Ecopreneurship in Theory and Practice

- A Proposed Emerging Framework for Ecopreneurship

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Dedication

I dedicate this thesis to my parents, Brigitta and Wolfgang, who raised me to respect the environment.
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Summary

What is Ecopreneurship? This thesis proposes to define ecopreneurship in theory, and to increase the understanding of it in practice.

In the introduction I present the background for the thesis, which are the world’s increasing environmental problems and their causes. They make clear the demand for more environmentally friendly ways of doing business. One such environmentally friendly approach is ecopreneurship, a child to a seemingly dissimilar pair of parents: the entrepreneurship and sustainability disciplines. Ecopreneurship is an emerging concept, and it may become one way of doing business in more environmentally friendly ways. I therefore formulate my research question: “How can ecopreneurship be defined in theory and understood in practice?”. The research question is further specified by three purposes, which are to explore and define the concept of ecopreneurship in theory, to analyze its manifestation in practice, and to discuss emerging patterns in its practical manifestation.

In the theory chapter, the intersection of the fields of sustainability science and of entrepreneurship, excluding social sustainability, are defined as ecopreneurship. Further, the main concepts of the entrepreneurship and sustainability fields are explored. Also in the theory chapter, three concepts are identified as being compatible with the main themes of both sustainability science and entrepreneurship. The first concept is eco-innovation as described by Halila and Hötte (2006), Rennings (2000) and Wagner (2008). The classification system for eco-innovations, developed by Halila and Hötte (2006), is also adopted. The second concept which also harmonizes both with sustainability science and with entrepreneurship is environmental commitment as developed by Keogh and Polonsky (1998). Environmental commitment is renamed to eco-commitment in order to be clearly identifiable as a sub-concept in the proposed ecopreneurship framework. Keogh and Polonsky’s (1998) categorization system for environmental commitment, is equally adopted and complemented with the steps suggested by Lynes (2004) to establish environmental commitment in companies. Thirdly, the concept of eco-opportunity, as described by Dean and McMullen (2005), is identified as fitting both with sustainability and entrepreneurship, and their categorization system for different kinds of eco-opportunities is included. Finally, a critique of two authors' ((Schaltegger, 2002) and (Pastakia, 1998)) conceptions of ecopreneurship is presented, in order to argue against the inclusion of other concepts into the instrumental theory part, and indirectly for the three ecopreneurship concepts which were chosen.

In the empirical part, case studies of the Swedish companies Salt & Brygga, Replik AB, Ernehag Consulting AB and Apocalypse Labs, are presented and analyzed. In the analysis of the cases, the transcriptions of five semi-structured interviews with the four respective owners of the companies and one employee are interpreted. Through the analysis of the cases insight is gained into how the three ecopreneurship concepts manifest in practice.

Lastly, the discussion and conclusion chapter highlights the main patterns and themes, which emerged from the cases that were analyzed. First, the patterns and themes in the establishment of the three ecopreneurship concepts, and their implications for ecopreneurship. Second, other themes and issues that emerged in the analysis of the cases, are considered. Finally, recommendations for future research, resulting from the application of the instrumental theory on the empirical cases, are given.
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List of Key Terms

This list shall clarify and facilitate reading. Some of the terms used, carry several meanings, and it is therefore expressed in this place, which meaning I had in mind when I wrote them.

*Environmentally friendly, Eco-friendly*

These two terms are used interchangeably throughout the thesis. They denominate companies, processes, products etc., either with a lower environmental impact than usual, or with a positive environmental impact.

*Environmental Progress*

Is used in this thesis, to denominate the change towards more environmentally friendly practices.

*Environmental Performance*

Of an organization, especially companies. Denomimates the idea of “how much does a company reduce its environmental impact”. Good environmental performance means low environmental impact, or high environmental impact reduction.

