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ABSTRACT

Climate change has been a significant topic for this planet. It is an urgent issue to tackle for many countries as the effects of climate change are threatening their livelihood. There are many mitigation and adaptation efforts placed to ease the life-threatening situations. Meanwhile, there is increasing awareness of a need for deep change in the society, in other word social transformation, in order to secure the long-term well-being of the human race. In this thesis, I focused on social transformation to sustainability through female entrepreneurship with a green idea in Northern Norway. I explored how female entrepreneurship with a green business idea can be part of the process of social transformation towards sustainability.

The study draws on the quantum social theory at the macro level of social transformation, and the theory of empowerment, gender socialisation theory, and the theory of green entrepreneurship to look at the micro level. I also refer to the concepts and theories in the literature reviews including knowledge for transformation, concept of transformability, and theory of creative destruction, and theory of networks. The data consists of interviews with six female entrepreneurs with a green business idea in Northern Norway.

The findings show some degree of influential force of the entrepreneurs on others towards green concepts through their products, services, and business activities. There is also external and internal influential force on the entrepreneurs towards greener and more sustainable ideas. The study, thus, suggests that the entrepreneurship is part of the process of social transformation.

CHAPTER 1: INTRODUCTION

1.1 Background

In order to tackle climate change issues, mitigation and adaptation methods have been considered and applied in many countries. The Intergovernmental Panel on Climate Change (IPCC) provides many examples of adaptation practices in their reports as shown in APPENDIX III. On the other hand, many scholars have been addressing the limited effects of these methods for a long-term well-being of the human race and suggest the need for transformations of the existing socio-ecological systems to sustainability. For example, O'Brien (2012) argues that adaptation methods are not enough for sustainability although they are in some circumstances necessary in response to climate change. There are potential limits in delivering adaptation and mitigation methods due to limits in conventional systems and incremental changes in institutional structures (Bahadure and Tanner, 2012). There is also the necessity to increase the levels of adaptive capacity in society and ecosystems in response to climate change (Gillard, et al., 2016). Adgar, et al. (2007) explains adaptive capacity as the ability to adjust in behaviour, resources, and technologies in response to climate change. Good examples are a longer growing season and increased potential for tourism. Olsson, et al. (2013, p.3) note "adaptation at one scale might require transformations at other scales, and building resilience at a certain scale can reduce resilience at other scales." The recent development of the 'transformation' concept comes from recognition of the need to change the existing social systems which are generating vulnerability of some social groups through unequal relations of power (Godfrey-Wood and Naess, 2016). For instance, the people who do not have access to clean sources of energy due to social disadvantages use other sources of energy available to them regardless of the amounts of global warming emissions and pollution that the energy sources produce. The pollution affects not only the health of the people who are closed to the energy production but also the air, water and environment globally. To tackle this global issue, a fundamental change in the existing social systems is required to make clean sources of energy accessible to everyone.

Bahadure and Tanner (2012) explain the value of transformation as a measure to support the idea of radical change in response to climate change. The IPCC (Intergovernmental Panel on Climate Change) Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (2012, p.465) defines transformation as "a fundamental

qualitative change...that often involves a change in paradigm and may include shifts in perception and meaning, changes in underlying norms and values, reconfiguration of social networks and patterns of interaction, changes in power structures, and the introduction of new institutional arrangements and regulatory frameworks.” Transformations can happen in and across various dimensions, scales, contexts, and settings. O’Brien (2012) addresses the necessary challenge to look at the horizontal discourse of ‘inside-out’ and ‘outside-in’ in and across systems rather than the vertical discourse of bottom-up and top-down within the systems.

Among many social aspects to contribute to transformation towards a sustainable society against a background of climate change, this study will look at female entrepreneurs that have a sustainable business idea. There is a body of literature discussing women’s entrepreneurship as an important factor for further economic growth, diverse ideas of innovation, gender equality and women’s empowerment. OECD Report to G7 Leaders on Women and Entrepreneurship (2016, p.2) promotes women’s economic empowerment through entrepreneurship as “women entrepreneurs... can provide society with different perspectives and approaches to management, organisation and business issues”. The returns for economies and societies from pro-active policies for women entrepreneurs are multiple and sizable. Women-owned businesses represent already, in all countries, a dynamic economic resource. Global Entrepreneurship Monitor 2016/2017 Report on Women’s Entrepreneurship (2017) also highlights the phenomenon of women’s entrepreneurship including both aspects of the women business owners and their businesses, and describes it as a potential source of economic and social development. Also, according to Financial Times, businesses with an idea of sustainability require principles of sustainable development; ‘economic efficiency’ in terms of innovation, prosperity, and productivity, ‘social equity’ for poverty, community, health and wellness, human rights, and ‘environmental accountability’ for climate change, land use, and biodiversity. Sustainable development should be aimed for the long-term stability of economy and environment, and that it can be achieved only if environmental, social, and economic concerns are considered into the decision-making process (Emas, 2015).

Looking at gender issues as social concerns, Rees (2005) cited by Pettersson and Hedin (2010) describes three historical periods of gender equality movements in the European Community. In the 1970s, the gender equality awareness motivated people to seek for equal treatment supported by individual rights and legal concepts. The second phase came in the 1980s when the focus was shifted onto group disadvantage. This focus was highlighting systems and structures that create such disadvantage. The present third phase is a period of transformation

which demands systems and structures to incorporate gender equality. Pettersson and Hedin (2010) explain that the current mainstreaming focus is on changing mainstream policies which requires deconstruction and redistribution of power relations.

Norway is well known for being advanced in gender equality. A report of United Nations (2003) even mentions Norway as 'Haven for gender equality'. Policies in Norway support women's labour activities. In fact, the female employment rate is almost equal to the male rate, which indicates economic independence of women. The country provides generous family supportive policies. However, the entrepreneurship rate for women is low in Norway. According to statistical data provided by European Commission (2014), only 4% of the women in the active labour force in the country are running their own business in comparison to 9% of the men in 2012. Previous research outcomes suggest one of the reasons as lack of entrepreneurial culture and role models in Norway (Rønsen, 2015) and the phenomenon of entrepreneurship as being gendered (Alsos et al, 2013).

This study focuses on female entrepreneurship in Northern Norway. According to Arctic Human Development Report (AHDR, 2004), there has been a trend of female out-migration from small communities in the Arctic including Northern Norway. Due to the climate change and globalization trends, traditional gender roles are changing. Hoogensen, et al. (2004) mention that many males tend to continue the traditional economic activities such as fishing, hunting, etc. However, these traditional activities do not longer provide sufficient income to their household. This gives pressure on women to get paid work. According to Williamson, et al. (2004), females in the Arctic towns and villages seek for better higher education in a bigger city for their future career opportunities than the education that they can receive in their home town or village. After graduation, many of them continue staying in a big city for their career opportunities, and eventually find their life partner who are from other part of the country. Consequently, they never move back to their home community. It is, thus, worth focusing on female entrepreneurs in Northern Norway who create opportunities for themselves in the region.

According to the IPCC's definition of transformation as seen above, the process of transformation not only includes new institutional arrangements and regulatory frameworks but also should come with changes in perception, underlying norms and values, reconfiguration of social networks, and patterns of interaction. Thus, spreading a picture of female entrepreneurial culture and role models could play an important role not only in increasing the number of female entrepreneurs but also in achieving a fundamental qualitative change of social norms and

values, which the IPCC defines as transformation. In this study, I shall focus on female entrepreneurs with a sustainable business idea. I shall examine if their business ideas are a result of being influenced by internal and external factors and if it has enabled them to become influencers themselves.

I shall, thus, examine the influential force of people, the society and the environment as transformation occurs in the context of interrelated physical/ material elements. Barad (2007) explains that people are agencies (Becoming) rather than agents (Being). “Our (intra)actions matter—each one reconfigures the world in its becoming” (Barad, 2007, p.394). Ronnby (2009, p.127) also illustrates this.

“Social movements are seen as the dialectic result or synthesis of social structures and the spirit of the time. This means that structural conditions (created and maintained through collective action) and leading ideologies, values, views and theories mutually influence each other. People in a community are influenced by these conditions and create the different movements we see, which in their turn have repercussions on the social structure and philosophies in a continuous process.”

I shall explore the experience of the female entrepreneurs which might have contributed to their ideas and values, and how the ideas and values are influencing their entrepreneurial attitudes and sustainable business ideas.

Furthermore, I shall investigate the process of empowerment as it is one of the key factors for social transformation. Among various concepts of empowerment, this study uses the definition suggested by Ronny (2009) that empowerment is the process of enhancement of individual’s or group’s capacity to make prudent choices for their desired outcomes. Empowerment of individuals and groups can change existing systems and structures. Even though in Norway political and economic power is well distributed between genders with the concept of gender equality widely incorporated into systems and structures, entrepreneurship especially with a sustainable green business idea is assumed to empower women in various ways. Raknerud and Rønsen (2014) and Kay (2017) found that lack of self-esteem prevents women from taking entrepreneurial actions. Thus, in order to explore the development of self-esteem in women's entrepreneurs, it is worth looking at how they perceive the contribution of their business to healthy ecosystems and strong communities while creating economic value. Moreover, it is worth examining the level of willingness to take further challenges from the general notion that

the more confident people are, the higher level of such willingness they have. Findings from the examination are expected to describe their experiences on rewards, hardship, customer relations, and business networks as well as social networks, and reveal the influential factors for their future planning.

1.2 Research purpose and questions

The main purpose of the study is to explore how female entrepreneurs influence the society towards sustainability in the context of climate change and increasing awareness of it. The focus of the study is placed on entrepreneurs who run a business with a sustainable business idea in Northern Norway. The sustainable business idea in this context means an idea which supports healthy ecosystems and strong communities while creating economic value.

In the study the experiences of female entrepreneurs will be described and analysed to understand the following two aspects;

- Whether their sustainable business idea is a result of being influenced by internal and external factors, and
- Whether their sustainable business idea has enabled them to become influencers themselves.

The following three sub questions are set to examine the influential force of both directions.

- How do female entrepreneurs perceive the formation of their entrepreneurial attitudes to start the green business?
- In what ways and to what extent do the female entrepreneurs perceive to be empowered through their entrepreneurship?
- What are shaping their next plans for short, medium and long terms?
 - What are their experiences on rewards, hardship, customer relations, and business networks as well as social networks?

1.3 Structure of the thesis

This thesis consists of seven chapters. This chapter has presented the research topic, background information, research purpose and questions. In the second chapter I review earlier literature on

the two key themes in this study, social transformation and female entrepreneurship. The literature review on social transformation describes the process of transformation and challenges in it. I then go through literature on female entrepreneurship and theories of entrepreneurship to see how entrepreneurship especially women's one with sustainable ideas could contribute to social transformation to a sustainable society. Chapter three presents the theoretical framework of the study and theoretical models which include the concepts in the literature reviewed in the previous chapter. I use the models as a road map for the study. I take a retroductive approach and try to find out whether the empirical findings of the study could support the theoretical models based on the theories in Chapter two and three. Chapter four introduces the methodology of the study where I describe methods of the research, sampling, data collection, and data analysis, and discuss the validity and reliability of the methods as well as limitations of the study. This is followed by presentation of empirical findings from the data collection in Chapter five. The findings are presented under conceptual categories which are described in Chapter three. I shall then, in Chapter six, analyse the findings and discuss them against the theories and models in Chapter three. In the final chapter, I summarise the findings of the study and make further discussion for possible explanations and implication of the empirical results.

CHAPTER 2: REVIEW OF THE LITERATURE

The purpose of this chapter is to understand how female entrepreneurship with a sustainable business idea may contribute to transformation towards a sustainable society. This purpose is attributed to quantum social theory that individuals are agencies, and every interaction reconfigures the world in its becoming (Barad, 2007). Literature are reviewed on studies which have been conducted on challenges of social transformation as well as on female entrepreneurship. Through this review I attempt to identify similar features in two different social aspects; social transformation and female entrepreneurship. The process of entrepreneurship is looked at to understand how it can be part of the process of social transformation.

2.1 Challenges of transformation to a sustainable society

There are challenges in how we can handle climate change. Factors to frame social structures and systems such as power, politics, interests, values, behaviours, and human needs are limitations to our handling capacity on climate change. O'Brien (2016, p.620) addresses the need for "deep transformations in economics, social, technological, and political systems" and promotes the awareness of 'humans as the solution to climate change'. She argues that entangled individuals collectively influence systems and structures which seem entrenched. Transformation is not a small scale of changes generated by a few number of people but accompany changes in multiple levels of our consciousness including the way of looking, thinking and acting, as well as rearrangement of organisations, markets, technology, social relations, and concepts (Termeer and Nooteboom; 2012 cited by Catrien, et al; 2017, and O'Brien; 2012). Catrien, et al. (2017) describe that the process of transformation starts with attempt for improvement within the existing mind-sets and logic. This is followed by realisation of the need to change the mind-sets, view the issues from a different perspective and reframe practices. This process includes self-awareness and self-reflection on our own assumptions, development of an open-minded attitude towards various perspectives and viewpoints, and challenge on widespread norms and interests (O'Brien, 2012). To examine this process, this study shall focus on perceptions and experiences of female entrepreneurs with a sustainable business idea as they are innovators and challengers who view various perspectives and opportunities open-mindedly, and offer alternatives to conventional norms and interests.

