation system with suitable vehicles to bring the material from the customer to the Reuse Centre premises and again to deliver the ready products back to the customer or to the charity subject. Therefore, they need to weigh new options for the production and transportation. They also need to assess the economic risks they are willing to take there.

Also, since the strategy is to engage the customers closely to the Plan B production, they need a modern customer management it-system with digital services. They are also thinking of developing the webpages and webstore to be more business customer friendly. Naturally, the social media applications, e-mail and phone calls are also used to reach and communicate with the customers. Moreover, arranging promotional and educational events has been found an effective method for engaging the new customers.

> "Our task is to bring out the story behind and the added value of the item. We are considering of offering firms marketing and reporting materials telling how much they have saved the natural resources and how many working hours they have offered by ordering Plan B business gifts or charity products from us. We need to make this an easy and remunerative way for the firms to boost their green image. It could encourage other firms to follow." (Yellow)

As for the customer relationships, the most important objective is to build trust and credibility through personal contacts. Thus, the Reuse Centre employees need to give a highly professional impression every time when in contact with the customer. The aim should be to communicate the environmental and social values tactfully and in a positive way that makes the customers want to engage even more than they planned from the start.

The Plan B value delivery elements for business customers:

Customer Segment

- Large companies with an ecological brand and image (Tallink Silja cast-off interior material and Lindström marketing the service offering to its own customers -> smooth flow of cast-off working clothes that is going out of use from the laundry.)

Distribution Channels

- Communication channels giving visibility and easy access (social media, webpages, webstore, e-mail, phone calls, customer management it-system.)
- Transportation: fetching the material and delivering the ready products

Customer Relationship

- Arranging promotional and educational events for the customers
- Arranging a promotional event when distributing the charity items
- Following up after the delivery
- Communicating the environmental and societal values tactfully. Can't criticise the customers' business even if it is the least ecological. Can only bring new ideas and try to educate them to make better decisions.
- Building trust and credibility through personal contacts

4.3.3. The value creation elements

The value creation phase in the business modelling process is about finding and securing the key activities, resources and partners needed to produce the product/service offering (Osterwalder et al. 2010). During the workshop, it turns out that in a successful Plan B business to business deal there is a long list of key activities that need to be performed. Besides the marketing, handling the social media and drawing up contracts with several stakeholders they must choose and contact the charity subjects and decide what kind of charity items they would have use for. In addition, someone needs to check the used material that is coming in and make one or several prototypes of it. Also, if there are firm logos and the material is not going back to the firm the logos must be removed and either returned to the firm or destroyed. Naturally, this process must be documented somehow.

Yet another challenge is that the amount of the donated material can be enormous and therefore difficult to handle and store up. There are most probably some waste management of the useless material parts to be done too. Thus, the Plan B people need to innovate effective processes for all these activities that must all be taken care of prior to the actual manufacturing of the final products. Moreover, arranging a delivery event and/or environmental education as well as documenting and sharing it in social media are important tasks to be performed in a professional manner. Naturally, they also need to find time to follow up with the customer and the charity subject after the whole thing is over.

So, the Plan B business to business model needs partners and subcontractors to even out the varying demand. In addition, they can make use of partners that have the ready customer contacts. For instance, they have been working successfully with a decorator who has used Plan B furniture in her own customer projects. The question is what to offer the partners and subcontractors to make them want to commit to the Plan B production with irregular orders. Moreover, how to ensure that the de-growth principles are also followed by the partners and subcontractors? Can the Reuse Centre require that they do? To solve this dilemma, the Reuse Centre has been considering of developing a totally new kind of environmental certification system and thus, building a network of certified environmental actors. However, creating criteria for such certificate would be a big challenge and there is a lot to think about already. Luckily, their current partners are mostly social enterprises too, which is a guarantee for them to be responsible employers who at least value the Finnish societal norms and labour law.

One idea that came up during the workshop was that the Reuse Centre could employ the partners to manufacture the basic Plan B products–clothes, furniture and household items–that are sold in the stores mainly for the individual customers and smaller companies. This arrangement would allow their own workforce to concentrate on serving the larger business customers with more special orders and strict delivery terms. There is more flexibility with the individual customer orders and naturally, the harm is much less if such a delivery would be delayed for some reason. Also, this would ease the need to instruct the subcontractors every time when designing and manufacturing the new firm specific products. Instead, they could concentrate on manufacturing the basic products with their own personal touch.

Moreover, there was discussion about engaging different kinds of non-conventional partners to the Plan B production for the business customers: prison workshops, associations for the disabled as well as dressmaker and joiner students. Also, former workers, private entrepreneurs as well as co-operatives are being considered as potential new subcontractors. They have even thought of establishing an own co-operative for the artisans to ensure the adequacy of the workforce. Furthermore, the logo removals could be easily and quickly done by groups of scouters or schoolchildren that are handy with their hands. Or, why not use some willing voluntary people for the job?

Thus, the key resources that are needed are first and foremost the professional personnel within many professions: marketing and social media, environmental education, design, handicraft, law of contracts as well as transportation and storage. Handling the huge amount of material and manufacturing large orders require big enough transportation equipment, large production and storage premises and all kinds of tools, equipment and accessory items too. And lastly, they need to be prepared with some reserves if something goes wrong and an important delivery becomes in risk of delay.