*Environmental impact*

Although both positive and negative environmental impact can occur, in this thesis, the term environmental impact or simply impact are used to denominate negative environmental impact. Negative environmental impact means a degradation of the natural environment.

*Ecopreneurship concepts*

Is used in this thesis to refer to the three concepts of eco-innovation, eco-opportunity and eco-commitment. The three concepts are also called subconcepts of ecopreneurship, constituting concepts of ecopreneurship and ecopreneurship factors.

*Ecopreneurial company*

Is a company in which the three ecopreneurship concepts manifest.

*Green company*

Refers to any company that reduces the environmental impact of its business operations.
## 1 Introduction

### 1.1 Background

The importance of concepts like ecopreneurship has to be understood against the background of today's world's increasing environmental problems. As will be laid out here, many of the most acute environmental problems are either directly or indirectly caused by human activity, activity which to a large part consists of economic activity. These serious environmental problems warrant a shift towards a more ecologically sustainable economy, a transition in which ecopreneurship may be helpful. James Gustave Speth, co-founder of the Natural Resources Defense Council (NRDC), founder of the World Resources Institute (WRI), and now Dean of the School of Forestry and Environmental Studies at Yale University, identifies the most serious threats to the environment in his book “Red sky at morning – America and the global crisis of the environment” (2004, pp. 13-36). In this thesis, I did not want to make a general statement like “the world faces serious environmental problems”. Instead I found it important to be concrete about the threats to the environment that exist, in order to provide the reader with a perspective from which the importance of concepts for more eco-friendly ways of doing business, like ecopreneurship, can be appreciated.

The threats to the environment which I name here, are identified by Speth (2004, pp. 13-36), and in order to be even more concrete, I complemented them with information from other sources. Before confronting the reader with the sometimes depressing reality of environmental degradation, I find it appropriate at this point to elaborate on the significance of some of the features of the “-preneurship” part of ecopreneurship. Entrepreneurship theory has more than 200 years of history, but in its more modern form it is influenced by the Austrian School of economics, a school of thought within the discipline of economics, comparable to the neo-classical school of economics or the Keynesian school (Morris et al., 2008, p. 10). However there is also a wider concept of entrepreneurship that has to do with introducing innovations to the market. To be sure, the broader entrepreneurship field is heterogeneous and multidisciplinary, and no single universally accepted definition of it exists (Landsström, 2005a, p.22). This shall not keep us however from viewing the entrepreneur in a similar light as Gibb (1995, p.312) “The entrepreneur is an opportunity seeker, someone who combines the factors of production in an innovative manner and who seeks out and exploits opportunities and gaps in the market”. In this description Gibbs (1995, p. 312) accurately captures one aspect of entrepreneurship that makes it significant in the context of environmental problems: innovation. The core task of the entrepreneur of introducing new products, services and procedures to the market, is the exact same process that is also needed for greener and more environmentally friendly products and services to succeed. Innovation in this context could mean introducing the zero-emission car, shifting from business trips to video-conferences, or making something useful like soap from previously hazardous waste like used vegetable oil.

Another aspect of entrepreneurship, which in my view makes it significant in the face of ever-increasing environmental problems, is its economic paradigm-shifting potential. Paradigm shifts, or “creative destruction” as Schumpeter poetically terms them (Henderson, 2009), refer to the phenomenon that takes place when one or several innovations that are introduced to the market, completely change the ways in which a given industry, the market and ultimately society are organized (Henderson, 2009). A classical example of such a paradigm shift is the mass production of an affordable automobile, the Ford T-Model, and the ways in which it changed the manufacturing industry, and ultimately society. This built-in potential for economic paradigm shifts, especially
towards more environmentally friendly ways of producing goods, is the other aspect that makes entrepreneurship so relevant a concept. In chapter 3, I will go into the specifics of how entrepreneurship can manifest, and how these manifestations may be translated to ecopreneurship. At this point however, I proceed to introduce some of the most pressing environmental problems our society is facing, which make the paradigm-shifting property of entrepreneurship so important in the first place.