Bahadure and Tanner (2012) summarise knowledge needed for transformation in four fields; 1) innovation and experimentation, 2) power relations, 3) critical reflection on beliefs and values, and 4) local contexts in perspective. First, innovation and experimentation are often regarded as requirements for radical change. New knowledge and different ideas can be generated through experimentation of new approaches. Entrepreneurship with sustainable business tend to include experimentation and generate something new. Second, power relations are a key in the process of transformations. Empowerment of particular groups of people can be achieved when the underneath social and political processes held by the people are recognised and tackled. Ronnby (2009) suggests that the concepts of empowerment include the feelings of self-reliance and the gained power to influence matters under civil and structural conditions. Entrepreneurship with sustainable business is assumed to give confidence to those females who are involved in such businesses, and knowingly or unknowingly have some influential power. This study shall investigate some aspects of such power relations. Third, beliefs, values, inherited ways of thinking, and biases need to be challenged together with negotiation of power structures. In this process, alternatives to the old patterns, beliefs and structures should be developed. Female entrepreneurs with sustainable business are expected to offer alternatives to conventions, and intentionally or unintentionally provide people and the society with opportunities for reflection on the widespread beliefs and values. Fourth, transformations cannot be successful and sustainable without local contexts of power, culture and politics. Thus, this study focuses on cases only in Northern Norway to scrutinise them in the local contexts.

Moreover, Bahadure and Tanner (2012) offer spaces for transformation. The knowledge and interests of different stakeholders need to be reflected on the decision-making. A diversity of voices can be 'heard' when the stakeholders are empowered enough to carry through their collective visions for transformation. Recognising or creating policy windows is one of the key elements for transformation as policies stimulate changes in the psychology and beliefs of the people. From this viewpoint as well as others already seen above, female entrepreneurs are worthy of attention as they are part of stakeholders, and carry knowledge and interests to contribute to transformation to a sustainable society. Their contributions should also open up new opportunities for policy windows.

Olsson, et al. (2013) focus on the interrelations between agency, networks, institutions, and innovation for sustainability, as well as the interconnections between social, technological, and ecological systems. This focus is especially important to prevent negative outcomes of initiatives aiming for sustainability transformations. They introduce the concept of

transformability as ‘the social-ecological capabilities that shift from one regime to another’, as opposed to the concept of adaptability as ‘the capabilities to deal with change and stay within a regime’. They address that individual and societal innovative and transformative capacity can contribute to easing social and environmental problems, and sustainability transformations. Thus, this study shall pay attention to female entrepreneurs with a green business idea as they take initiative and attempt to improve human well-being and support ecosystem well-being simultaneously. Moreover, in addition to focusing on agency as technological and social innovations can have a great impact on a large scale, Olsson, et al. (2013) stress the importance of looking at the role of agents as intermediaries who induce interactions between individuals as well as networks, and activities at various scales. From this viewpoint, it is important to examine the customer relations, and business networks as well as social networks that female entrepreneurs have.

2.2 Studies on female entrepreneurs with green businesses

The theory of creative destruction addressed by Schumpeter (1934) can explain a part of the process of social transformation induced by entrepreneurs. He views economic development as incessant revolution from within by new enterprise. His later book mentions “any existing structures and all the conditions of doing business are always in a process of change” (Schumpeter, 1943; p.31). He illustrates that the incessant revolution of the economic structure includes a process of incessant destruction of the old one and incessant creation of a new one. The theory of creative destruction therefore explains the role of entrepreneurs in social transformation. Alsos, et al (2013) refer to the view of Schumpeter (1934) that entrepreneurs are the people responsible to create innovations which are defined as new combinations of production factors.

Alsos, et al (2013), moreover, point out that excluding women's ideas and involvements from the process of creating innovations is a waste of human resources, and that we need systems to include women's contributions among countries and business fields. They emphasise that women are as innovative in generating new ideas as men, and see a reason behind a difference in gender business activities in the general situation that women’s ideas are not as much reflected on implementation as men’s. They associate one of the possible explanations for this with organisational practices and culture that women are not seen as innovators, resulting in their voice and ideas not being heard or treated as less important in comparison to men’s. The root of challenges is recognised as existing gender stereotypes in contextual and structural

arrangements such as politics, processes, and networks of innovation. By applying feminist literature, they address the need to shift the focus from traditional comparisons of differences and similarities between genders to comprehension of gender ideas embedded in concepts, processes, and research. This focal point is important in exploring the process of social transformation. Thus, this study includes consideration of socially structured norms and values which might be influencing women's innovative ideas and businesses.

Braun (2010) and Hechavarria, D.M., et al (2012) find that women entrepreneurs are more likely to pursue a green business opportunity than male counterparts. Women are more likely to look for ethical benefits through their business, while males tend to be more concerned about competitive business advantage. Delmar and Witte (2012) explain that motivation influences an attitude as it is an evaluation of an object or concept. Bagozzi and Warshaw (1992) and Ajzen (1995) cited by Delmar and Witte (2012) describe that people's beliefs and attitudes are formed based on the knowledge that people gain from the carefully assessed information about their situation. People make a choice of actions out of their formed beliefs and attitudes. Thus, beliefs and attitudes are the core motivation or main factor for behaviour. In short, attitudes influence behaviour. Thus, it is worth paying attention to how attitudes impact entrepreneurial behaviour. Also, attitudes are not fixed. They often change according to multiple factors including the information that they have and the circumstances they are in. Thus, it is worth looking at how attitudes are formed and changed.

Delmar and Witte (2012) address two achievement contest models; perceived self-efficacy and intrinsic motivation. Perceived self-efficacy is situation-dependent. It varies in every situation that the person is in and has something to do with people's beliefs about their capabilities to influence the conditions which affect their lives. People often make decisions based on their belief in self-efficacy which varies their levels of eagerness, effort, and persistence. This corresponds closely to self-esteem although according to Frank (2011), it is possible to have high self-efficacy with low self-esteem. Intrinsic motivation is related to task interest and enjoyment. Interest affects our inspiration and the way we interpret, and determines the tasks that we want to engage in and the level of challenges that we are willing to take (Delmar and Witte, 2012; Crossan, Lane and White, 1999, and Dutta and Crossan, 2005 cited by Dimov, D. 2012). It is formed by internal and external factors. The internal factors are something that individuals have by nature. The external ones are the environmental influence. Intuiting and interpreting occur at an individual level but are context-dependent, according to psychosocial processes in organisational learning (Crossan, Lane and White, 1999, and Dutta and Crossan,

2005 cited by Dimov, D. 2012). In summary, Delmar and Witte (2012) attribute high levels of attention, better decision-making and improved performance to interest. It is worth looking at the interests which were formed by external factors as that will explain the power of environmental influence.

Davidsson (2012) introduces elements of the business creation process. They include a business idea, a product, the market, the organisation, core group expertise (founders' prior knowledge), core group motivation, customer relations and other relations such as relations with suppliers, investors and government agencies. The business has impact on its target market with the business idea and the product. The organisation influences the whole business activities. Competence and motivation direct the business as Delmar and Witte (2012) mention above. Customer relations implies to develop trustful relations with some prospective customers. Relations with others such as suppliers, investors and government agencies are important for the business survival. Davidsson (2012) finds from systemic entrepreneurship research that the process of business formation is often a social game rather than an individual one. This explains the significance of networks that entrepreneurs build.

Rønning, et al (2010) illustrate the values of network ties to others in entrepreneurship. They explain that the potential benefits depend on the quality of the social relationships. Social capital is thought to have three dimensions; a structural, relational, and cognitive dimension. The structural one is the network and the connection which give people access to others. The relational one is access to the information and resources held in networks. Trust and obligations are important factors for the level of such access. The cognitive one represents the norms and values in the culture and community. They also see the different values that strong ties and weak ties give. Distant and infrequent weak ties imply connections of individuals who do not have much networks, knowledge and information in common. These ties may give an opportunity for entrepreneurs to obtain fresh information and ideas. Frequent and deep strong ties are more trustable and thus useful for evaluation and exploitation. Bridging and bonding aspects of network values are related to strong and weak ties. Bridging connects people and different groups, which develops weak ties to stronger ties. Bonding exists in strong ties and can limit people's ability to extend their networks. Four negative effects of bonding are explained as exclusion of outsiders, excess claims on group members, restrictions on individual freedoms, and downward levelling norms. Moreover, Rønning, et al (2010) note that social capital can be found in all spheres of society at all levels in the local, regional, and national level. Individuals are influenced by all these capital sources. For this reason, it is worth

investigating how the networks that entrepreneurs have are facilitating their entrepreneurship and business orientation.

CHAPTER 3: THEORETICAL FRAMEWORK

Understanding social transformations through influence of female entrepreneurs shall be supported by theoretical perspectives. For this reason, theories are used in several different levels and steps. This chapter describes the outline of the theories that the study is based on as well as the concepts that developed from these theories for understanding and analysing the findings. This theoretical framework gives explanations to the underlying mechanism of certain phenomena which are part of the process of social transformation modelled in this chapter.

3.1 Transformation

3.1.1 Quantum Social Theory

The study is built on the ideas of quantum social theory. The theory is based on the knowledge of quantum mechanics. Orzel (2010) explains essential elements of quantum mechanics that every object in the universe exists as both a particle and waves, and the quantum particles are discrete. Their state is indeterminate until they are measured, and so measurement determines reality. Quantum particles are entangled and correlate non-locally, no matter how far apart they are. Their states are inseparable. O'Brien (2016) explains that this theory based on quantum phenomena describes possibilities and potentials created by the individuals who make conscious and active actions for transformations to sustainability, from the viewpoint that people are entangled and have collective impact. She argues that hindrances to social transformations are often associated with social structures and systems, power locations, politics, values, interests, and human needs.

O'Brien (2016) introduces three applications of quantum social theory to understanding social transformations in the context of climate change. Firstly, judgements and decisions are essentially made inseparably from the context within. Systems are entangled and cannot be separated in theory. The second application is 'agential realism' presented by Karen Barad in *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. It introduces inseparability of objects and subjects, which Barad calls 'agencies of observation'. Objectivity is embodied in each context such as material and cultural contexts, and is a part of the phenomenon investigated. Moreover, intra-actions explain open possibilities for the future. The third approach is Alexander Wendt's quantum consciousness hypothesis which considers humans as 'walking wave functions' that intra-act rather than discrete

individuals. Both Barad and Wendt see entanglement and intra-action of human beings, and internality of social structures for collective human beings in contrast to externality for individuals. O'Brien (2016, p.622) argues that human beings are not agents but agency in a quantum social world: "someone who is never in a state of Being but always of Becoming". "Agency is not an attribute but the ongoing reconfiguring of the world. The universe is agential intra-activity in its becoming" (Barad, 2007; p.141). O'Brien (2016) summarises quantum social theory by describing non-local entanglements of human beings, and influence of consciousness and free will on structures and systems. Thus, the world is changing, interconnecting and spontaneously being created.

In relation to responses to climate change, O'Brien (2016) points out that subjective perceptions influence decision-making and negotiations among various stakeholders with different interests. From the viewpoint of quantum theory, however, the observer and observed are not independent but part of the same system. Therefore, the system can be transformed through their intra-action, which Barad (2007, p.179) defines as 'nonarbitrary nondeterministic causal enactments through which matter-in-the-process-of-becoming'. Agency is thus understood as a dynamism of forces. In this sense, there is potentials for collaboration among various stakeholders (O'Brien, 2016). Moreover, individuals and groups can be empowered and thus become influential. O'Brien (2016) interprets this as the possibility for individuals to contribute to collective impact to sustainability. By referring to Wendt's interpretation of quantum social theory, she focuses on consciousness as a hint to understand social life, and free will and agency as fundamental aspects of the social world. Wendt's theory referred by O'Brien (2016) suggests that people reflect their will, experience and cognition upon their decisions, and transform the structures that shape the future. Agents are considered to interact with the world, being guided by their beliefs and experiences. O'Brien (2016) articulates the quantum nature of society as an indeterminate, spontaneous vital force to influence the future through collective purposiveness.

3.1.2 Empowerment

As seen in Chapter 2, empowerment of individuals is one of the essential factors for social transformation to sustainability (Bahadure and Tanner, 2012). In the process of successful transformation, various stakeholders need to be empowered first so that their full voices can be heard. Among multiple concepts of empowerment, Ronnby (2009) defines one of them as enhancement of an ability of individuals to control their own life, which sometimes leads to enhancement of an ability of groups to change their living conditions. Moreover, he illustrates

empowerment as the process of enhancement of individual's or group's capacity to make prudent choices and to transform those choices into their desired actions and outcomes. Bracht, et al (1990) see two different aspects in empowerment; a psychological aspect and a community one. Psychological empowerment is the subjective perception of greater control over one's own life, while community empowerment is the objective reality of greater power with redistribution of resources or decision making. Community empowerment can be a result of collective political action of the community, which could also lead to psychological empowerment. On the other hand, psychologically empowered individuals are also likely to be present within an empowered community. Empowered individuals take collective actions, often resulting in empowerment of the community. In this study, I shall focus on the aspect of empowerment among many factors and features of social transformation as it is most relevant to my study.