Plan B value creation elements for business customers:
Infrastructure and Key Activities

- Seeking for the potential customer contacts
- Assessing the reuse possibilities of the material and making suggestions
- Manufacturing prototype(s)
- Choosing the charity target

- Contacting the charity subjects and deciding the suitable charity product
- Drawing up the contracts with customers and subcontractors
- Fetching the material from the customer warehouse and delivering it to the Reuse Centre premises
- Storing the material
- Checking and sorting the material – usable parts, carpet rags, energy waste, other?
- Removing the logos, bringing them back or disposing them, documenting
- Waste management tasks
- Manufacturing the final products
- Delivering the products and organising a delivery event
- Video recording of the event, editing the material and sharing it with the customer and in the social media
- Arranging environmental education for the company employees
- Following-up with the customer and the charity subject

Resources

- Marketing and social media professionals
- Lawyer to draw up the contracts
- Environmental educators
- Dressmakers shop and wood-workshop professionals
- Voluntary people/pupils/students working evening shift in workshops sorting and removing the logos
- Omnia or Stadia students for hourly work?
- Transportation people + vehicles
- Production and storage premises
- Reserves in case of emergency

Partners

- Partners producing the basic Plan B items and thus, evening out the fluctuation in demand, no need to re-instruct them every time. Individual customers can wait for a while, a large company needs to get the order delivered in time.
- Using scouters/schoolchildren/students for the logo removals?

- Subcontractors: prison workshops (quality and trust issues?), foundations, associations, private entrepreneurs, former workers, students, co-operatives
- Establishing an own co-operative

4.3.4. The financial viability of the business model

Finding an economical balance is the final challenge in all business modelling. It is about calculating and assessing the costs as well as the intended revenue streams needed to cover those costs and hopefully leave some profit below the final line. (Osterwalder et al. 2010.) In the case of the Reuse Centre, the structure and the high turnover of the employees create an extra challenge. There is a major loss of skills every time an employee changes. The ones that have only just learned the job need to give space for the newcomers. This causes headache for the foremen and what's more, it also creates indirect costs that are difficult to count. The so called 'free labour' is not that cheap when you count the extra costs its creating. However, it is a part of the Reuse Centre sustainability and social responsibility strategy to offer these low threshold jobs for those with poor working skills and concentration difficulties. Also, the municipals need this kind of service offering and there are not many firms doing it.

Thus, they need to rethink the pricing of the Plan B products since they can't sell the hand-made products any cheaper than an entrepreneur in Punavuori. They are also bound to make profit to be able to employ people permanently and to hire bigger and more suitable production premises. They also need to invest in marketing to engage both the individual and business customers that are willing to pay extra for the ecological product and the Finnish handy-work.

> "But, normal market pricing is quite difficult for us because we have the traditional cheap image and we are inclined to price our products cheap. Still, we usually make a small yearly surplus also with the Plan B. However, most of the surplus is comprised by the employment subsidy. The Reuse Centre sales comprises 60 % of the revenues and the rest is comprised of all kinds of subsidies from the government and municipals. However, for some years ago, it was the other way around. So, we are going in the right direction of getting more and more revenues from the sales, which makes us less vulnerable to the changes in the subsidy policies." (Blue)

The overall cost structure of the Plan B production is comprised of the ordinary: wages, payments for the subcontractors, it-costs, advertising, vehicle costs, rents, electricity, heating, waste management, taxes and general administration. As noted by Blue, the revenues of the Plan B business to business sales must be based on normal market pricing of the products, not employment subsidy. The question is, what kind of pricing method to use? Should they offer an all-inclusive value proposition, or should the extra services be priced separately for the customer to choose? Then, there remains the hardest decision about the amount of the provision percentage which should cover all the investments in permanent personnel and other key resources.

When it comes to the triple bottom line reporting they already have the system for counting the ecological and social benefits: natural resource savings and offering employment. Albeit, according to the information gained during the interviews, they should enhance the reporting system of their social benefits. However, developing the Plan B business model for business to business sales helps to boost their positive image by gaining visibility and reference.

The Plan B value capture elements for business customers:

Costs

- Wage costs: how to count the Plan B working hours? Manufacturing: monthly wages, hourly pay, on a piecework basis?
- How to price the work of the subcontractors?
- It-costs, advertising, vehicle costs, rents, electricity, heating, waste management, taxes and general administration

Revenues

- Pricing method: Offering an all-inclusive responsibility package or pricing the extra services separately: transportation, event arrangements, natural resource reporting, using the Reuse Centre brand, etc.
- Provision %?

Ecological and social benefits:

- Natural resource savings
- Increased ecological awareness

- Employment
- Visibility and positive image
- Reference

The next subsection concludes this section and presents the outcome of the business modelling workshop in a table form.

4.3.5. Concluding the findings

The table number four on the next page concludes the empirical findings in the section 4.3. by comparing the sustainable de-growth business characteristics in table three (page 56) with the Plan B business model value proposition, value delivery, value creation and value capture modules for the b to b sales. Each of ten categories of characters could be detected in at least one of the Plan B business model modules.

The Plan B *value proposition* for b to b sales entailed features from three categories: (2) Valuing and cherishing the natural environment and enhancing social well-being of people. Promoting good quality of life and decent working conditions, (3) Doing 'the right thing'. Being ethical. Conscious sales and marketing techniques. Promoting sufficient consumption in terms of life-style, level of affluence, consumption habits, consumer engagement (CVC, prosumer). Satisfying needs not wants. Offering functionality and service rather than ownership and (9) Educating all stakeholders on sustainability issue. *The value delivery module* of the Plan B was characterised by two of the same categories: (3) and (9).