1.1.1 Threats to the environment

During the last century the global average temperature increased by 0.74°C. The estimates of the IPCC for this century's global average temperature increase range between 1.8°C and 4.0°C (IPCC, 2007, p.30). Some of the effects of this development can already be observed; sea level rises due to melting ice caps and glaciers, more extreme weather patterns like storms, heat waves, floods and draughts, changes in fresh water availability and loss of biodiversity (UNEP, 2007, pp. 4-5). The main cause of climate change is the large increase in anthropogenic greenhouse gas (GHG) emissions (IPCC, 2007, p.36).

The ozone layer protects the earth's surface from ultraviolet radiation emitted by the sun. It now has a hole, larger than ever before, caused by the emission of CFC gases, which until recently could be found in e.g. spray cans and refrigerators. If we assume full Montreal Protocol compliance, an international protocol that prohibits the emission of ozone depleting substances, the ozone layer is only expected to recover between 2060 and 2075, due to long lag times (UNEP, 2007, p.4). Land degradation, including soil erosion, nutrient depletion, water scarcity, salinity and desertification are on the rise, driven by unsustainable land use and climate change. Marine and freshwater fish stocks are declining, which is a threat to human food supply as well as biodiversity. This decline is caused mainly by resource over-exploitation in the form of persistent over fishing (UNEP, 2007, pp. 4-5).

Another grave problem is the rapid decline in biodiversity. The majority of known species are declining in distribution, abundance or both (UNEP, 2007, pp. 4-5). The rate of extinction of species is now estimated to be a hundred to a thousand times higher than the natural rate at which species disappear (Speth, 2004, p.15).
1.1.2 Human Causes and Solutions

The causes for these unprecedented developments are human. Many of the mentioned environmental threats can be tied directly or indirectly to human economic activity. Many of these threats also have several human causes. In the case of climate change, the sources for GHG emissions are well-studied. In 2004, twenty-five percent of total anthropogenic GHG emissions come from energy supply, 19.4% industry, 17.4% forestry, 13.5% agriculture, 13.1% transport, 7.9% residential and commercial buildings, 2.8% waste and wastewater (IPCC, 2007, p. 36). This list makes clear that many of sources of anthropogenic GHG emissions are related to economic activity. Also the loss of biodiversity can be related to human causes: over-exploitation of natural resources in the form of over-fishing leads to a dangerous decline, and in some cases complete depletion of fish stocks. Habitat destruction in the form of clearing rainforest is the cause of the extinction of many species formerly inhabiting those areas (Speth, 2004, p.36).

There are solutions to these problems, and in those cases where solutions are available there is a premium on speed in their adaptation, as the cost of waiting is far greater than the cost of implementing solutions, and the environmental damages caused by continued harmful practices are in many cases irreversible (UNEP, 2007, p.27). The economy and business world not only cause many of the problems, they can also play an important role in their resolution. There are tools and there are methods of how the environmental impact of economic activity can be reduced (UNEP, 2007, p.28). But it is also important to conceptualize greener ways of doing business: environmental management, and corporate social responsibility (CSR) are important to mention in this context. A practical and functional conceptualization of ecopreneurship may contribute to more and better environmentally friendly economic activity.

Apart from the scale, urgency and causes of the environmental problems presented here, the other reason for choosing the topic of ecopreneurship for my thesis is personal: I have since my early childhood been sensitized to environmental and nature protection issues by my parents, who both are committed to the protection of the environment. Since the age of ten I was an active member of the world wildlife fund for nature youth group in Vienna, and since an even earlier age also of the Austrian Alpine Society (OEAV- Oesterreichischer Alpenverein), which also undertakes efforts to conserve the natural environment in the Austrian Alps. Mindful of this biographic fact about me, it is conceivable that, even though not part of my academic curriculum, environmental questions range high among my interests.
1.2 Research Question and Purpose

In my first literature search on the subject of ecopreneurship, I quickly realized, that the field is still relatively young, fragmented, and emerging, and that relatively few empirical studies on ecopreneurial companies have been performed (Schaper, 2002, p.38). I therefore chose a research question, which would both allow me to develop a more coherent picture of the theoretical concept of ecopreneurship, but also allow me to explore its manifestation in companies:

How can ecopreneurship be defined in theory and understood in practice?