3.2 Gender

3.2.1 Gender socialisation theory

As seen in Chapter 2, Braun (2010) and Hechavarria, D.M., et al (2012) find that female entrepreneurs express more environmental concern than male counterparts. Delmar and Witte (2012) see that attitude shapes motivations and behaviour as it is not fixed but an evaluation of an object or concept. People form beliefs and attitudes based on the information available to them, and then make actions and behave in accordance with their beliefs and attitudes. One purpose of this study is to explore internal and external factors which might have impact on beliefs and attitudes held by female entrepreneurs, and influence entrepreneurial behaviour.

According to Braun (2010), gender socialisation has been shaped from the childhood throughout adulthood and influences choice of occupation, family roles, responses to matters related to them including environmental concerns. He regards this as a possible explanation why female entrepreneurs are in general more engaged in green business than male counterparts. He associates many factors with the socialisation of those with an environmental consciousness, such as the political environment, the role of education and the presence of an environmental danger or disaster. It is stressed that this does not indicate a gender difference in the level of positive experiences with nature throughout childhood. Furthermore, the socialisation process varies in accordance with generation and culture. However, women's tendency to take green initiatives can be explained from the viewpoint that women are in general less prepared to take risk in climate change related issues. Braun (2010) sees a possible reason for gender differences

in environmental concerns in ‘differences in perception of vulnerability to environmental risks’ rather than in ‘differences in ecological sensitivities’.

3.3 Entrepreneurship

3.3.1 Green entrepreneurship

According to the definitions set in the Greent project (2016) funded by Erasmus+;

“Green entrepreneurship is the activity of consciously addressing an environmental/social problem/need through the realization of entrepreneurial ideas with a high level of risk, which has a net positive effect on the natural environment and at the same time is financially sustainable.”

“Green entrepreneur is someone who starts and runs an entrepreneurial venture that is designed to be green in its products and processes from the very moment it is set up.”

Greent (2016) states that green business should not only be environmentally sustainable but also socially and economically sustainable. Its business activities should be run with a comprehensive understanding of the link between the three dimensions; environment, society and economics.

Braun (2010) explains the benefits that green entrepreneurship brings to the environment as well as entrepreneurs. It creates protection of natural resources, low operating costs through reduced waste and pollution, and contribution to more sustainable community economic development, while entrepreneurs are engaged in innovative economic activities. He sees this as proactive environmental strategies which can keep a low negative impact on the environment and at the same time create positive effects on it. The structural and social conditions, which influence the values of entrepreneurs, shape such strategies. However, Braun (2010) also regards green entrepreneurs as those who make a competitive advantage with innovative approaches to their product or service. He illustrates four types of green entrepreneurs which are identified by Taylor and Wally (2007). The term ‘green’ can be referred to either a product

or a process. Green entrepreneurs are influenced by both internal motivations and external structures. The first type is innovative opportunists who are navigated through structures and regulations. The second one is visionary champions who are so-called early adopters. The third one is ethical mavericks who are value-oriented. The last one is ad-hoc ‘enviropreneurs’ who are accidental and focus on finance. All the types share multiple motivations coming from green, ethical, social and financial factors. Greent (2016) reveals two different kinds of manifestations of green entrepreneurship. The first one is business adjustment to ecological modernization within the current economic structures. The entrepreneurs in this kind rely largely on technological advancement to achieve ecological effectiveness. The other one is more radical forms and regarded as disruptive innovations which shake up the widespread norms and beliefs, and stimulate change in the economic structures and mechanisms.

3.4 Theoretical Model

My theoretical models are based on the theoretical framework underpinnings of the study. The models include the theories, concepts and interrelations between the two. I shall then use these models as a road map for my study.

The following diagrams show the process of social transformation based on quantum social theory and the theories of social transformation which are described in Chapter 2: Review of the literature. The concepts of empowerment, gender socialisation theory, and green entrepreneurship are all included within the model of Diagramme 3.4 (4).

The process of social transformation starts with individuals’ attempt for improvement within the existing mind-sets, which is followed by realisation of the need for a change in the mind-sets. These individuals, who gained new ways of looking, thinking, and acting, are likely to attain new knowledge through experimentation of alternative approaches and increase control over their own matters (empowerment). Empowered individuals become influential force on commonly held perceptions, norms and values (Ronnby, 2009).

In relation to the business creation process, network ties are very important for entrepreneurs (Rønning, et al, 2010 and Davidsson, 2012). Through various ties, entrepreneurs and other people are mutually obtaining fresh information and ideas as well as evaluating ideas, values and norms. These mutual influence in network ties at various levels impact the ideas, norms and values in the society. Moreover, Alsos, et al (2013) see existing gender stereotypes, which

are socially constructed, as a reason behind a difference in gender business activities because women’s voices are not as much heard as men’s. Changes in the stereotypes to see women as being innovative as men, empower women. In return, empowered women contribute their innovative ideas including green business ideas to the society, which changes perception, norms and values held in the society.

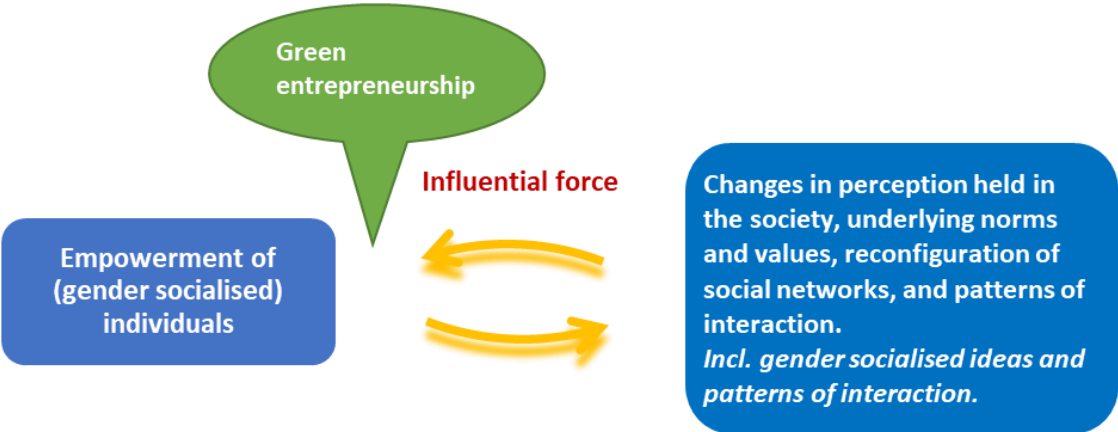


Diagram 3.4 (1)

Changes in people’s perception, norms and values impact the structures and systems in society as the quantum social theory explains that the systems and individuals are entangled (O’Brien, 2016). The interrelations between agency, networks, institutions, and innovation are perceived to affect the transformative capacity of the society to shift from one regime to another (Olsson, et al., 2013). Furthermore, the adjusted structures and systems provide alternatives to old patterns, which stimulate changes in the psychology and beliefs of the individuals (Bahadure and Tanner, 2012). Moreover, people’s beliefs and attitudes are formed based on the information that they gain in their situation which is inseparable from structures and systems (Delmar and Witte, 2012).

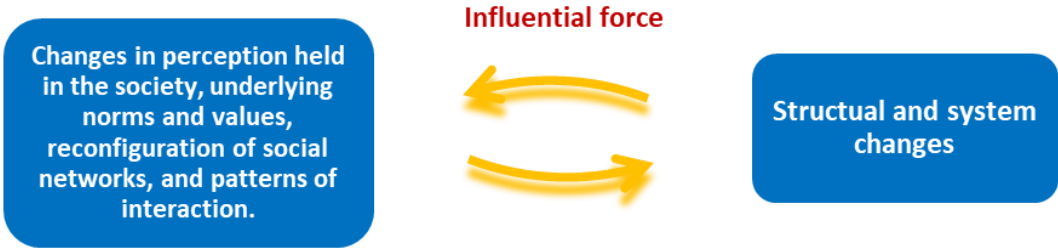


Diagram 3.4 (2)

Structural and systemic changes help individuals make a difference in their life matters (empowerment) as perceived self-efficacy is situation-dependent (Delmar and Witte, 2012).

The environmental influence shapes intrinsic motivation and inspiration. Bahadure and Tanner (2012) acknowledge the need for empowerment of individual stakeholders to reflect a diversity of voices on decision-making, which leads to recognition and creation of new opportunities for policy windows. Schumpeter (1934) sees entrepreneurs as being responsible for creating new means of production. Existing structures and conditions for business activities are constantly in a process of change due to the influence of such new means.



Diagram 3.4 (3)

These mutual influences continue, which is the process of social transformation described in Diagram 3.4 (4).

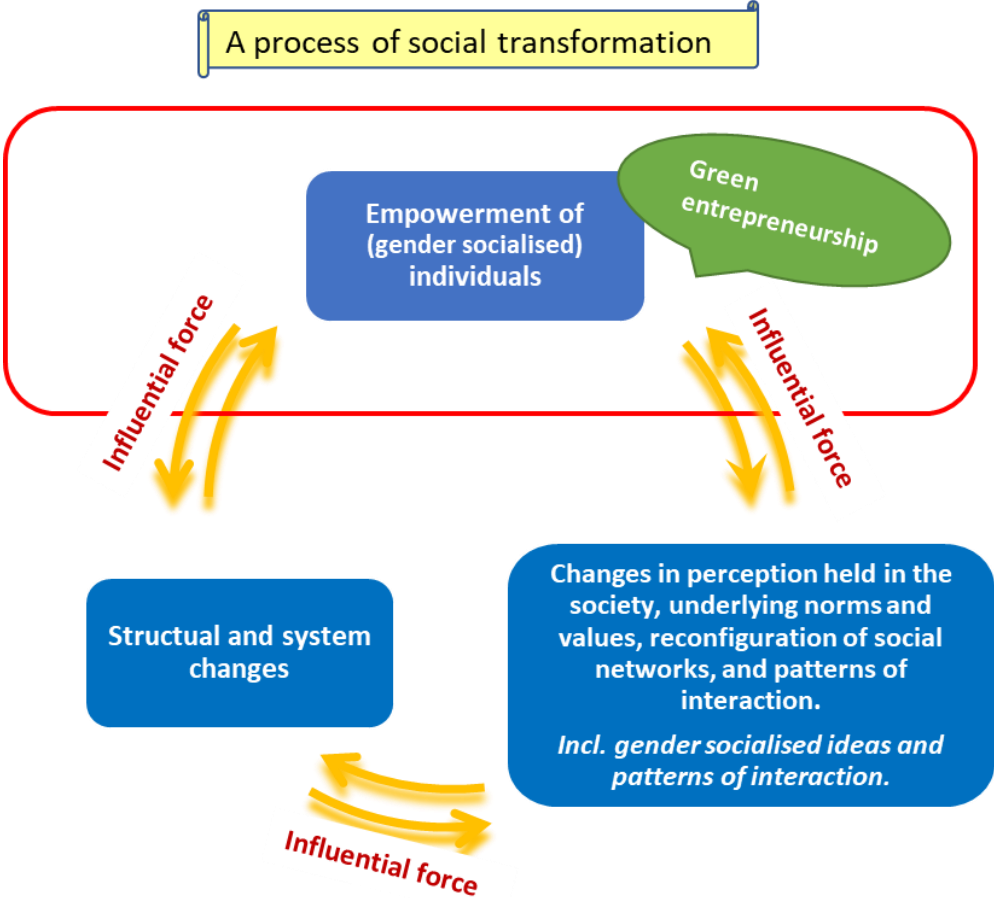


Diagram 3.4 (4) : A theoretical model for a process of social transformation

In this study, I look at the process inside of the square outlined in red on Diagram 3.4 (4). Female entrepreneurs are viewed as the ‘individuals’ on the diagram. Thus, in order to investigate this part of the process of social transformation through female entrepreneurship, the following two aspects, which are also presented in Chapter 1, shall be investigated.

- Whether their sustainable business idea is a result of being influenced by internal and external factors, and
- Whether their sustainable business idea has enabled them to become influencers themselves.

The following three sub questions are set to examine the influential force of both directions.

- How do female entrepreneurs perceive the formation of their entrepreneurial attitudes to start the green business?
- In what ways and to what extent do the female entrepreneurs perceive to be empowered through their entrepreneurship?
- What are shaping their next plans for short, medium and long terms?
 - What are their experiences on rewards, hardship, customer relations, and business networks as well as social networks?