The Reuse Centre aims to encourage their business customers to become prosumers by trying to engage them closely in the design process of the products and services. Additionally, they are trying to find ways to make the transition from merely offering reused and refurbished products towards offering services–environmental education, material for firms' environmental reporting to boost their ecological image as well as advice in how to reuse their surpluses and how to decrease the amount of produced waste. In short, they are in the middle of a servitisation process where they try to transform the know-how they have gathered during the three decades in recycling and reusing into added value to be offered for their Plan B business customers.

Table 4. The sustainable de-growth business characteristics compared with the Plan B business model value proposition, value delivery, value creation and value capture modules for b to b sales.

	Sustainable de-growth business characteristics	**Plan B Value offering**	**Plan B Value delivery**	**Plan B Value creation**	**Plan B Value capture**
1	Focusing on voluntary long-term mutual value creation. Collaborating with all stakeholders, even competitors. Establishing value networks. Willingness to share resources.			x	
2	Valuing and cherishing the natural environment and enhancing social well-being of people. Promoting good quality of life and decent working conditions.	x		x	
3	Doing ‘the right thing’. Being ethical. Conscious sales and marketing techniques. Promoting sufficient consumption in terms of life-style, level of affluence, consumption habits, consumer engagement (CVC, prosumer). Satisfying needs not wants. Offering functionality and service rather than ownership.	x	x	x	
4	Having shareholders emphasising other objectives than financial. Profits are means to gain the future sustainability goals. Economic growth not being the primary goal. Keeping the capital local and (re)investing locally to strengthen the community.				x
5	Promoting efficient production processes and use of products and technology innovations. Manufacturing long-lasting products and avoiding build in obsolescence. Repairing, reducing, reusing, recycling.			x	
6	Furthering consistent ecological production by establishment of a pro-sustainability taxation and regulation systems as well as incentives to sustainability innovations. Internalising negative externalities by monetising them.			x	x
7	Business model experiments and innovation.			x	
8	Leaders being natural-born sustainability agents.			x	
9	Educating all stakeholders on sustainability issues.	x	x	x	
10	Reporting system integrating and indicating all three sustainability goals.			x	x

Consequently, the most potential Plan B business to business customer segment are the large companies that already have experienced an ecological awakening and are now looking for trustful and professional partners to actualise their ecological and social sustainability plans. Also, to be able to price their products high enough to cover all the costs and make some profit, the Reuse Centre needs to engage the large big-hitter companies. Luckily, such companies most probably already have their own environmental and social responsibility reporting systems in use. Therefore, they are also the ones to get the most benefit out of this kind of service offering. However, the value proposal for the business customer should be like a diamond and a piece of gold. It is only then it becomes saleable, no matter the costs.

One of the key features characterising a sustainable business is offering environmental education to all the stakeholders (Lüdeke-Freund 2009; Evans et al. 2017; Bocken et al. 2017). Thus, environmental education is not only present in every Plan B value proposal, but also when interacting with the customers during the value delivery phase–handling the customer relationships is built on communicating the environmental and social values in such a manner that hopefully inspires the customer to learn more about how to make their business even more ecological. To conclude, the Plan B service/product offering is created in a way that should be tempting for firms that take a genuine interest in promoting and investing in their ecological and socially sustainable image.

All together nine out of ten categories could be identified in the Plan B *value creation module*: (1) Focusing on voluntary long-term mutual value creation. Collaborating with all stakeholders, even competitors. Establishing value networks. Willingness to share resources, (2) Valuing and cherishing the natural environment and enhancing social well-being of people. Promoting good quality of life and decent working conditions, (3) Doing ‘the right thing’. Being ethical. Conscious sales and marketing techniques. Promoting sufficient consumption in terms of life-style, level of affluence, consumption habits, consumer engagement (CVC, prosumer). Satisfying needs not wants. Offering functionality and service rather than ownership, (5) Promoting efficient production processes and use of products and technology innovations. Manufacturing long-lasting products and avoiding build in obsolescence. Repairing, reducing, reusing, recycling, (6) Furthering consistent ecological production by establishment of a pro-sustainability taxation and regulation systems as well as incentives to sustainability innovations. Internalising negative externalities by monetising them and finally (7) Business model experiments and innovation, (8) Leaders being natural-born sustainability agents, (9) Educating all stakeholders on sustainability issues and finally, (10) Reporting system integrating and indicating all three sustainability goals.

Thus, establishing new value networks with partners and subcontractors, even the most unconventional ones, is considered a key success factor in the Plan B business modelling process for the business to business sales. This also includes the sharing of the resources. For example, the Reuse Centre is thinking of letting its partners to use the Reuse Centre workshops for the Plan B manufacturing during the evening hours to increase the production capacity. Beyond the Plan B production, they have found the strength in collaboration also with their competitors which, according the literature review, is the most important key feature distinguishing a sustainable de-growth business from a traditional one (Jackson 2009; Latouche 2009; Videira et al. 2014; Hankammer et al. 2017; Lüdeke-Freund 2009; Stubbs et al. 2008; Boons et al. 2013; Bocken et al. 2014; Evans et al. 2017; Huber 2000; Yunus et al. 2010*).* In addition, the Reuse Centre employees are encouraged to co-operate actively together with any other actor or organisation to advance the technological innovations as well as to enhance the ecological awareness of the decision makers and municipal officials.