When starting to search for literature on ecopreneurship, my previous knowledge of the field was relatively limited. I had studied a course on entrepreneurship, and a course on corporate entrepreneurship, both of which are a part of the international business program which I pursued at Umeå University. Apart from this background knowledge on entrepreneurship, I also had a basic understanding of the environmental problems that exist in the world, and some familiarity with the concept of sustainable development. I was fortunate to find two supervisors who allowed me to combine my interest in environmental issues with the business subject of entrepreneurship. Margareta Paulsson and Åke Gabrielsson, my supervisors, suggested a subject for my thesis in which they had a scientific interest themselves: ecopreneurship. In order to read up my gaps in this area, I performed an extensive literature search, which is described in more detail under the heading “Literature Search and Review” in the theoretical methodology chapter. Only after I had performed this literature search and review, and had thus closed some of the gaps in my knowledge of the field of ecopreneurship, was I able to express more concretely what defining ecopreneurship in theory and understanding it in practice meant.

The purpose of this study is thus:

To frame ecopreneurship in terms of entrepreneurship and sustainability, which surround and constitute it, and to explore those concepts. This in order to establish a base of understanding of the ecopreneurship field, a point of departure from which to explore and clarify how ecopreneurship can be described in terms of eco-opportunity, eco-innovation and eco-commitment.

To investigate if and how eco-innovation, eco-opportunity and eco-commitment manifest in Swedish green companies, and among their leaders.

To analyze the patterns in which the above-mentioned concepts may appear in green companies, and to discuss the implications of that for ecopreneurship

1.3 Delimitations

Some of the following factors are often attributed to entrepreneurship; risk-taking, pro-activeness, or personal characteristics that make a person an entrepreneur etc. These factors are also important in entrepreneurship research, and may or may not apply to ecopreneurship, however they will not be examined in this study. The reason for their exclusion is two-fold. First, after a review of the literature at my disposal, the mentioned concepts appeared to me as less central to entrepreneurship than innovation, opportunity and commitment, and secondly I could not find any discussion of these other concepts in an eco-context. Furthermore, entrepreneurship is said to occur in entrepreneurial ventures, but also within large corporations in the form of corporate entrepreneurship, within public
organizations as intrapreneurship, and even in non-profit organizations and social ventures (Morris et al., 2008, pp. 80, 102). Some authors (Abrahamsson, 2006, p.35) claim that ecopreneurship also occurs in social ventures and non-profit organizations. The theoretical focus of this study is not to determine in what kind of institutional setting (i.e. for-profit, non-profit, public organizations etc.) ecopreneurship occurs, mainly because the theory around ecopreneurship is still emerging, and it would be premature to draw any conclusions on the institutional settings. In the empirical part of this study however, only ecopreneurship in small companies will be considered. This conscious delimitation is chosen because I expect easier access to respondents in small ecopreneurial ventures in the private sector than to respondents in very large organizations in the private or the public sector.