The concepts of empowerment, gender socialisation theory, and the theory of green entrepreneurship which are described earlier in this chapter were assumed to support the investigation of these sub questions. The interview questions were prepared in a way to find answers to the three sub questions. The findings are, thus, categorised and presented in Chapter 5 in accordance with each concept; ‘*Gender socialisation theory*’ 1) Pre-experience for entrepreneurship; ‘*Empowerment*’ 2) Level of confidence, 3) Rewards and hardship; ‘*Green entrepreneurship*’ 4) Networks, and 5) Attitudes towards the future sustainable society.

CHAPTER 4: METHODOLOGY

This chapter outlines the course of a research project and the approach taken to the research process as Berg (2004) explains the purpose of methodology sections. This includes my choices of research strategy, method, sampling, data collection, and forms of data analysis as well as the rationale behind these choices. The choices reflect my overall research strategy and form the methods. I developed a research design at the beginning of the study project and use as a guide or plan to carry out the project. Any decision made in the process of the study has an impact on other decisions because all the elements of the design should be closely linked (Blaikie, 2009).

4.1 Research strategy: retroductive approach

This study is designed with a retroductive approach. Concepts are first derived from literature. These initial concepts are then developed and refined in the process of the study, which Blaikie (2009) refers to as the sensitizing tradition in the use of concepts. Researchers use the retroductive research strategy to discover underlying mechanisms that explain observed regularities (Blaikie, 2009), and uncover the conditions for the existence of phenomena (Meyer and Lunnary, 2013). Meyer and Lunnary (2013) illustrate that retroductive reasoning is constructed on the premise that structures and internally related objects make social reality. Understanding of the social reality can be cultivated through investigation of the conditions that are empirically non-observable but fundamental to the phenomena.

The process of retroductive approach involves forming hypothetical models of structures and mechanisms to find a possible explanation with data at the later stage (Blaikie; 2009, and Meyer and Lunnary; 2013). Figure 4.1 shows an explanatory model of the strategy. Blaikie (2009) explains the process with two different stages. The first stage of the process is to establish a description of the regularity, using inductive or abductive research strategies. The inductive strategy is used to establish generalised description of characteristics of and patterns in social phenomena. The abductive strategy is adopted to describe and understand social life, ‘why people do what they do’, in terms of social actors’ meanings and accounts. In the study, I used the inductive strategy to establish patterns in social phenomena as shown in Diagram 3.4 (4).

At the second stage of the retroductive approach explained by Blaikie (2009), and Meyer and Lunnary (2013), researchers examine and investigate the characteristics of the context, and

consider possible mechanisms. This is followed by investigation of the relevance of these mechanisms with observation and experiment to find the mechanism to provide the best explanation. Blaikie (2009) sees two versions of the retroductive research strategy; a structuring strategy and a constructing strategy. Structuralists seek explanation for mechanism in social structure. Constructionists look at cognitive mechanisms. In either version, the strategy requires a combination of mechanisms and social contexts for explanation as shown on Figure 4.1.

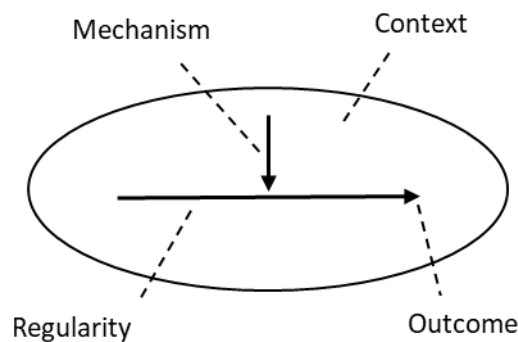


Figure 4.1 Explanatory model of the retroductive approach (Source: Pawson and Tilley, 1997)

Using the structuring strategy of retroductive approach, I looked for explanation or evidence for the model of how social transformation might work [Diagram 3.4 (4)]. Figure 4.1 shows the components to find the explanation or evidence. I regard ‘Northern Norway’ as the *context*, ‘the influence of female entrepreneurs with a green business idea’ as the *mechanism*, ‘social transformation’ as the *outcome*, and its regular association with ‘the society’ as the *regularity*. Hence, the model on Figure 4.1 provides an explanation for ‘social transformation’ (*outcome*) by hypothesizing that, in the context of ‘Northern Norway’, ‘the influence of female entrepreneurs with a green business idea’ (*mechanism*) is the trigger for the phenomenon in regular association with ‘the society’ (*regularity*). Blaikie (2009) addresses that comprehensive explanation can be made only in the combination of context and mechanism.

4.2 Choice of a research method: Qualitative

The purpose of the study is to describe, explain, explore, and interpret the experience and perceptions of female entrepreneurs with a green business idea. Qualitative methods are employed for research questions which require explanation or understanding social phenomena and their contexts (Snap and Spencer, 2003). I, thus, deem a qualitative method suitable for the research questions of the study.

Moreover, quantitative researchers deal primarily with numerical data and interpret them statistically within a logical and objective paradigm, while qualitative researchers use nonnumerical information to interpret phenomena, which is inevitably linked to human senses and subjectivity (Leung, 2015). These subjective senses, emotions and perspectives are essential to create richness in qualitative findings because various answers to specific phenomena can be provided by different entrepreneurs. Leedy and Ormrod (2013) suggest that researchers should use qualitative methods to discover the existence of various realities constructed by different individuals. Even if two people experience the same under the same situation, they would perceive the experience differently. According to Blaikie (2010), in-depth qualitative interviews enable researchers to get close to the meanings and interpretations that the social actors hold about their involved social interaction. The depth of understanding such meanings and interpretations directly affects the richness in findings and therefore the quality of the study. In light of the purpose of the study mentioned above, I, thus, consider qualitative interviews best suited to the study.

4.3 Sampling and Data collection

4.3.1 Semi-structured interviews

Cohen and Crabtree (2016) describe main characteristics of semi-structured interviews. Semi-structured interviews are suitable when researchers have only one chance to conduct an interview with each interviewee. This is because an interview guide, which contains a list of questions and topics to cover during interviews, can be prepared beforehand. Moreover, Cohen and Crabtree (2016) add that an interview guide allows the interviewer to follow an interesting topic initiated by each interviewee and discover new points or ways of understanding the topic, while it provides comparable data. The prepared interview guide helped me not only stay on track but also stray from the guide when appropriate and come back to the track later.

A fairly open framework in semi-structured interviews also allows for conversational communication (Case, 1990). Elliott and Timulak (2005) suggest that in qualitative interviews, the interviewees should be encouraged to take the lead and express important features of the phenomenon as they see it. Semi-structured interviews provide not only answers to the questions but also reasons for the answers (Case, 1990). Open questions in the semi-structured interviews enabled the interviewees to express their views in their own terms, which was important for me in developing richness in the quality of the study.

The focus of the study is placed on female entrepreneurship, which is assumed to be part of the process of social transformation. I attempted to explore perceptions, perspectives, understandings, and experience of individuals to investigate the phenomenon. The best method of data collection for such study may be in-depth, unstructured interviews with 5-25 individuals (Leedy and Ormrod, 2013). However, I had only one chance to have an interview with each informant and needed to make the collected data comparable to allow me to complete the thesis within the limited time frame for the master thesis. I, thus, felt the need for some structure to make most out of every interview efficiently for the study purpose. Meanwhile, I attempted to cultivate the understanding of the topic and improve the quality of the study, which required some flexibility. To comply with these requirements, I employed the semi-structured interview method for the study.

4.3.2 Selection of informants/ sampling

A small sample size was inevitable for qualitative methods for its resource-intensiveness (Blaikie, 2010). For this study, I first used the purposive sampling method and then applied the snowball sampling method afterwards. Purposive sampling was chosen due to the nature of the study as Blaikie (2010) describes that it is used to select some cases of a particular type which illustrates some feature or process on which we are studying. In light of the study focus on female entrepreneurs with a green business idea in Norway, this sampling method was judged as being most effective and suitable for the study. Two public offices; Bodø Kommune and Innovation Norway in Bodø helped me find female entrepreneurs in Northern Norway. Snowball sampling came naturally alongside data collection activities as my study investigations include the aspect of networks that each female entrepreneur has, and external influences that they receive.

I made an initial contact by visiting them in person wherever possible to soften the contact situation by showing them my face directly as people in general feel safer when they see who they are talking to, and minimise a risk of misunderstanding due to a language barrier as I do not speak Norwegian and speak English as my second language. I also used phone, email, and Facebook messengers when it was not possible or practical to visit them. Three interviews took place at cafes, two were at their workplaces, and one on Skype. Each interview lasted for somewhere between 45 minutes and two hours. I minimised interruption of the informants' talk and went with the flow of the interviews as I chose semi-structured interviews. The interview guide that I used for these interviews are attached as Appendix I at the end of the paper. During

the interviews, I tape-recorded all our conversations except the interview with Emily which I accidentally failed to tape-record. Immediately after this non-recorded interview, I wrote down whatever I remembered from the interview. For the other interviews, I transcribed the data from the tape recorder.

4.3.3 The sample/ informants

The sample consists of six female entrepreneurs who run a business with a green and sustainable idea in Northern Norway. They are engaged in a different business field. These fields are health and beauty, production, food and beverage, and education. The informants are in 20s, 30s and 40s. Three of them grew up in Northern Norway, one is from another part of Norway, two are from overseas. They all have experience in living somewhere else and overseas but have family and/or extended family in Northern Norway. Three of them have come to the region as is where they grew up. The other three have moved to the region due to a family reason. The age of their business is somewhere between five and six years.

Informant	Age	Origin	Background	Type of business	Single or team entrepreneurship
Anna	20s	Local	Moved back from overseas	Health and beauty service	Single
Brenda	20s	Local	Moved back from overseas	Accessary and handmade item production	Single
Catherin	40s	Overseas	Moved with family	Education serive	Single
Daisy	30s	Overseas	Moved with family	Food and bevarage production	Team
Emily	30s	Local	Moved back from overseas	Fasion production	Single
Flora	40s	Non-local	Moved with family	Education serive	Single

The names used here are all pseudo for the purpose of anonymity of informants.

4.4 Ethical consideration

Throughout the process of the study, ethical aspects were considered. Protection of informants was taken into account in accordance with the Norwegian center for research data (NSD)

guidance to protect person sensitive data and vulnerable issues. In the sampling process for interview, I gave each informant an information letter (attached as Appendix II) with explanation that her anonymity would be kept and that she can withdraw their participation anytime. I also gave oral explanation about my study project and interview participation, and asked if she has any question regarding the study and participation before obtaining consent to interview participation.

All the data was treated carefully to ensure data security. Personal information of individual informants was stored separately from the interview note, audio data, and transcription. Each file was accessible with a password. I also used pseudo names of the informants to keep anonymity to protect the personal life of the informants.

4.5 Data Analysis

Supported by Elliott and Timulak (2005), I took a systematic and organised approach with constant critical self-reflection to all the steps of data analysis, while keeping flexibility in the development process of analysis procedures. This approach provided comparable frameworks with flexibility to modify or add to where appropriate. This helped me audit the steps and follow back provisional results of the analysis for later stages.

In this study I followed a general structure that Blaikie (2010) suggests. Data analysis starts with category development during data collection. The connections between categories gradually become noticeable as the process continues. This process helped me select core categories as Blaikie (2010) mentions that the researcher thinks about possible causal conditions and contexts throughout the process.

I applied the integrated approach to data management and data analysis which comprises three simultaneous steps of action suggested by Berg (2004): data reduction, data display, and conclusions and verification. Data reduction occurred throughout the study process as is natural in handling qualitative data for a purpose (Berg, 2004). I summarised the interviews to simplify the raw data and made it manageable which helped me stay with my focus and identify analytical themes and relevant theoretical explanations in the process. The data was also organised alongside data reduction in a way that enabled me to draw analytical conclusions at the end. This, furthermore, helped me identify some patterns in the data and requirement for further analysis. Throughout the study process, analytical evaluations and decisions about

different stages and the data were made based on literature and findings of the data. I kept constant critical self-reflection to all the steps of data analysis so that realistic conclusions could be drawn.

Description and analysis went hand in hand. Dey (1993) explains that it is researchers who interpret data to make action meaningful to others, and explain data to account for action. Quality concept in qualitative study is linked to the degree of generating understanding (Leung, 2015). It is important to develop conceptualizations and examine their sufficiency. Recurrent themes were looked at within contexts as meaning of the themes are relevant only to the contexts. Without understanding contexts, meaning could not be understood correctly. Dey (1993) also points out that the meaning sometimes can be grasped only from the information given from the context. In this sense, the meaning of a communication was also linked with the context. Meaning can vary with context, and communication can imply multiple meanings (Dey, 1993).

Dey (1993) illustrates the first stage for qualitative analysis as to describe the study subject or phenomenon comprehensively. He stresses that it is more important to describe ‘thoroughly’ than ‘thick’. Thus, I first attempt thorough description of the interview contents under each category in Chapter 5. Then, in Chapter 6, I highlight key phenomena and make an explanation with theories illustrated in earlier chapters.