So, as can be seen in the table four (page 99), the de-growth values and characteristics are most visible in the different value creation element of the Plan B business model: actively seeking for new, unconventional partners as well as refining their activities and processes to be more ecological and effective. Also, since de-growth is about sharing the benefits and acting ethically, the Reuse Centre needs to treat its subcontractors with respect and pay them decently. Thus, their grounds for choosing their subcontractors as well as other partners cannot be picking the most advantageous price but rather picking the ones whose processes can be considered most sustainable in terms of social and environmental issues.

Lastly, the Plan B *value capture module,* that was characterised by three of the categories: (4) Having shareholders emphasising other objectives than financial. Profits are means to gain the future sustainability goals. Economic growth not being the primary goal as well as keeping the capital local and (re)investing locally to strengthen the community, (6) Furthering consistent ecological production and establishment of a pro-sustainability taxation and regulation systems as well as incentives to sustainability innovations. Internalising negative externalities by monetising them and (10) Reporting system integrating and indicating all three sustainability goals.

Consequently, when it comes to the economic viability of their business model, they need to price the Plan B products and services at market prices to make some profit to be able to invest in hiring professional people and bigger production premises by the time they make a breakthrough. In addition, the Plan B production for the business clients cannot be dependent on the employment subsidies anymore. Instead, it must gain an economic self-sufficiency.

To sum up, to differentiate itself from the other actors within the same business and to further boost its ecologically and socially sustainable image, the Reuse Centre could emphasise more the de-growth values and principles in its marketing. They could even form their own strategic group by highlighting their sustainable de-growth values and the strategic choices they make based on them although it causes economic loss–refusing to externalise their costs (the huge amount of clothes) to other countries. Naturally, there is a risk of pointing a finger on the other actors doing just that and upsetting them. Still, they should proudly communicate and inform the ethical choices they make to the public just to raise awareness and discussion if not for anything else.

4.4. The sustainable de-growth business modelling flowsheet

The real challenge during a sustainable de-growth business modelling process is securing that the product/service offering is truly sustainable to the bone, including every element in the value creation, value delivery and value capture processes. During the case company workshop, it became clear that amidst a creative innovation process, it is very easy to forget to ensure the sustainability of all the different business model elements. Therefore, a sustainable de-growth business modelling flowsheet (Figure 17) on the next page was developed to be used together with the original business model canvas. It aims to act as a practical tool to assist securing the continuous sustainability of the business model by helping the business model innovator(s) to attain 'the sustainable de-growth mode' during the whole process. Next, an introduction to how to use the flowsheet together with the original business model canvas.

Building on the de-growth literature, a sustainable de-growth business model should be based on the de-growth value framework (Figure 4, page 31) starting with the environment and society as the primary stakeholders. Consequently, there are two questions to be answered before anything else. Firstly, does the business generate positive externalities? Secondly, does the business enhance the quality of life and social wellbeing of people? Depending on the answers, one can proceed according the designed sustainable de-growth business modelling flowsheet (Figure 17, page 104). The positive externalities designed in the flowsheet should then be converted into a sustainable de-growth value proposition for the different customer segments. Then, one can proceed working with the business model using the original business model canvas. However, to secure the continuous sustainability of the model, the questions in the flowsheet should be checked and answered after designing each of the business model canvas modules.

The next section 4.5. discusses the main challenges found in practising a sustainable de-growth business from the Reuse Centre employees' point of view.