A practical limitation is that the interviews with respondents from ecopreneurial companies will be limited to the southern Swedish province of Scania, and to the time-period of April 2009. Since the empirical part of this study is mainly intended to verify and test the operationalization of the eco-commitment, eco-opportunity and eco-innovation concepts, which can be done in ecopreneurial companies in the south or in any other part of Sweden, the findings are not expected to be distorted by the geographical limitation. The limitation in time on the other hand is expected to impact the findings of the four cases. The assumption is, that ecopreneurship is a dynamic fast-changing process, and therefore, the information collected in April, may already be outdated in December. Since I cannot change the time-constraint that is imposed on this study, I will keep an awareness of it, especially when dealing with the empirical findings. Another delimitation I choose for this study is to abstain from proposing a typology for ecopreneurship. The theoretical setup of ecopreneurship (see section 3.2) through three factors, eco-innovation, eco-opportunity and eco-commitment, makes it predestined for a typology resulting from different combinations of the factors. However in this study I refrain from the typology, both because it would necessarily be incomplete after researching only four small companies, but also because it is not certain whether the list of factors by which I choose to describe ecopreneurship is complete. Perhaps the findings of this thesis can aid future research in creating a typology of ecopreneurs, and establish a complete list of ecopreneurship concepts.

1.4 Disposition of the Thesis

In figure 2 the path of reader from start to finish of this thesis is illustrated. This path is not chosen randomly, but it follows an internal logic. The introduction with its urgent description of environmental problems and of the significance of entrepreneurship is intended to give the reader a sense of why the topic of ecopreneurship is important. As the reader continues, the two theoretical chapters are perhaps puzzling, but necessary. The explorative theory chapter fulfills the first of the three purposes by framing the concept of ecopreneurship and prepares the basis or point of departure for a more specific definition of eco-commitment, eco-opportunity and eco-innovation in the instrumental theory. I believe that it is important to have an idea of how all the presented concepts relate to each other. In the interest of intersubjectivity and dependability a detailed account of the empirical methodology used in this thesis is given in chapter five (in the illustration it is called data collection method). Case by case is analyzed in order to see if and how the three ecopreneurship factors manifest in the four chosen companies. This is done in order to give the reader a sense of the context in which the ecopreneurship factors manifest, which is important in qualitative research. The rest of the path in figure 2 is self-explanatory, more detailed explanations can be found in the respective chapters.
Figure 2. Disposition of the thesis. An illustration of the reader's path through the different sections of this thesis.
2 Theoretical Methodology

2.1 Epistemology and Ontology

The epistemological standpoint taken in this study is interpretivism. Interpretivism maintains that there is a fundamental difference between the study of people and society on the one hand and the natural world on the other. The difference being, that in contrast to the objects of study of the natural sciences, human beings have a conscience, are aware of the social world around them and their actions are inherently meaningful (McNeill & Chapman, 2005, pp.18-19). The focus of interpretivist research is therefore on understanding rather than explaining (McNeill & Chapman, 2005, p.19). Understanding of the meaning of social action requires being close to the person who is researched. Ideally an interpretivist researcher wants to be inside his respondents mind to gain knowledge about how he perceives the world, and what the meaning of the respondent's behavior is (McNeill & Chapman, 2005, p.20). Because the respondent's behavior happens in the context of his perception of the social world around him, it is inherently meaningful. Short of being inside the respondent's head, an interpretivist researcher has to rely on the next best thing that can help him to an empathic understanding of the respondent's subjective world: language (McNeil & Chapman, 2005, p.20). The focus lies not only on what is being said, but also on how it is said, and in what context.

Understanding of meaning and empathic understanding are two central parts in this study. Understanding of the meaning of the concepts I reviewed and evaluated before deciding which ones to use in my theoretical part is one instance where interpretivism is relevant. It is necessarily my subjective understanding of the information, that is the basis for determining which theories and concepts are relevant to the aim of my study and which ones aren't. There are no objective criteria used, like word counts or number of quotations in other papers, for determining what is important knowledge in the literature search before the theory formulation. Rather it is my subjective and personal judgment of how well the examined concepts (e.g. eco-commitment as a a part of ecopreneurship) fit with the conditions set by entrepreneurship theory and sustainability science, which is based on my subjective understanding of these concepts, and which may not necessarily coincide with other people's understanding of the same concepts, which ultimately determines how the theory part in this thesis is set up.