4.6 Validity and Reliability

Leung (2015) explains that validity in qualitative research shows ‘appropriateness’ of the tools, processes and data of the study. Reliability is an outcome of validity (Golafshani, 2003). Validity must be shown to ensure reliability. I attempted to present the earlier chapters and sections of this chapter in a way to ensure as much appropriateness of the research question, methodology and design as possible. Appropriateness of the sampling and data analysis, and the results and conclusions for the sample and context stands on the validity of these earlier stages of the study.

According to the concept of reliability provided by Leung (2015), the level of reliability in qualitative research lies with replicability of the process and result, and the degree of consistency with other research. Studies may show different characteristics within similar dimensions to others but needs to provide epistemologically consistent data that are

ontologically similar. The documentation to clarify the reliability of sources and the methods of data collection is, thus, crucial when new data is presented as evidence (Walliman, 2011). Detailed descriptions of each step and procedure of data collection process are documented for this purpose.

Furthermore, Walliman (2011) describes that the power of memory and reasoning to organise data and ideas become sources for understanding in human perception. In light of this, I attempted thorough description of the findings in Chapter 5 to ensure the reliability and to bring out realistic data analysis and conclusions.

4.7 Limitations of the study

The purposive and snowball sampling methods were applied for selection of the study sample. Informants introduced other entrepreneurs from their own network as it is the nature of snowball sampling. This may have created some assumption that they are likely to be influencing each other for their sustainability ideas, while helping me investigate the aspect of networks that each female entrepreneur has. The views presented in the study, therefore, could be somehow biased and limited in characteristics.

Moreover, all the businesses which the informants are running are fairly young. They are somewhere between the start-up, growth and establishment stages. Including entrepreneurs at various business stages may give more comprehensive study. Overall, although the sample size of six informants is judged to be appropriate for the study purpose, the findings of the study with this small sample size have limitations in generalising the situation of the whole female entrepreneurship with a green business idea in Northern Norway.

The language may have created another limitation to the study. I used English as the language tool for interviews because it is the best common language that I could use to communicate with the informants. However, five out of the six informants and I use English as our second language. The depth of the description may be limited.

In this study, I only investigate the half of the process of social transformation described on Diagram 3.4. Further research on the other half of the process may allow for a clearer picture of the whole process of social transformation through female entrepreneurship.

CHAPTER 5: EMPIRICAL FINDINGS

In this chapter, I present the empirical findings of the study. The data are classified to prepare for analysis. Careful sampling and proper categorisation and coding are of importance to ensure the level of generalisability, objectivity and reliability (Walliman, 2011). I have categorised the findings into five aspects to make it more effective to compare between cases, as Dey (1993) suggests categorisation as a useful tool for analysis. Data is a seamless sequence, and thus classifying the data involves reasoning. In addition, interpretation and explanation can be made based on the concepts (Dey, 1993). Categorisation, thus, has to be made based on the concepts. In this chapter, I shall present the findings according to categories sorted by the concept of empowerment, green entrepreneurship, and gender socialisation theory.

The aim of the study was to investigate the influential power of female entrepreneurs for both directions of receiving and giving, ‘passive and active influence’, and how the process might transform the society to sustainability. The findings present different aspects in relation to the three sub research questions;

- How do female entrepreneurs perceive the formation of their entrepreneurial attitudes to start the green business?
- In what ways and to what extent do the female entrepreneurs perceive to be empowered through their entrepreneurship?
- What are shaping their next plans for short, medium and long terms?
 - What are their experiences on rewards, hardship, customer relations, and business networks as well as social networks?

These aspects of the findings are categorised into five groups based on the concepts; gender socialisation theory, empowerment, and green entrepreneurship, to find answers to the sub-questions above;

Gender socialisation theory

- 1.) Pre-experience for entrepreneurship

Empowerment

- 2.) Level of confidence
- 3.) Rewards and hardship

Green Entrepreneurship

- 4.) Networks
- 5.) Attitudes towards the future sustainable society.

5.1 Pre-experience

Finding out informants' experience before the start-up of their business is expected to provide aspects of gender socialisation and how they have come to entrepreneurship. Anna was engaged in the health and beauty service sector, which she still is. Brenda was working for fashion production in overseas. Both of them expressed their doubt about the way things operate in their previous jobs and wanted to have a more sustainable way of doing things in their life, which motivated them to start their own business. They simply followed their preferred way of doing things, which is reflected on their business. Their business styles with a green idea concurrently offer alternatives to conventions and spread new ideas, which they hope makes people reflect on conventional ways of doing things. Brenda was even saying that she does not advertise her products using words like green, sustainable, environmental-friendly and alternative because these key words usually attract people who are already pursuing a sustainable lifestyle. She wants to approach to the people who are less aware of such a lifestyle, and give them opportunities to be environmental-friendly without such a label.

Brenda also wanted to make sure that the whole production process was ethical, green and sustainable. As part of this, she wants to create job opportunities for other women who are socially disadvantaged and vulnerable. She feels her ideas was shaped gradually by looking at what has been happening in the world.

"I want to give jobs to women who has had less opportunities for education and work."
(Brenda)

Daisy has been working as a healthcare professional for a number of years, but she felt a need to do something new and take a new challenge in her life. A friend of hers who took the same healthcare vocational training with her overseas was then back in her native Norway and was searching for a business opportunity in the nature-rich environment in Northern Norway. This friend developed her business idea by talking with Daisy, which led Daisy to co-found a business with her. As Davidsons (2012) explains, the process of business formation often depends on social interactions rather than an individual one. After a long period of engagement in the healthcare field, the health-conscious attitude and awareness are rooted in Daisy, which she believes are largely reflected on her product ideas.

Emily was also trained to be a healthcare professional, which helped her financially from time to time as she was able to work with the professional qualification. However, she always had a passion for fashion and creativity. After she had gained some experience in the fashion field elsewhere, she came back to Northern Norway, which is her home region, to settle down. Her product idea comes from her sami background and the nature-oriented way of living that she grew up with. She used to see how her grandparents were utilising materials obtained from nature. She also played in nature in childhood. Her interest and passion in the sami culture are reflected in her business decisions.

Flora has a background as a teacher. In the process of learning, she met a concept of utilising everything.

“The founder of the concept had an expression that if you touch something, everything turns into gold. Value can be found in everything. The concept influences me. Also, this idea can be incorporated into child education as children’s brains develop through creativity.” (Flora)

Being influenced by this concept, she always wanted to do something different. She first took an opportunity when her first son was born. Moreover, she did not like creating so much rubbish in a daily life and always had an idea of how to utilise some of the household rubbish for art and craft. Prior to the business start-up, she worked as a kindergarten teacher and a nanny for an affluent family overseas and often made some crafts with the children. Her husband is also engaged in art.

The father of Daisy was an entrepreneur. She grew up with an idea taught by her entrepreneurial father that she should pursue what she is good at. The rest of the informants hardly knew other entrepreneurs or were aware of entrepreneurs around them before starting their own business.

“I knew other entrepreneurs in the friend network. But I was not consciously aware of or thinking about their entrepreneurship. When I started my own business, I started realising that they are entrepreneurs.” (Flora)

Even though most of them did not have had a role model for entrepreneurship at least not as they noticed of and had little knowledge about business start-up, they decided to take on entrepreneurship. Under the circumstances which Brenda, Catherin and Emily were in and with

the situation that they did not find desirable opportunities in Northern Norway, they decided to set up their own business. Catherin had a fulfilling career before coming to Northern Norway. She is utilising the skills and experience that she gained through the career and developing the current business idea.

All the informants have learned much and developed their idea of green entrepreneurship since they started exploring about entrepreneurship. Everyone started with a small idea and expanded it as they learned more about it.

“I went deeper and deeper into the green concept and expanded what I do.” (Anna)

“I just started doing what I like and enjoy, and traded with people who liked my products. I got a positive feedback from them and got more customers through word of mouth. I was simply encouraged to continue making products.” (Brenda)

Catherin got the first inspiration from her son’s interest and play, and saw a business opportunity. Her idea grew by casually talking with people and matured in a way to utilise her skills and knowledge developed through her career.

Looking at the occupational background of the informants, all of them were engaged in the fields such as health care services, schools, and fashion production, which typically many women work for (Limstrand and Stemland, 2004). Moreover, they all have experience of living overseas. The experience might have contributed to the fresh viewpoints of the informants and their innovative business ideas as Delmar and Witte (2012) explain people’s beliefs and attitudes are formed based on the information that they gain.

5.2 Confidence level

The confidence level of the female entrepreneurs is worth looking at as confidence enhances an ability of individuals to control their own life, which is empowerment (Ronby, 2009). All the informants feel proud of what they do, excited about their project, and had a mission to spread the green and sustainable idea in the society. Anna mentioned that few people had believed in her business idea when she started it. However, after she successfully has been running the business for a few years and, the business is growing with a green idea, more people started listening to her. She feels confident and has more energy and power inside to make a change in the society. Brenda says that she always had lots of ideas and being active by nature. Since she

feels everything comes to her naturally, and she follows the things which seem natural for her, she does not see any special change in her confidence level. Catherin and Emily described themselves as being intrinsically introvert and grounded. However, both of them found it necessary to break out their comfort zone to talk to people in order to run a business. The necessity has been pushing them to be outgoing against their nature, which helps their green business idea spread into the society. Daisy and Flora also found themselves talking to people a lot about their business ideas, and feel confident when people like their ideas. However, their business stage is still at an early stage. They are aware that their long-term success is unknown, which is balancing their confidence level.

Informants generally believe that they can do so much in their life both in the business and in their personal life although some of them had to narrow down the ideas for feasibility because they had more ideas than they could manage. Anna is expanding her business and incorporating her environmentally friendly concept into the business as much as she can afford since it is costly to be environmentally friendly.

“It is not easy to create everything in business environmentally friendly at once because new business starters in general do not have much funding. It is inevitable to reflect the (green) concept on business gradually as the business profit grows”. (Anna)

The increased level of confidence is, for some of them, attributed to positive feedbacks from other people about their business, products and services. Catherin mentioned that her family members believe in her idea and are very proud of her, which is most rewarding and gives her energy and courage as well as confidence.

“I feel so proud of myself when my children are proud of me. I get more inspired and become even more confident when I see my children talking about me so proudly to their friends.” (Catherin)

Brenda and Emily also referred to customers' positive feedbacks about their products as the most rewarding part of their business activity. Brenda is thinking to expand her business as the demand for her products increases. Emily is trying to expand the market within Norway and also overseas. She sees an opportunity for market expansion, thanks to globalisation. She is also looking into her Sami origin and trying to interweave promotion of Sami culture, which is nature oriented, into her business. Daisy addressed the importance of being confident in green

business and mentioned that she has to believe in what she does, otherwise no one else does. Overall, all of the informants were confident that their business had been spreading green and sustainable ideas among the society through their services and products. This is part of empowerment as Ronnby (2009) defines empowerment as the process of increasing individual's capacity to make prudent choices and to transform those choices into their desired actions and outcomes.

5.3 Rewards and hardship

Rewards and hardship affect the level of confidence and are worth exploring from the viewpoint of an ability of individuals to control their own life (empowerment). Anna expressed the challenge of cost to have a green business style.

“Few business owners can afford everything green right from the beginning of the business set-up because green choices incur a high cost.” (Anna)

As a business owner, she has to calculate the costs and benefits of every business choice. For this reason, she adopts a gradual approach to reflect her green idea on the business.

She also found intense competition among so many hair salons in the city where she runs her salon. At the beginning she could not afford to reflect a strong concept of environmentally friendliness on the business settings. For this reason, she struggled to target a particular market segment. Now that she has built up a certain level of her ideal settings with the concept of environmentally friendliness, the business attracts a certain kind of customers and employees who like and/or agree on the concept. She also can see the customers and employees changing and the concept spreading from a small group of people to a bigger group. She finds it rewarding to see both customers and employees appreciate and get benefit from the environmentally friendly concept of the business.

The most difficult thing for Brenda is to spend too much time on work because she is so enthusiastic about the work. Other difficult things are financial worry and loss, and lack of structure. She thinks that these are issues you have to manage when you have something you want to do. The rewarding part is to see people' positive feedback and response to her products.

“I spent so much time on making pictures or films and put them on social media. People respond to them positively and order the products. That's very rewarding!” (Brenda)

Catherin found it difficult to generate personal income from the entrepreneurship because her project is still at an early stage. She struggles to accept the situation that she has to depend fully on her husband financially as she was previously earning independently. Even though she accompanied to her husband who has got a job in Northern Norway so that the family could stay together, the financial dependence on her husband is not easy for her.

“As an entrepreneur, I have to accept money from my husband. Entrepreneurship needs lots of investment... My husband is a great feature for me continuously. I have to accept that this is a family business. You don’t measure your work as (how much you are) getting money. As a woman, I am not a stay home mum either. Measuring myself in a standard way isn’t appropriate.” (Catherin)

However, as already seen in Section 5.2, Catherin feels rewarded when she sees her children so proud of her and her project. The feedback from her children inspires her, gives her more energy and confidence.