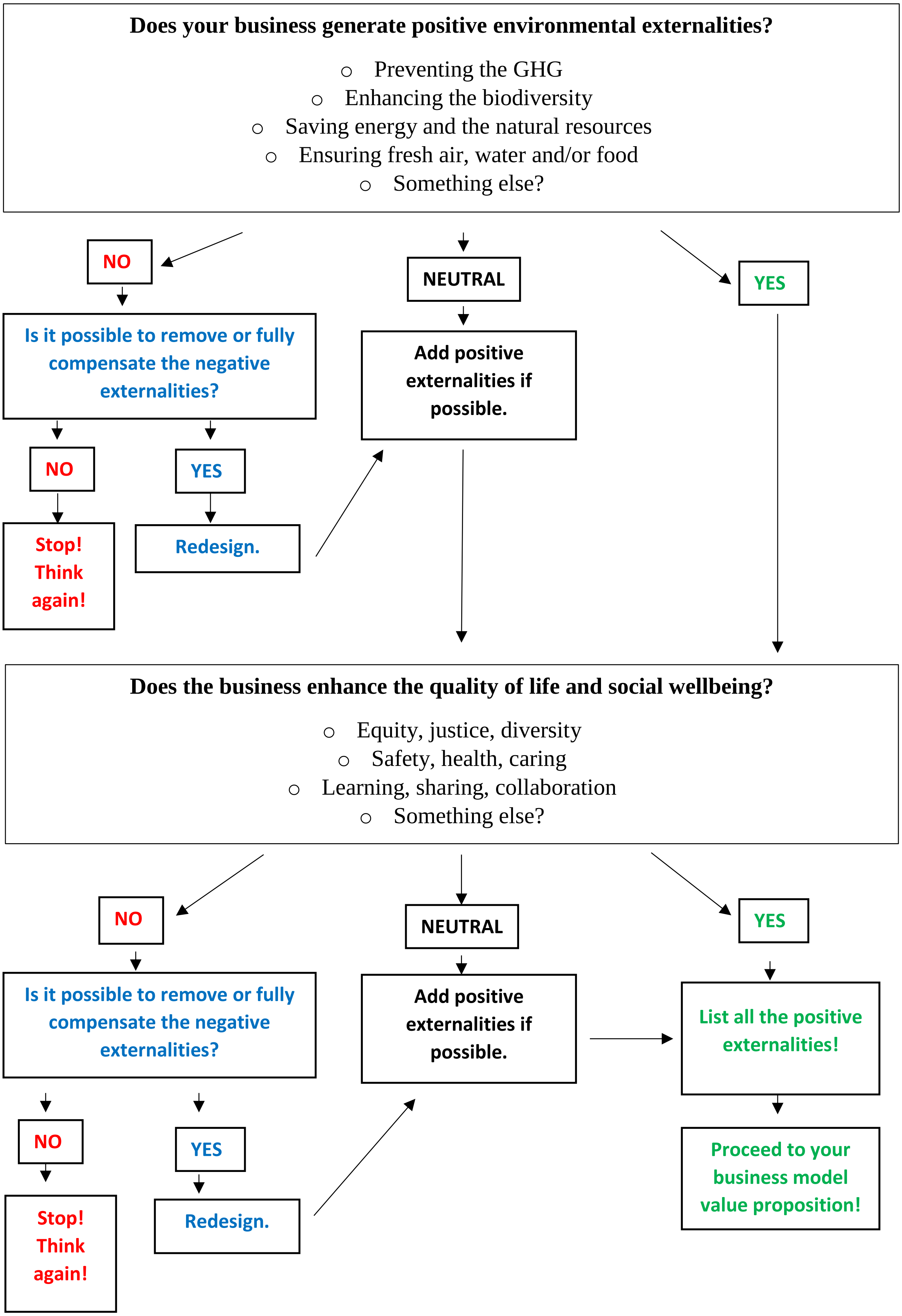


Figure 17. The sustainable de-growth business modelling flowsheet (own).

4.5. Main obstacles to the execution of a de-growth business model

The Reuse Centre employees are in the key position to prove the benefits and value for the customer company representatives. Thus, they are facing quite a few challenges when it comes to the pricing of the unique and handmade Plan B products since it has become clear, that many of the firms are not eager to pay extra for the handy-work. Therefore, the biggest challenge has been to find those firms that appreciate the genuinely ecological and social value offering of the Plan B products. In addition, they need to prove the higher pricing of the Plan B products even for their own workers who don't necessarily see the point there either. Furthermore, the individual store customers are often annoyed by the Plan B product prices because they don't understand the amount of handy-work that they require compared to the ordinary second-hand products next to them.

> "Firms are eager to be ecological on paper but when it comes to investing money, there is none. It is still more of those high-sounding phrases in their development plans and annual reports. So, we need to educate people and offer them calculations of the actual monetary benefits of being ecological." (Yellow)

This finding is well aligned with the research on the barriers to applying sustainability in businesses (Laukkanen et al. 2014; Lüdeke-Freund 2010). There is a clear need for politically established economic incentives to redirect business processes towards choosing the ecological solutions. Also, education in the environmental and social issues to raise the awareness of the public, the political decision makers and the investors is crucial.

> "The Finnish people seem to think that we are among the most ecological nations in the world. When they realise that we are using resources worth of four planets, they get very surprised. It is a wake-up call for many." (Yellow)

This ignorance is quite surprising–Finns are after all one of the most educated and modern nation in the world. Still, we don't seem to understand the connection between our own actions and habits of living with the environmental degradation and climate change.

Furthermore, identifying quality is very difficult nowadays. Especially electric equipment and textiles are not designed to last for long.

> "Also, the world around us is promoting consumption and the politicians are actively looking for economic growth. There is a conflict of interest there. Large businesses don't give a damn about the ecological values, they only want to increase the sales of their products. They also have the marketing power and the budgets to get their message through." (Yellow)

The interviewees were also asked about other challenges they face and compromises they are bound to make when practising a business in line with de-growth. It came out, that the explicit ecological values are hard to follow even for them at times.

> "It happens, that in cases of bigger donations like removals and warehouse cleanings we sometimes need to look through fingers when sorting the huge number of things. It doesn't happen daily but still repeatedly. However, although it is annoying, it is not a big issue overall. But we need to be extra cautious and try to avoid those situations, because it is also a risk for our image, which is built on being truly ecological." (Blue)

Further, to be able to manufacture the Plan B products and to avoid delays and finding themselves just sitting around and waiting for the right stuff to pop-up as donations they are occasionally bound to buy some new stuff: spray glue, foamed plastic, cotton wool and paint for example. So, to ensure the quality of the products and the work flow they can't reuse and recycle everything. However, in the dressmaking shop they basically only use the donated stuff, which pretty much dictates what kind of products can be manufactured in the first place.

Moreover, they sometimes need fireproof textiles in the production and they may already have that in the stock, but they have no way of knowing that because the donated materials very seldom include the product specifications. So, they have tried to figure out how to better identify the material they are receiving as donations. To solve this problem, they have recently contacted a textile supplier and made an inquiry about whether they could donate something that is waste for them but useful for the Reuse

Centre workshops. Then they would know exactly what kind of material they are receiving.

Being a publicly owned limited company gives the Reuse Centre a lot of freedom and flexibility since although it is a limited company, it can sometimes act as a municipal actor or even an association for public good. However, it is not always an advantage. For example, Business Finland that offers funding for research and development, considers it being a largescale enterprise because it is a subsidiary of Helsinki City.