The empathic understanding (Bryman & Bell, 2003, p.16) of my interview respondents' worlds, especially with respect to their businesses and the ecopreneurship concepts I am interested in, but also their general views and involvement with environmental issues, are a focus in the empirical part of my study. The empathic understanding of my respondents worlds, or at least my attempt to come as close as I can, is important, because it permits the richest and most meaningful answers to my research question: “How can ecopreneurship be defined in theory and understood in practice?”, and especially on the second purpose of this study (“To investigate if and how eco-innovation, eco-opportunity and eco-commitment manifest in Swedish green companies, and among their leaders”). The wording of the research question and the purposes, asking for how rather than how much, are of course a deliberate choice. The idea behind formulating the research questions in a way that would call for a qualitative inquiry with an interpretivist view on knowledge and a social constructivist view on ontology as its base was that it would be helpful to find out more.
about the ifs and hows of the manifestations of ecopreneurship in practice. This could be useful to the field of ecopreneurship, because ecopreneurship theory is still emerging, with very little safe and accepted knowledge that would withstand more rigorous testing, but instead with a lot of theorizing. My detailed qualitative analysis of the manifestations of ecopreneurship and its sub concepts of eco-innovation, eco-opportunity and eco-commitment, could provide a starting point for future research that tests the ecopreneurship concept with quantitative methods in practice.

A positivist stance on epistemology, focusing on external forces which determine human behavior, where the researcher should be a distant, objective and value-free observer who establishes causal relationships (McNeill & Chapman, 2005, pp.15-17) would not have been compatible with my research interest. The question of “how?” can hardly be answered without access to the subjective understanding of the person who is most involved in it (the ecopreneur), especially when the concept (ecopreneurship) is still new and it is not sure exactly how it unfolds in different situations. If the question had been “how much?”, positivism may have been more suitable.

Ontology is concerned with the nature of social reality (Bryman & Bell, 2003, p.19). The ontological assumptions made, have implications for epistemology and vice versa. By deciding whether social entities like organizations are objective entities that have a life of themselves independent of the people they're made up of (objectivism) , or by deciding that they in fact are built through the social interactions and the perceptions of the people who are in the organizations (social constructivism), one also makes assumptions about how knowledge can be gained, and what knowledge is (epistemology). (Bryman & Bell, 2003, p.19) In this study I choose a social constructivist stance on ontology, because I believe that the different concepts that I'm interested in (eco-commitment, eco-opportunity and eco-innovation) are a social construction, resulting from people's attempts to reconcile their concern about the environment and running a business. I want to make clear, that I don't see environmental degradation as a social construction, but the concepts like ecopreneurship, and the companies that may or may not qualify to carry the attribute ecopreneurial. This is no contradiction, since the purpose of this study is not to analyze environmental degradation, but ecopreneurship.

### 2.2 Research Strategy

By and large one can distinguish between qualitative and quantitative research strategies. I employ the term research strategy used by Bryman and Bell (2003, p.25) although some authors refer to it as research method (McNeill & Chapman, 2005, p.22). I already mentioned and argued for my stance on epistemology and ontology, the other major point is the position of theory in relation to research. The role of theory in my study is somewhere in the middle between a pure inductive and a deductive role (Bryman & Bell, 2003, p.25). This is because I start the empirical research with some relatively concrete but unproven concepts (eco-innovation, eco-commitment, eco-opportunity), which exist, but which still need to be filled with meaning from how they may manifest in practice. Hence it's neither a very well defined theory that can be proven or rejected (as is done with hypotheses in quantitative research (Bryman & Bell, 2003, p.11)), nor is it a pure grounded theory approach that builds theory from the data obtained from empirics until theoretical saturation is achieved (Bryman & Bell, 2003, pp. 283-285). In my study, theory is first of all put together in a literature survey, in which I arranged pre-existing concepts in a new order, and in a second step it is refined and complemented with the findings from the analysis of the four cases which I am studying. The empirical part is not only about whether pre-defined factors occur or not, but it has a descriptive element in it, finding out “...how ecopreneurship can be understood in practice” (part of my research question) by looking at how different concepts manifest in eco-friendly companies, the empirical data also potentially contributes to theory. The focus on
understanding how concepts manifest, rather than to statistically prove that they manifest, is in line with the interpretivist view on knowledge adopted for this thesis, and with the purpose of this study.