Daisy and Flora similarly expressed their constant financial worry because their businesses were still at the start-up stage.

“I came from an ideal world, not knowing anything commercial. Now I am facing the practical matters. Even though it is difficult to keep this (entrepreneurship), I am doing it for the future children. Instead of consuming everything, we need to learn and teach reuse and how to take better care of the environment.” (Flora)

Meanwhile, Daisy found it nice to work for herself and the co-founder rather than somebody else. Everything she does is for their business. She also found opportunities to develop different skills through the business, which gives her another satisfaction.

“It is always nice to do something a little bit different”. (Daisy)

She also sees it rewarding to meet different kinds of people including other entrepreneurs through sales, distribution, marketing, seminars attendance, etc.

Emily describes the hardest thing in her entrepreneurship as to put her idea into business, while the most rewarding part of the entrepreneurship as to see customers enjoy her products. Flora also finds it exciting to see people’s positive feedbacks to her project.

5.4 Networks

Networks play an important part in entrepreneurship because business cannot be operated without them, and because networks can influence business orientation. It is worth investigating how the networks held by the female entrepreneurs affect their green business idea. Catherin, Daisy and Flora hardly had local networks when they set up the business as they came from outside the region.

Catherin actively attends seminars and events for entrepreneurs where she has made connections with other entrepreneurs. She also gets help and receives advice from 'Inkubator Salten' and 'Innovation Norway'. Through these organisations, she has met other business people in Norway, and exchanges experience and some ideas with them, which is 'a weak tie' (Rønning, et al; 2010). She also has one of them as her mentor and uses these connections for practical operations. Her core ideas, however, come from her family, which is 'a strong tie' (Rønning, et al; 2010). While receiving help from others, she also encourages other female immigrants set up their business and helps them with her knowledge gained through her experience.

Daisy has set up the business with her friend who is originally from the region. The co-founder had pre-existing local connections as she grew up there. The business networks have been expanding based on the existing networks. The role of Daisy in the business is, however, mainly to give product ideas because she is culturally familiar with the core product materials. When she gets stuck in the thinking process, she consults her mother who is even more familiar with the materials. The ideas often develop while she talks to her mother.

Anna, Brenda and Emily are from the region and had some pre-existing networks. To create new networks as well as to learn skills and gain inspiration, they participate in workshops and events for entrepreneurs like Catherin does. They also use social networks such as Facebook to expand their networks and even use them as marketing tools. In addition, Emily has networks in Oslo and overseas that she has built through the business process. She utilises these networks for her market expansion.

All of the informants value the networks that they have. Strong ties like family and friends seem to give them much mental support as well as financial support for some of them, while weak ties that they have built especially through business networks give them new ideas. The

interviews with Anna and Brenda reveal this aspect. Through talking with people who do not share the same idea with them and are not conscious about the environment in a similar way to theirs, Anna and Brenda learned new aspects of the society. The new learning has become a good source for their new ideas. Flora also enjoys the benefits of having networks.

“I need some influence from other people. I corroborate and cooperate with others, where I grow my ideas. I am the kind of person who need to talk and discuss with others, which becomes the source of my next ideas... I get energy from corroborations. New inspiration from others keeps me going.” (Flora)

Catherin has been actively looking for an opportunity to expand the networks and connections especially as she is new to Norway and as her business is still at an early stage.

“I am utilising Inkubator Salten. I don’t speak Norwegian well and didn’t know the system here. But they helped me access to legal experts, financial experts, counselling sessions, and a mentor. It is so nice to have a successful businessman as my mentor, thanks to Inkubator Salten. They also hold workshops and courses for entrepreneurs. Through these, I met other entrepreneurs and expanded some networks.” (Catherin)

Social networks seem to be placed as an important tool for business. They seem to be commonly utilised among the informants not only for network expansion but also for marketing and so on.

“I use social networks for marketing. I also get to know more people who have similar ideas. I am also always open to new ideas from others.” (Anna)

Networks do not only benefit entrepreneurs, but also entrepreneurs influence others too. Anna expressed how the green business concept affects the employees as well as the customers. Brenda is purposely trying to spread the green idea among the people who are not actively eco-conscious. Catherin and Flora explain that they help others become new entrepreneurs with their knowledge accumulated through their entrepreneur experience.

“It is much easier to help others (than to do your own business). It is easier to get out of your own (business projects) because it’s a big match in your head... I can suggest ideas to others easily.” (Flora)

5.5 Attitudes towards the future sustainable society

According to Greent (2016), there are two kinds of manifestations of green entrepreneurship. One is business adjustment to ecological modernization within the current economic structure. The other one is disruptive innovations which challenge the widespread norms and beliefs, and shake the economic structures and mechanisms. Attitudes of the female entrepreneurs towards the future society are expected to bring out the manifestations of individual entrepreneurship.

All of the informants are in the process of their business expansion. They all, however, want to promote the green idea to the society through their business. Brenda explained that she does not advertise her products or the business as being environmentally friendly or sustainable because she wants to approach to non-green conscious people by not emphasizing the green idea of the products. Anna and Brenda believe that entrepreneurs need to believe in their green idea and passionate about what they do in order to promote the environmentally-friendly attitudes and ideas in the society. All the informants expressed that transformation of the society starts from individuals and that we individually can do so much to create a more environmentally conscious lifestyle.

“Start with yourself. Be aware of what is happening out there. Believe in what you do. Otherwise, others wouldn’t believe in it either. Feel good about yourself with the green business. Think what we can do here in the region.” (Anna)

“Being confident in what you do is important to spread a green message to people. If you don’t have a belief in your activities, nobody else would.” (Daisy)

Brenda had a similar idea about the importance of feeling good about the business that they do. She is motivated to follow her own comfortable way of doing things which is humanistic rather than materialistic.

Anna has a motivation not just for earning money but for going greener in every opportunity. Her business idea is not all about money as it costs much more to run a green business than a non-green business. She feels individuals’ awareness and action are important for a sustainable society.

“A process towards a sustainable society starts with individuals.” (Anna)

Catherin wants the society to see educating about the resource and energy waste as future investment. She wants to see future generations who think about waste as energy resources, not

just as simple waste. From a viewpoint of a role of entrepreneurs for the sustainable society, she sees part of entrepreneurship as being flexible and adaptable to any changes which may occur at any moment during the entrepreneurship process.

Emily believes that having skills for promotion is essential to influence the society, and media is a powerful tool to promote sustainable ideas.

“The world is going to become the one more like in science fiction films. But the technology side and the sustainability aspects have to be balanced” (Emily)

Flora sees education and creativity as keys for the sustainable future. She thinks it is important especially for children to learn creative skills in order to be problem solvers as the world is full of problems.

CHAPTER 6: DATA ANALYSIS

In this chapter, the findings are analysed from different angles and explained with the theoretical frameworks presented in Chapter 3. Using the structuring strategy of retroductive approach, I seek explanation or evidence for the mechanism ‘the influence of female entrepreneurs with a green business idea’ in the context of ‘Northern Norway’ and its regular association with ‘the society’ where ‘female entrepreneurs with a green business idea’ and ‘the society’ mutually influence each other. The mechanism and its regular association are reflected in Diagram 3.4 (4).

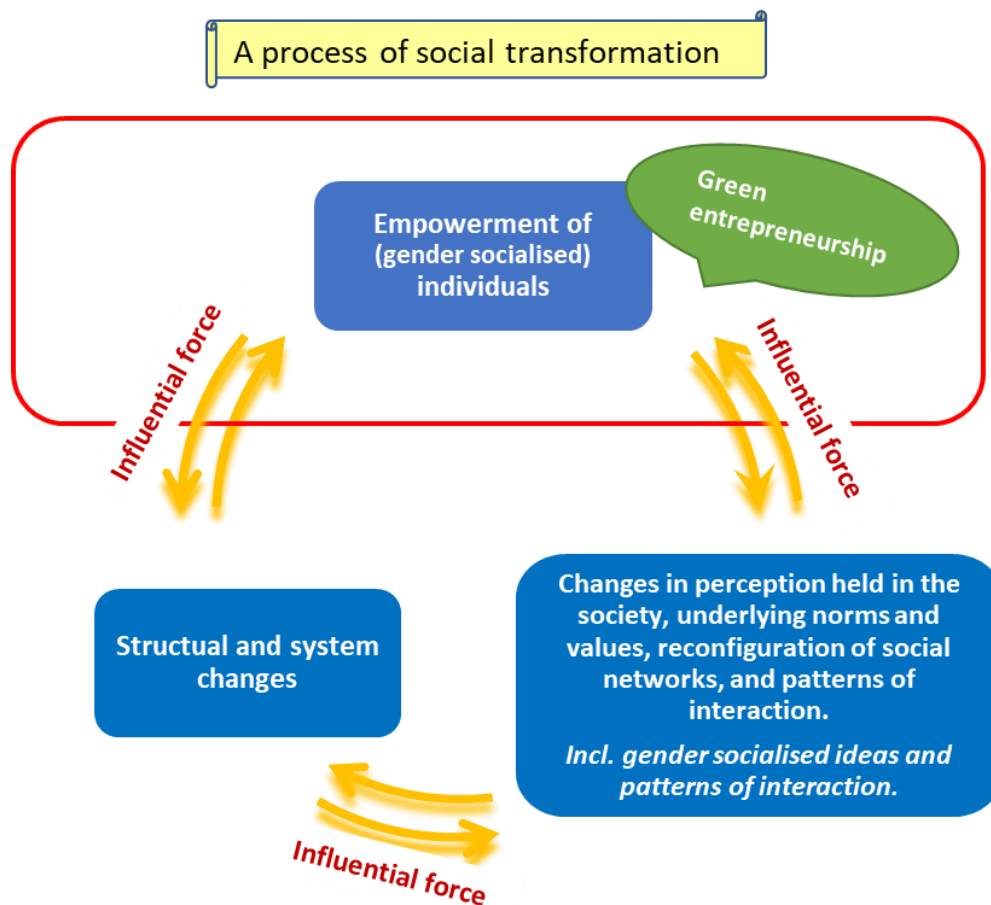


Diagram 3.4 (4) : A theoretical model for a process of social transformation

In Section 6.1, I shall investigate influential factors for women to start their green business mainly using the green entrepreneurship theory and gender socialisation theory presented in Chapter 3. This investigation involves examination of the data in Section 5.1, 5.4, and 5.5. Section 6.2 accounts for how entrepreneurship has been affecting the women based on the theory of empowerment. This is followed by exploration of how empowered female entrepreneurs affect the society in Section 6.3. For this exploration, I scrutinise the data in

Section 5.2 and 5.3. Section 6.4 depicts the process of transformation based on the analysis of the previous three sections in accordance with quantum social theory and the social transformation theories described in Chapter 2.

6.1 Intrinsic and extrinsic motivations and influences towards green entrepreneurship

All the informants got a motivation to start their own business, while looking for alternative ways of doing things to the existing systems and business styles. Anna, Brenda and Flora especially expressed their antipathy to the manner of business operations that they were previously engaged in as employees. They doubted the sustainability of the operations. This can be the trigger for social transformation. As Catrien, et al (2017) explain, the process of transformation begins with attempt for improvement within the existing widespread mindsets and logic. The people with this attempt realise that it is necessary to change the mindsets and start looking at various things from different angles, which changes their practices. Catherin, Daisy and Emily saw a business opportunity to create a niche product and services to fill in a gap in the existing system, which they think will change the way things operate. The ‘creative destruction’ by Schumpeter (1943) explains that the current systems and conditions of the economic structure are always in the process of revolution which is comprised of incessant destruction of the old one and incessant creation of a new one. Bahadure and Tanner (2012) address that emergence of alternatives to the old patterns, beliefs and structures is part of social transformation, and intentionally or unintentionally provides opportunities to the society to reflect on the widespread conventions.

According to Braun (2010), running green business is beneficial not only to the environment but also to entrepreneurs. The motivations to start a green business may be personal and be multi-layered. Braun (2010) explains the multiple benefits of running a green business for entrepreneurs as 1) to protect natural resources, 2) to lower operation cost due to reduced waste and pollution, 3) to contribute to sustainable community development as well as 4) to be engaged in innovative activities. Characteristics of all the Taylor and Wally (2007)’s four types of green entrepreneurs presented in Chapter 3.3 can be seen in all the informants. All of them are innovative opportunists which is the first one of the four types. Innovative ideas are employed for business under structures and regulations as they navigate the innovators. Every informant pursues their business activities within the structures and regulations that they are given.

The second type described by Braun (2010) presents early adopters. As innovators, it is essential to adopt their vision to future potentials. Since all the informants are doing something new and different from the conventional businesses, they can be regarded as early adopters as well. Anna runs a hair salon which uses only natural products, while hair salons typically have been using lots of chemicals which are not good for either the environment or the people. She saw the unsustainable future in the conventional methods and adopted the environmentally friendly concept to her business. Brenda sees the importance of including humanistic concept in business for the sustainable future, while conventional businesses tend to neglect the concept by prioritising short-term profitability. Catherin, Daily and Flora pays attention to materials in which people traditionally did not see value. Emily, on the other hand, has revived a traditional method of utilising natural materials which have been ignored and forgotten in the middle of the mass production era. Catherin, Daily, Flora and Emily all see value in utilising the ‘non-conventional’ materials they use for the sustainable future as well as for their business growth.