To sum up, the Reuse Centre employees acknowledge the fact that all their ecological efforts are still not enough at all. Thus, they are constantly seeking for new alternative ways to encourage and educate people to make environmentally friendly choices in their everyday lives. Yet, sadly, after almost thirty years of practise on the business, even all the owners still don't seem to understand the fundamental point in their operations. While trying to be brave forerunners showing the vision of the one planet life, they regularly still need to discuss the basic issues even within their own organisation.

> "Some time ago one of our staff wrote a critical article about recycling, pointing at the fact that it is not even nearly enough, that it is just the beginning on the road to true sustainability. The fact that we must bring our used stuff to a Reuse Centre merely indicates that we have purchased a lot of stuff that we don't truly need. One of our owners got upset and we got quite hard feedback for that. Many people think, that what we currently do is enough to meet the carbon neutrality objectives that all our owners are pledged to. However, I think it is our duty to tell them otherwise. We should figure out how to get the message through in a way that facilitates fruitful discussion, not opposition." (White)

5. CONCLUSIONS

As a conclusion for the study, the chapter five answers the research questions by presenting final discussion about the key findings. Also, the theoretical contribution and the implications for the managers are discussed. Furthermore, the limitations of the study as well as the proposals for future research on the subject can be found in the last two sections.

5.1. Key findings and answers to the research questions

This section seeks to answer the research questions through final discussion about the key findings.

Research subquestion number 1. What are the values and principles that should be considered when creating a sustainable de-growth business model?

A literature review on de-growth, sustainable business modelling as well as sustainable value creation was conducted during this study. As an outcome, a sustainable de-growth value framework (Figure 4, page 31) and a table with ten categories of the key characteristics of a sustainable de-growth business (Table 3, page 56) were developed. Furthermore, the case study proved that these values and characters are typical for a business model aligned with de-growth. So, there can be found a clear connection between the case company business practises and the sustainable de-growth business characteristics that the literature is suggesting. Thus, they can be considered as the key features to be paid attention to when designing a sustainable de-growth business model.

The de-growth value framework visualises the idea of the planet Earth as the ultimate boundary for all our actions and the source of well-being for humanity as well as all other living species. Thus, the objective of all human actions should be firstly to preserve the biodiversity of our planet. Secondly, we should concentrate on enhancing the genuine quality of people's lives both locally and globally. Thirdly, the economic activities should serve not only businesses, but the local community, the society and the planet as well. In other words, businesses should generate positive externalities and struggle to remove the negative ones.

The ten categories of sustainable de-growth business characteristics in the table three represent the main themes that should be taken under consideration when designing a business model aligned with de-growth: ecological and social values, ethics, active collaboration, concentrating on overall sustainability issues instead of seeking merely for private profits, ecological manufacturing, promoting repair and reuse of products as well as servitisation, monetising the negative externalities and generating as much positive externalities as possible, promoting ecological and social innovations and business model experiments, having strong leadership, offering environmental education and establishing a reporting system indicating the genuine sustainability goals.

Research subquestion number 2. How to incorporate these sustainable de-growth characteristics into the business model value proposition, value creation, value delivery and value capture elements?

The ten categories of sustainable de-growth business characteristics were compared with and integrated in the case company business model value proposition, value creation, value delivery and value capture modules in a table (Table 4, page 99). This table can be used as a practical guideline for sustainable de-growth business modelling. In addition, a business modelling flowsheet (Figure 17, page 104) was developed to be used together with the original business model canvas to assist securing the continuous sustainability of a business model aligned with de-growth. Thus, using the table four and the flowsheet together with the original business model canvas is a practical method to facilitate incorporating the sustainable de-growth business characteristics into the different business model elements.

The *value proposition* of a sustainable de-growth business model should entail following features:

- Valuing and cherishing the natural environment and enhancing social well-being of people. Promoting good quality of life and decent working conditions.
- Doing 'the right thing'. Being ethical. Applying conscious sales and marketing techniques. Promoting sufficient consumption in terms of life-style, level of affluence, consumption habits, consumer engagement (collaborative value creation, prosumer). Satisfying needs not wants. Offering functionality and service rather than ownership.
- Educating all stakeholders on sustainability issue.

Whereas t*he value delivery module* should be characterised by two of the same categories:

- Doing 'the right thing'. Being ethical. Applying conscious sales and marketing techniques. Promoting sufficient consumption in terms of life-style, level of affluence, consumption habits, consumer engagement (collaborative value creation, prosumer). Satisfying needs not wants. Offering functionality and service rather than ownership.
- Educating all stakeholders on sustainability issue.

To secure the creation of a sustainable de-growth value offering and delivery, t*he value creation* module of a sustainable de-growth business model should be built on following:

- Focusing on voluntary long-term mutual value creation. Collaborating with all stakeholders, even competitors. Establishing value networks and having willingness to share resources.
- Valuing and cherishing the natural environment and enhancing social well-being of people. Promoting good quality of life and decent working conditions.
- Doing 'the right thing'. Being ethical. Applying conscious sales and marketing techniques. Promoting sufficient consumption in terms of life-style, level of affluence, consumption habits, consumer engagement (collaborative value creation, prosumer). Satisfying needs not wants. Offering functionality and service rather than ownership.

- Promoting efficient production processes and use of products and technology innovations. Manufacturing long-lasting products and avoiding build in obsolescence. Repairing, reducing, reusing, recycling,
- Furthering consistent ecological production by establishment of a pro-sustainability taxation and regulation systems as well as incentives to sustainability innovations. Internalising negative externalities by monetising them.
- Promoting business model experiments and innovation.
- Having leaders who are natural-born sustainability agents.
- Educating all stakeholders on sustainability issues.
- Developing a reporting system indicating all three sustainability goals.