2.3 Research Design

The research design I chose to adopt for the empirical part of my study, is that of a multiple case study design. The reason for choosing a case study design is to get deep and intensive information (Bryman & Bell, 2003, p.56), on the four companies I chose to examine, and to be able to carry out “penetrating interpretations” (Kvale, 1996, p.102) on the obtained data. I conduct one semi-structured interview with each of the entrepreneurs from each of the four companies which I examine in the empirical part of my study. Each one of them is thus treated as a separate case, and is examined primarily in view of the concepts I laid out in the instrumental theory part. This design is in my view the best way to look for how the concepts of eco-innovation, eco-opportunity and eco-commitment manifest (the second purpose of my thesis). Although four different cases are examined, comparison of the cases is not the primary goal of the analysis. The primary goal is instead the in-depth analysis of each case by itself which is meant to bring forward the details of how each concept manifests in practice in each of the studied cases. In the “Discussion and Conclusion” part, I discuss themes and patterns in the emergence of the concepts in the four studied cases. This discussion, which is based on the results of the analyses of each case, is the part corresponding to the third purpose of my thesis, and it can only be done well, if the analysis of each case was sufficiently deep. The reason why I want to understand more closely how the ecopreneurship concepts manifest, and therefore use a case study design, is because ecopreneurship as a field is still relatively new (Schaper, 2002, p.38), and have not been defined before in terms of eco-innovation, eco-opportunity and eco-commitment. The use of another research design e.g. a comparative design would be meaningful once there is more insight into if and how the ecopreneurship concepts manifest in companies, so it is clearer what is actually compared.

2.4 Bias and Preconceptions

In qualitative research especially, because of the nature of the obtained data, it is important to be aware of bias, beliefs and assumptions, which may influence the collection as well as the interpretation of data. Strauss and Corbin (1998, p. 97) assert that “…it is not possible to be completely free of bias.” The biases, beliefs and assumptions of respondents can enter the research via the data which is obtained from the interviews. Strauss and Corbin (1998, p. 98) emphasize that qualitative researchers should be sensitive about respondents' assumptions, taboos and preconceptions, and if they are not able to get around them through e.g. reformulations of questions and smart interview technique, they should at least mark their awareness of possible respondent bias, and be prepared to question statements which are made in their analysis. In my thesis, I tried to follow this recommendation in the analysis of the findings, where I question my respondents' statements whenever I think that there could be bias, and in that way flag to the reader aware to be cautious in his reading of a specific statement and its interpretation.

The researcher's biases can influence the conduct of his research at all stages, and it is therefore important for the researcher to identify those preconceptions he/she is aware of. Taylor and Bogdan (1998, p. 171) recommend that the researcher should disclose to the reader the assumptions and allegiances he brings to the study. I bring several beliefs to this study, which probably influences my research, especially the interpretation of my findings. My first allegiance is to environmental
protection, which I already mentioned in the introduction of this thesis. I strongly believe that humans should preserve the natural environment, and that we must do more to stop environmental degradation, not for nature’s sake alone, but for the survival of our own civilization. This allegiance leads me to see measures to mitigate environmental impact in a very positive light. Conversely, I am worried about not doing enough to protect the environment, and I am especially suspicious about the practice of green-washing (the attempt by companies to make their products look more environmentally friendly than they are). As a business student, who had taken courses in entrepreneurship and corporate entrepreneurship, I am familiar with some of the teachings in the field, and I am convinced of the entrepreneurs’ ability to transform the economy through innovations. This leads on the one hand to a preference of entrepreneurship over management, and on the other hand to my acknowledgement of the importance of the entrepreneur's actions. Other preconceptions that I bring with me, and which I am only partly aware of, have to do with my cultural background. I am Austrian, born and grown up in Vienna, but have also lived in Sweden for six years, and in France for one year. Despite the fact that I tried to adapt to and understand Swedish culture to the best of my abilities, intercultural mistakes still do happen sometimes, and I can therefore not completely exclude that I fell victim to one or several in the interviews with my Swedish respondents.