The characteristics of the third type, which is ethical value-orientation, appear to be stronger in some informants than others. Anna, Brenda, and Flora strongly expressed their pursuit of environmentally friendliness and a sustainable way of living, which are the core of their business ideas. The others appear to have such green ideas as part of their business style, but the ideas might not necessarily be their primary issue in their business. These two different types of entrepreneurship styles are explained by Greent (2016). One is to include ecological ideas into their business within the current economic structures and mechanisms. The other one is to create fundamentally new forms beyond the existing framework.

The fourth type of green entrepreneurs is described as someone who are accidental and focus on finance. As a business owner, every informant expresses their need to pursue financial benefits through their business activities. As Braun (2010) illustrates multiple motivations that green entrepreneurs have, all the informants are concerned about green, ethical, and social as well as financial actors although the level of concern in each factor varies from person to person.

The gender socialisation theory illustrated by Delmar and Witte (2012) gives an account of how motivations and behaviour are formed. Beliefs and attitudes of people are shaped based on the information given to them. These shaped beliefs and attitudes bring out motivations and behaviour. Two of the informants, Emily and Daisy, associate their beliefs and motivations with the way they grew up with the nature, and identify these in their business ideas and styles. Emily and Daisy utilise their cultural background for their business ideas. In addition, Daisy grew up

with her entrepreneurial father. She described herself as having entrepreneurial blood inherited from her father. Flora mentioned that she had not known she had a few entrepreneurs in her friend circle. However, she noticed that they are entrepreneurs after she had started her own business. The rest of the informants did not know anyone who runs a business before starting their own business. This was unexpected as Rønsen (2015) finds lack of women entrepreneurial culture and role models as one of the reasons why there are so few female entrepreneurs in comparison to the rate of female participation in employment. From this, I expected the informants to have known at least someone who runs a business regardless of the gender. This paradox may be explained partly by the theory of gender socialisation and partly by the theory of green entrepreneurship. Among the informants who did not have a role model for entrepreneurship before their business start-up, Brenda, Catherin and Emily set up their own business due to lack of job opportunities for them in the local area, and decided to create an opportunity for themselves, utilising their passion and skills gained through their previous experience.

Catherin and Flora moved to Northern Norway, accompanying their husband who has got a job in the region but not especially for their own career choice. According to Braun (2010), gender socialisation is a strong determinant factor for a choice of occupation and family roles. The theory of green entrepreneurship also gives an explanation that the structural and social conditions shape proactive strategies. Influential factors to shape orientations of the business, motivations and behaviour of the informants can be explained by this gender socialisation theory as well as the theory of green entrepreneurship.

6.2 Influences of entrepreneurship on the female entrepreneurs

As seen in earlier chapters, the concepts of empowerment include the ability to influence our own life, 'the individual's feelings of self-reliance'. It can in general be said that having own business empowers individuals as it gives them flexibility in how to use their time, money and energy for their economic activities, and control over their own life. Moreover, they hold their own career destination without depending on the job market, which is part of empowerment. These aspects of empowerment are mostly applied to all the informants except Catherin and Flora who have become financially dependent on their husband as a result of their entrepreneurship because their business has not yet generated much income.

As described in Section 5.5, the informants generally gained confidence in creating difference in the society through their experience of running a green business. Catherin and Emily are even breaking their comfort zone out of necessity to promote their business for marketing. Nobody is forcing them to do anything outside of their comfort zone, but they are choosing to do so for their desired outcomes through promotion of the business. This can be regarded as the process of empowerment in a sense that their capacity ‘to make a purposive choice’, which is in their case to break their comfort zone, and ‘to transform the choice into a desired outcome’, which is promotion of their business, products and services, is being enhanced.

Some of the informants, Catherin and Emily, started looking at a business opportunity while searching for their career opportunity. In the sense that they chose to do what they wanted, they have been empowered. Anna chooses the products and tools which are good for her health as well as the environment, the employees, and customers. She has power to set up the environmentally friendly conditions in her salon. Brenda enjoys life, having freedom about time and organising her schedules freely to suit her needs and wants. She makes things to suit her concept, ‘goods for not only looking nice but also for feeling good’, and sells her goods in a way she likes. Catherin, Daisy, and Flora similarly appreciate flexibility in time which comes from having their own business as they have children to look after. Catherin, however, expressed the downside of having her own business. She found it hard to accept the fact that she has to depend on her husband for all her financial needs as her business has not generated any income yet. Flora mentioned similarly about her financial dependence on her husband as her business also has no immediate source of revenue. In this respect, both Catherin and Flora have been disempowered as they used to have their own income separately from their husband before starting their own business. Daisy addresses the connection between her raised level of confidence and her ability to control her life. She sees the downside of this is no limit in working hours.

They all feel confident in their contribution or potential contribution to the environment and promotion of the environmentally friendly way of living. Consequently, all of them are planning or wishing to increase the level of their environmentally friendly activities in business as well as in private. By having own business, they have control over their choices for their economic activities and flexibility on how to use their time, money and energy to a large extent. In addition to this, they hold their own career destination without depending on the job market. As seen in Chapter 3, the concepts of empowerment include the ability to influence our own life, ‘the

individual's feelings of self-reliance'. These aspects of empowerment are applied to all the informants as business owners.

6.3 Influences of entrepreneurship on others

Rønny (2009) explains that empowerment sometimes means to strength collective ability of a group to change their living conditions. Anna mentioned that her business had attracted employees who like her green business idea. These employees have been becoming more and more environmentally friendly by exchanging information and ideas among themselves, and influencing each other. She recognised that these inspired employees create a good impact on the interaction between customers and the employees, which is creating regular customers to the business.

Brenda is expanding the market share through social media and word of mouths. As her business is not targeting environmental conscious people, she might be spreading the green ideas across the customers as she wishes, by offering the idea of environmentally friendly lifestyle through her products. This is also true for Emily and Flora. With new knowledge and ideas, those customers are likely to see new aspects in the society and alternative ways of doing things in the daily life. According to Delmar and Witte (2012), people's beliefs and attitudes are formed based on the information available to them. The people then make actions and behave in accordance with the beliefs. Thus, having various kinds of information can contribute to individuals' empowerment. It expands a range of choices by adding or shaping new beliefs, and increases control of individuals over their own life with various perspectives. In this sense, the customers of these entrepreneurs are therefore being empowered.

Catherin sometimes encourages other women who have moved to Northern Norway for a family reason and are struggling to find a suitable job in the region. From her own experience, she gives advice to the women about the process of setting up a business. In this way, she is being a role model as a female entrepreneur and spreading a picture of female entrepreneurship. Moreover, the situation where some women are having a challenge to find a suitable job may be explained by the gender socialisation theory. The challenge might be due to their family roles, choice of occupation, and responses to matters related to them which all have been socialised from childhood according to the theory.

Catherin and Daisy have noticed that people are becoming more environmentally friendly, and that more businesses are going green in general. The green concepts that other businesses have are increasingly noticeable. Daisy feels that people including herself have been raising their awareness of environmental issues by learning through media. She has found the trend of going green in personal life as well as in business. Olsson, et al. (2013) see that agents play an intermediary role in inducing interactions between people, networks, and activities at various scales. Moreover, individual and societal innovative and transformative capacity could contribute to easing societal and environmental problems as well as advancing sustainability transformations. These indicate that it is not only the power of media which is contributing to sustainability transformation but possibly also the entrepreneurs with a green business idea as they are functioning as the agents.

Emily feels her contribution to the local community in promoting local produced goods made with local materials as well as her native sumi culture to other parts of Norway, tourists and overseas. She also feels that she is promoting awareness among people about recyclable materials and long-lasting goods. According to Braun (2010), green entrepreneurship contributes to not only maintenance of the healthy environment but also sustainable community economic development. Green entrepreneurs make a competitive advantage with innovative approaches to their product and services. Emily is not only creating contribution to the local economy with a sustainable idea but also making a competitive advantage with the locally produced materials and the unique designs incorporating a sumi cultural concept.

Flora attracts people who like her ideas. When they share new ideas together, the ideas are likely to develop. I believe that their green ideas are mutually being enhanced. As Rønning, et al (2010) explain, distant and infrequent weak ties give fresh information and ideas. The development of such weak ties brings people together, which may gradually become strong ties which are more trustable and become useful for evaluation and exploitation.

6.4 Process of transformation towards a sustainable society

Bahadure and Tanner (2012) summarise knowledge for transformation in four fields; 1) innovation and experimentation, 2) power relations, 3) critical reflection on beliefs and values, and 4) local contexts in perspective. In relation to the first field, all the informants have been cultivating new knowledge through their old and new networks, media and experiments. Anna, Brenda, and Flora especially mentioned that their ideas have been developing as they have

learned more about the environmental issues and the world affairs through the media and by talking to people including employees and customers. This is part of the transformation process described by O'Brien (2012). They are developing their own understanding and views by open-mindedly looking at various perspectives and viewpoints. Furthermore, their businesses were in the process of expansion at the time of the interviews. All of them seem to be making trial and error approach, which helps their idea and knowledge of sustainability as well as business develop.

Looking at the aspect of power relations, the informants appeared to be empowered in a sense that they have gained control over their own matters except their income, by working for themselves. This power of self-reliance can influence not only their own matters but things beyond their own (Ronby, 2009) as people do not exist separately from the rest of the world but exist in the society and interact with others in diverse ways. The inseparability of objects and subjects is explained in quantum social theory. Both objects and subjects are part of the phenomenon because of intra-actions between them. Objectivity is also embodied in each context and part of the phenomenon investigated (Barad, 2006). Moreover, their green ideas are being promoted to the society through their products and services. Bahadure and Tanner (2012) mention the importance of including the knowledge and interests of various stakeholders for the advancement of social transformation. Alsos, et al (2013) also warn about the negative social consequence of excluding women's ideas and involvements from the process of creating innovations.

The widespread beliefs and values are being challenged perhaps by all the informants. In the cases of Anna, Brenda, Catherin, and Flora, their doubt about such beliefs and values became the starting point for developing their sustainable business idea. Their critical reflection on the conventional ways of doing things and how things are being operated due to the popular beliefs and values, motivated them to find alternative ways and fostered entrepreneurship. Anna and Brenda particularly expressed their uncertain feeling about the current systems. Due to this, they explored how they can do things differently beyond the current framework. This is, according to Catrien, et al (2017), the starting point for social transformation. The theory of creative destruction introduced by Schumpeter (1934) also could elucidate a link between such entrepreneurial behaviour and the process of social transformation. Entrepreneurs create new conditions of production factors. Being influenced by these new conditions, existing structures and all the conditions for business operations are always in a process of change.

The fourth field of knowledge, local contexts are the conditions on which the informants are running their business. Judgements and decisions are indispensably made inseparably from the context within (O'Brien, 2016). The local contexts vary the societal transformative capacity addressed by Olsson, et al. (2013), 'the social-ecological capabilities that shift from one regime to another'. The level of these capabilities depends on the interrelations between agency, networks, institutions, and innovation and also on the interconnections between social, technological, and ecological systems. All these factors exist within local contexts. Each informant has experienced different local contexts before settling in Northern Norway. Anna, Brenda and Emily are originally from Northern Norway but experienced living in another country. Catherin and Daisy grew up in overseas. Flora is from another part of Norway and used to work overseas. The green ideas and knowledge of the informants have been developing through their individual experience. With their individual background, they are running a business within the contexts of Northern Norway, which creates diverse views and unique approaches to business. This is connected to the previous three fields of knowledge for transformation. 1) innovation and experimentation, 2) power relations, and 3) critical reflection on beliefs and values.

CHAPTER 7: CONCLUSION

Throughout the study, I explored the process of social transformation through female entrepreneurship with a green business idea. This thesis depicts some aspects of how such female entrepreneurship contributes to social transformation to sustainability. It, thus, contributes to an understanding of the potential mechanism of social change as well as testing quantum social theory in the empirical setting. The focus of the study was placed on individual's experience, perceptions, and attitudes of female entrepreneurs in Northern Norway. Placing the quantum social theory as the framework to study the process of social transformation at the macro level, the thesis used a theoretical model including the concepts of empowerment, gender socialisation theory, and green entrepreneurship at the individual level. The theoretical framework and model, which also refer to the concepts and theories in the literature reviews, helped me analyse the findings of the study and investigate the on-going process of social transformation through female entrepreneurship with a green business idea in Northern Norway.