Finally, a sustainable de-growth *value capture module* should be characterised by three of the categories:

- Having shareholders emphasising other objectives than financial. Profits are means to gain the future sustainability goals. Economic growth not being the primary goal as well as keeping the capital local and (re)investing locally to strengthen the community,
- Furthering consistent ecological production and establishment of a pro-sustainability taxation and regulation systems as well as incentives to sustainability innovations. Internalising negative externalities by monetising them.
- Developing a reporting system indicating all three sustainability goals.

Research subquestion number 3. What are the main obstacles to applying a sustainable de-growth business model?

Naturally, the main challenges in applying a sustainable de-growth business model are dependent of the nature, size and industry of the business in question. However, some general themes can be deduced from the study. Firstly, the ecological thinking has not yet truly penetrated the Finnish (organisational and business) culture. There is certainly a will to act ecologically but only if it does not increase the costs. Most of the companies nor individual customers are not yet willing to pay extra for the environmentally sustainable solutions. Therefore, the challenge is to find the forerunner customers/firms who understand the benefits of acting truly ecologically.

Secondly, keeping up with the environmental legislation in both Finland and EU can be quite challenging. Furthermore, according to the de-growth proponents, promoting the circular economy merely to increase the production and consumption cannot be considered ecologically sustainable. Thus, the political decisions are not always truly environmentally friendly, even though they are meant to be. It can be very frustrating to try to promote environmental sustainability when the decision makers do not seem to understand the basic facts even.

Thirdly, transporting enormous amounts of materials and items back and forth is certainly not ecological with the traditional vehicle models. However, finding a practical and more ecological solution for that is not easy if there are no suitable vehicle models in the market to be found. So, this is certainly a problem for any business that involves a lot of transportation. Furthermore, providing ecological energy and heating for large business premises is a challenge that requires investments and thus, may not be possible for small businesses. Luckily, the electric vehicle models are under development by many car manufacturers. Also, the amount of ecological energy produced with renewable energy sources is increasing in the market and it is also becoming more affordable as the technique evolves. So, in time, these problems will most probably be solved.

However, a conclusion must be drawn from the empirical findings–for now, it is only the wealthiest firms and individual customers who can afford to make the most ecological choices in life, since the environmentally friendly products tend to be much more expensive than the traditional ones. This applies to everything we consume: energy, food, clothing, vehicles, etc. Thus, here again we come to the need for the political decisions to steer the taxation and regulation towards favouring the truly ecological choices in life: biodynamically produced vegetarian food, ecologically manufactured clothing, energy from renewable resources, local handy-work, tourism inside your home country, public transportation and buying services instead of products to name just a few.

Finally, the answer to *the main research question*–how to create a business model by applying the sustainable de-growth values and principles–is simple: a sustainable de-growth business model should be created in a way that ensures the production of positive environmental and social externalities and at the same time constantly seeks to find ways to minimise and eventually eliminate the negative ones. In other words, a business aligned with sustainable de-growth aims to create genuine and sustainable benefits for all stakeholders beginning with the environment, rather than maximising profits for the owners.

To conclude the final discussion about the findings, sustainable de-growth represents the genuine, altruistic ecologically and socially sustainable values and calls for acting accordingly, both in our personal and business lives. The concept of de-growth encompasses the activities of the whole society and all the societies on this planet. It is an idealistic effort to finally lead the way to true environmental protection and social equality beyond the political and national boundaries. The promoters of de-growth represent a variety of professional and personal backgrounds. However, the uniting glue between them is the growing concern for the environment and a genuine will to preserve the diverse life of the planet called Earth. After experiencing the summer 2018–with unprecedented heatwaves (again) all over the northern half of the planet causing drought and forest fires killing both animals and people–how can anyone anymore shut their eyes and ears for the urgency of the matter and still call the de-growth promoters romantic idealists, who are not to be taken seriously?

5.2. Theoretical contribution

There cannot be found a business that is not making any impact on the environment, because in every kind of product or service offering there is a need to use at least some amount of energy and often also some kind of matter. So, evaluating any business model by comparing it with the ten broad categories of a sustainable de-growth business model characteristics and using the de-growth business modelling flowsheet as an assistive instrument together with the original business model canvas, should bring up some points in the business to improve, either ecological or social. Both the table and the flowsheet are practical and simple to use by anyone.

In addition, while the sustainable de-growth business model experimentations become more common and additional experience is gained, more of the sustainable de-growth business characteristics can easily be added to the table to facilitate the innovation process of new businesses in line with genuine sustainability.

5.1. Managerial implications

The environmental awareness of the consumers as well as the political decision makers is increasing. Thus, every manager today should be considering and evaluating the environmental and social sustainability issues of his or her firm. Investing in ecologically and socially sustainable solutions already today, is the safest way of ensuring the competitive edge of the business in the future.

The best way to enhance the ecological and social sustainability of any business is to gain professional education on the subject to learn how to analyse the different elements that are building one's own business. Then, the sustainability of the current business model can be evaluated by comparing its elements with the characteristics of a sustainable de-growth business. After which it can be redesigned by actively using the flowsheet developed in this study together with the business model canvas during the business modelling process.