The findings partially confirm a pattern in the process of social transformation. Fresh ways of looking at things are a result of their individual experience including their experience of living overseas as all of them have, and doubt about how things work conventionally based on the widespread norms and beliefs. Having open views motivated the individual informants do things differently from the conventional way. Braun (2010) adds that green entrepreneurs are those who take a competitive advantage with innovative approaches to their product or service. These individuals are empowered to a certain extent by having their own business and operating the business in a way they want. These entrepreneurs influence the society through their products, services, marketing activities, business operations, and networks. This is likely to contribute to changes in perceptions, norms and values held in the society in some ways as the informants also noticed the recent public trend of going greener in personal life as well as in business. This trend accompanies reconfiguration of patterns of social interaction. Quantum social theory presented by O'Brien (2016) describes that reflection of individuals' will, experience and cognition upon their decision transforms the structures and shapes the future. The new perceptions, norms, values and patterns of social interaction stimulate realisation of something new again and empower the individuals. For instance, Anna noticed an increasing awareness and knowledge mutually between herself, the employees, customers, and suppliers. Catherin is also aware of having new inspirations through her networks, which changes her perceptions.

Continuing to follow the applications of the quantum social theory described by O'Brien (2016), moreover, the informants inevitably make any judgements and decisions in the context given to them. Systems are entangled and inseparable. For example, some of the informants chose to start up their own business because of lack of job opportunities to them. Moreover, some of the informants were specifically expressing their plan to hire women in a disadvantaged situation once their business starts generating enough income. Others chose entrepreneurship being motivated from their antipathy to the conventional ways of doing things and the existing systems. They are promoting alternative ways generated by thinking 'outside the box' through their business activities. All of the entrepreneurs are making judgements and decisions within the context given to them. Their activities are influencing the systems and society because of inseparability of objects and subjects, according to quantum social theory. The entrepreneurs' will, experience and cognition are reflected in their decisions, which transforms the structures and shapes the future.

Examining the structural and systemic changes is beyond the scope of this study. However, fresh perceptions, norms and values, and new patterns of social interaction are no longer expected to fit in the old structures and systems. The quantum social theory described by O'Brien (2016) explains the process of this system transformation as collective force through intra-actions due to internality of social structures. Human beings are entangled and intra-act within social structures. In a quantum social world, human beings are not agents but agency. We are never in the same state but constantly changing. Thus, the world is also changing, interconnecting and being unexpectedly created.

Schumpeter's theory of creative destruction also describes entrepreneurial behaviour to create something innovative and new conditions of production factors as part of the social transformation process. Structural changes and all the conditions for business operations are being influenced by new conditions and are in a process of constant change. Studying this process should be a long-term project. For the purpose of the thesis, I did not look at the process of structural and systemic changes. However, it is one of the key aspects of social transformation as O'Brien (2016) views social structures and systems as well as power locations, values, human interests and needs, as obstacles to social transformation. For further investigation of this aspect, a long-term project to explore structural and systemic changes might be necessary to complete the study of social transformation.

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APPENDIXES

APPENDIX I: INTERVIEW GUIDE

I shall conduct semi-structured interviews and aim to ask five female entrepreneurs to describe their experience, business and ideas to cover the following topics.

- Their pre-experience towards the setup of the business
- The current experience on any rewards, hardship, customer relations, business networks and social networks.
- Empowerment through entrepreneurship with a sustainable idea.
- The next plan; maintaining the current business idea or any plan for changes in the direction or the current business model.

About the past

- Why did you choose to run a business rather than to be employed?
- Why do you want to run a business with a sustainable idea?
- What triggered you to start the business?
- What were your experiences before starting the business? Any specific incident to make you aware of sustainability/ environmental-friendliness?
[What made you choose to start a business with an environmental-friendly/ sustainability idea? (What were triggers and motivations?)]
- (What shaped your beliefs, values, and worldviews, etc?)
Did you know any entrepreneurs, especially women entrepreneurs?
Did you know anyone who runs a sustainable/ green business?
Have you been involved in any organisation, activity or political party which focuses on an environmental-friendly/ sustainability idea?
- What kind of a sustainable business idea did you have before starting the business?

About the present

- Do you want to expand the business? Why or why not?
- Are you willing to take more challenges for development and expansion? What challenges?
- In what way do you think your business supports healthy ecosystems and strong communities while creating economic value. (How do you deal with the challenge in

maintaining the balance between economic values by producing more and selling more, and environmental-friendliness?)

- What kind of local resources (material ones as well as human resources) do you use? Do you see any contribution to economic benefits and social ties for the community as well as for your business?
- Since starting the business, what has been most difficult and what has been most rewarding?
- Has there been any increase in the activity level in your personal life since you started the business?
- Do you think people listen to you more since you started the business?
- Do you feel more confident?
- Have you changed your lifestyle to greener to fit with the business idea?

- Are there any changes in your beliefs, values, worldviews, or idea of environmental friendliness and sustainability?
- Are there any changes or development in your ideas of a sustainable business?
- Do you feel your business is contributing to the society with green ideas? What is your contribution to the sustainable society?

Have you noticed any new businesses or movements which have a similar idea or concept to that of your idea? (Are there anybody within your family, friends and neighbourhood who started a sustainable business or thinking to start one?)

Do you see your business contribution to the people's idea of environmental friendliness?

- Do you see any policy change which makes the green business easier?
(Are there any initiatives that have affected any awareness of people, or changes in structures and systems?)
- How do you approach to customers? How do you build customers' relations?
- How have you been building your entrepreneurial networks as well as social ones?
Weak ties: do not have much networks, knowledge and information in common. These ties may give an opportunity for entrepreneurs to obtain fresh information and ideas.
Strong ties: Frequent and deep strong ties are more trustable and thus useful for evaluation and exploitation.
- Is there any expansion in your business networks?

About the future

- What are your aims? What kind of ideas do you want to spread through business?
- What are your plans for the next 5 years, 10 years and 20+ years?
- What are your views on the future society.
- What skills, expertise and resources do entrepreneurs need to tackle societal and environmental problems?

APPENDIX II: REQUEST FOR PARTICIPATION IN RESEARCH PROJECT

Request for participation in research project

**"Social transformation in response to climate change:
the influence of female entrepreneurship in Northern Norway"**

Background and Purpose

The purpose of the project is to investigate how female entrepreneurs influence the society towards sustainability in the context of climate change, for my master's thesis at Nord University.

The study will focus on female entrepreneurs who run a business with a sustainable business idea in Norway.

What does participation in the project imply?

The data collection involves interviews. Questions will concern experience and perceptions about entrepreneurship and sustainable business. Audio will be recorded throughout the interview. Notes may also be taken.

What will happen to the information about you?

All personal data will be treated confidentially. Only me, Mayko Tatsuyama Mathisen and my supervisor, Dr Elisabet Carine Ljunggren, have access to the data. Personal data and recordings will be treated anonymously to ensure confidentiality. No real names will be used on my thesis.

The project is scheduled for completion by 15th of May 2018. After completion of the project, personal data and recordings will be stored confidentially in my personal electric file, separately from a list of names. The data can be accessible only to me with password.

Voluntary participation

It is voluntary to participate in the project, and you can at any time choose to withdraw your consent without stating any reason. If you decide to withdraw, all your personal data will be erased.

If you would like to participate or if you have any questions concerning the project, please contact Mayko Tatsuyama Mathisen on 46517365 or Dr Elisabet Carine Ljunggren elisabet.c.ljunggren@nord.no.

The study has been notified to the Data Protection Official for Research, NSD - Norwegian Centre for Research Data.

Consent for participation in the study

I have received information about the project and am willing to participate

(Signed by participant, date)

APPENDIX III: EXAMPLES OF ADAPTATION PRACTICES

REGION	Country Reference	Climate-related stress	Adaptation practices
AFRICA			
	Egypt <i>El Raey (2004)</i>	Sea-level rise	Adoption of National Climate Change Action Plan integrating climate change concerns into national policies; adoption of Law 4/94 requiring Environmental Impact Assessment (EIA) for project approval and regulating setback distances for coastal infrastructure; installation of hard structures in areas vulnerable to coastal erosion.
	Sudan <i>Osman-Elasha et al. (2006)</i>	Drought	Expanded use of traditional rainwater harvesting and water conserving techniques; building of shelter-belts and wind-breaks to improve resilience of rangelands; monitoring of the number of grazing animals and cut trees; set-up of revolving credit funds.

Botswana <i>FAO (2004)</i>	Drought	National government programmes to re-create employment options after drought; capacity building of local authorities; assistance to small subsistence farmers to increase crop production.
ASIA & OCEANIA		
Bangladesh <i>OECD (2003a); Pouliotte (2006)</i>	Sea-level rise; salt-water intrusion	Consideration of climate change in the National Water Management Plan; building of flow regulators in coastal embankments; use of alternative crops and low-technology water filters.
Philippines <i>Lasco et al. (2006)</i>	Drought; floods	Adjustment of silvicultural treatment schedules to suit climate variations; shift to drought-resistant crops; use of shallow tube wells; rotation method of irrigation during water shortage; construction of water impounding basins; construction of fire lines and controlled burning; adoption of soil and water conservation measures for upland farming.
	Sea-level rise; storm surges	Capacity building for shoreline defence system design; introduction of participatory risk assessment; provision of grants to strengthen coastal resilience and rehabilitation of infrastructures; construction of cyclone-resistant housing units; retrofit of buildings to improved hazard standards; review of building codes; reforestation of mangroves.
	Drought; salt-water intrusion	Rainwater harvesting; leakage reduction; hydroponic farming; bank loans allowing for purchase of rainwater storage tanks.
AMERICAS		
Canada <i>(1) Ford and Smit (2004) (2) Mehdi (2006)</i>	(1) Permafrost melt; change in ice cover	Changes in livelihood practices by the Inuit, including: change of hunt locations; diversification of hunted species; use of Global Positioning Systems (GPS) technology; encouragement of food sharing.
	(2) Extreme temperatures	Implementation of heat health alert plans in Toronto, which include measures such as: opening of designated cooling centres at public locations; information to the public through local media; distribution of bottled water through the Red Cross to vulnerable people; operation of a heat information line to answer heat-related questions; availability of an emergency medical service vehicle with specially trained staff and medical equipment.
United States	Sea-level rise	Land acquisition programmes taking account of climate change (e.g., New Jersey Coastal Blue

<i>Easterling et al. (2004)</i>		Acres land acquisition programme to acquire coastal lands damaged/prone to damages by storms or buffering other lands; the acquired lands are being used for recreation and conservation); establishment of a ‘rolling easement’ in Texas, an entitlement to public ownership of property that ‘rolls’ inland with the coastline as sea-level rises; other coastal policies that encourage coastal landowners to act in ways that anticipate sea-level rise.
Mexico and Argentina <i>Wehbe et al. (2006)</i>	Drought	Adjustment of planting dates and crop variety (e.g., inclusion of drought-resistant plants such as agave and aloe); accumulation of commodity stocks as economic reserve; spatially separated plots for cropping and grazing to diversify exposures; diversification of income by adding livestock operations; set-up/provision of crop insurance; creation of local financial pools (as alternative to commercial crop insurance).
EUROPE		
The Netherlands, <i>Government of the Netherlands (1997 and 2005)</i>	Sea-level rise	Adoption of Flooding Defence Act and Coastal Defence Policy as precautionary approaches allowing for the incorporation of emerging trends in climate; building of a storm surge barrier taking a 50 cm sea-level rise into account; use of sand supplements added to coastal areas; improved management of water levels through dredging, widening of river banks, allowing rivers to expand into side channels and wetland areas; deployment of water storage and retention areas; conduct of regular (every 5 years) reviews of safety characteristics of all protecting infrastructure (dykes, etc.); preparation of risk assessments of flooding and coastal damage influencing spatial planning and engineering projects in the coastal zone, identifying areas for potential (land inward) reinforcement of dunes.
Austria, France, Switzerland <i>Austrian Federal Govt. (2006); Direction du Tourisme (2002); Swiss Confederation (2005)</i>	Upward shift of natural snow-reliability line; glacier melt	Artificial snow-making; grooming of ski slopes; moving ski areas to higher altitudes and glaciers; use of white plastic sheets as protection against glacier melt; diversification of tourism revenues (e.g., all-year tourism).
	Permafrost melt; debris flows	Erection of protection dams in Pontresina (Switzerland) against avalanches and increased

United Kingdom <i>Defra (2006)</i>	Floods; sea-level rise	<p>magnitude of potential debris flows stemming from permafrost thawing.</p> <p>Coastal realignment under the Essex Wildlife Trust, converting over 84 ha of arable farmland into salt marsh and grassland to provide sustainable sea defences; maintenance and operation of the Thames Barrier through the Thames Estuary 2100 project that addresses flooding linked to the impacts of climate change; provision of guidance to policy makers, chief executives, and parliament on climate change and the insurance sector (developed by the Association of British Insurers).</p>
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Resource: Table 17.1. Examples of adaptation initiatives by region, undertaken relative to present climate risks, including conditions associated with climate change. (IPCC Fourth Assessment Report: Climate Change 2007)

https://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch17s17-2-2.html#table-17-1
[Accessed on 10/09/2017]