Still, there must be a genuine will to transform the business into a truly sustainable mode because it is not just about transforming the way the different processes are run. It is about re-evaluating and re-prioritising one's values and wanting to follow the unconditional path to true sustainability although it is likely to yield less monetary benefits than the traditional way of doing business. At least in the beginning. However, being a pioneer of true sustainability within one's own industry should be considered an honour and a sign of wisdom which is most certainly going to be repaid soon enough.

5.2. Limitations of the study

Being a single case study, this one can be considered very limited in its contribution. However, this is an unprejudiced study that seeks to find the general guidelines and common denominators for a business model aligned with the sustainable de-growth values and principles. De-growth thinking is still very marginal in the academic world, especially in Finland. Still, every day, the news from all over the world are bringing us evidence of the environmental and social catastrophes mankind is currently facing. Thus, foremost, this study has been the writer's personal voyage of discovery to one environmentally and socially sustainable alternative to rearranging the economic and social activities of man. It has been a relief to find out that the other alternatives than merely the egocentric ones, exist. Hopefully, it is not too late for them to gain more ground on the minds of men.

5.3. The need for future research

The depletion of the natural resources, the ongoing extinction of animal and plant species as well as the climate change that is due to the warming of the planet are scientific facts. We are also witnessing the increasing inequality between people between and within nations. It is all happening right now. So, there is no time to waste at all. We need urgently to change the rules of the economic and social activities of mankind. (Stern Review 2006; The Royal Society 2012.) Thus, the academic world should also bear its responsibility and make every effort to find solutions of all kinds to change the course and save what there is left to be saved. According Farley et al. (2006) "we must distinguish between economic growth, which is a physical increase in the rate at which the economy transforms natural resources in to economic output and waste, and economic development, which is an increase in human welfare for a given level of resource use".

Consequently, there is a need for research concerning the economic viability of business models following the genuine sustainability rules. In addition, we need to examine and test the alternative ways of measuring the wellbeing of people. There are already many to choose from–the Genuine Progress Indicator (GPI), Gross National Happiness (GNH), the Human Development Index and OECD Better Life Index just to name some that are already in use in many countries (Beyond GDP 2014). To conclude, we need to abandon the one-eyed capitalist way of thinking–seeking for private profit at any cost–and direct the course of all our actions in accordance with the genuine ecologically and socially sustainable values. If not for our own sake, then at least for the sake of our children.

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APPENDICES

APPENDIX 1. The case company interviewees and the schedule of the interviews.

The case company: Helsinki Metropolitan Area Reuse Centre Ltd

Katja Viberg, manager in circular economy and sustainable living. In charge of the environmental education, Näprä workshop, Plan B and the new Service Development Unit. Interviewed at the administrative centre in Kalasatama Helsinki, 18^{th} of December 2017 from 2 pm to 3.30 pm.

The following employees were interviewed at Nihtisilta store in 19th of December 2017:

Kaisa Karjalainen, service manager in circular economy. Interviewed from 9 am to 10 am.

Marika Tähkänen, head of the Plan B upholstery shop, sewing shop and joiner's workshop and Sanna Bolström, Plan B sewer, designer and organiser. Both interviewed simultaneously out of their own request from 10 am to 11.30 am.

Aatos Weckman, finance and production manager, in charge of logistics, sorting and technical workshops. Interviewed from 11.30 am to 12.45 pm.

Hanna Lilja b to b service manager, in charge of service development and productisation. Interviewed from 16.15 pm to 17.45 pm.

The business modelling workshop took place from 2.30 pm to 4 pm. The participants were Katja Viberg, Kaisa Karjalainen and Sanna Bolström.

APPENDIX 2. The semi-structured questionnaire for the interviews

1. What is your position in the Helsinki Metropolitan Area Reuse Centre?
2. How long have you been working for the company?
3. How long have you worked with the Plan B brand?
4. What is your role in the ongoing Plan B business modelling?
5. Do you think your company carries out in practise the de-growth values visualised in the framework (Figure 4)? What is the main difference in values compared to your rivals in your opinion?
6. According my literature review there are several features that should characterise a sustainable de-growth business (Table 3). I would like to examine whether they are applied in the case of the Plan B and the reuse centre overall practises. Do you agree with these characteristics as fitting into the de-growth principles? Do you recognise them in your everyday work? How do they vary from the ‘business as usual’ practises?

- Focusing on voluntary long-term mutual value creation. Collaborating with all stakeholders, even competitors. Establishing value networks. Willingness to share resources.
- Valuing and cherishing the natural environment and enhancing social well-being of people. Promoting good quality of life and decent working conditions.
- Doing ‘the right thing’. Being ethical. Conscious sales and marketing techniques. Promoting sufficient consumption in terms of life-style, level of affluence, consumption habits, consumer engagement (CVC, prosumer). Satisfying needs not wants. Offering functionality and service rather than ownership.
- Having shareholders emphasising other objectives than financial. Profits are means to gain the future sustainability goals. Economic growth not being the primary goal. Keeping the capital local and (re)investing locally to strengthen the community.
- Promoting efficient production processes and use of products and technology innovations. Manufacturing long-lasting products and avoiding build in obsolescence. Repairing, reducing, reusing, recycling.

- Furthering consistent ecological production by promoting establishment of pro-sustainability taxation and regulation systems as well as incentives to sustainability innovations. Internalising negative externalities by monetising them.
- Business model experiments and innovations.
- Leaders being natural-born sustainability agents.
- Educating all stakeholders on sustainability issues.
- Reporting system integrating and indicating all three sustainability goals.

7. Is there anything you would like to add or comment more on?

Thank you for your time and contribution!