2.5 Literature Search and Review

Describing the literature search and the review process is actually more of a practical method issue. The reason for putting it in the same chapter with the theoretical methodology is that I felt that it is important for the reader to be aware of how I went about the literature search and review before starting to read the theory part of this thesis.

As mentioned in the introduction, I had limited knowledge of the field of ecopreneurship when I started to work on my thesis. In order to read up my gaps in this area, I performed a broad article search with the help of the Umeå University Library article search engine (samsök). The search words I used were: “ecopreneurship”, “eco-entrepreneurship”, “green entrepreneurship”, “environmental entrepreneurship”, “green business”, “eco-friendly businesses”, “environmentally friendly businesses” and the Swedish term “ekoprenörskap”. I sifted through the obtained search results, with a view to pick out those dealing with entrepreneurship or parts thereof (e.g. opportunity or innovation) and environmental issues. This process yielded about ten to fifteen scientific articles, which I read through carefully, and made notes in order to memorize important subjects and themes. In a next step, I specifically retrieved some of the previous research on which the articles I found were based. Also in this step I mostly used the article search engine of the Umeå University Library. When, after having worked through the obtained material, it became clearer what other theoretical concepts I wanted to frame my theory in, ecological and economic sustainability on the one side, and entrepreneurship on the other, I tried to obtain good sources on these concepts. For specific information on entrepreneurship, e.g. the role of opportunity in entrepreneurship, my supervisors were kind enough to lend me some books and articles from their extensive libraries. When trying to obtain the OECD publication on sustainable development (OECD insights (2008) “Sustainable development: linking economy, society and environment”), which was widely cited in the articles I considered relevant to my research topic, I was less lucky, because the only paper copy that existed at Umeå University Library was on loan throughout the entire time I spent in Umeå for writing my thesis. I had to make do with the cumbersome (non-printable) online version of the report.

As the theory part of my thesis progressed, I realized that I wanted to structure it in three distinct parts: the explorative theory, where I explore the concepts surrounding ecopreneurship. The
instrumental theory, where I lay out in detail the concepts (eco-commitment, eco-opportunity and eco-innovation) which I wanted to apply in the empirical part of my thesis. And a short part in the end of the explorative theory in which I dismiss the research with which I disagree the most (mainly Schaltegger, 2002), as a way of showing that I made a conscious choice for the concepts I included in the instrumental theory part.

Other than Umeå University Library, I also used Stockholm's University Library during the time I spent there. This great library proved to be a real gold-mine, as I could get my hands on a 1926 edition in German of Schumpeter's “Theorie der wirtschaftlichen Entwicklung”, which is considered by many as the foundation of much of modern entrepreneurship theory. For the company information presented in appendices A1 – A4, I used the business register “Affärsdata” through the Umeå University Library Subscription. Other sources of books for me were Norway's “Nasjonalbibliotek” (national library) in Oslo, and the University Library of BI-Bedriftsøkonomisk Institutt (Oslo Business School).
3 Explorative Theory

3.1 Explorative and Instrumental Theory

Theory will be divided in two parts: explorative and instrumental theory. Explorative theory is meant to give an overview of the concepts which are related to, surround or constitute ecopreneurship. This is not in order to establish one rock-solid final definition of ecopreneurship, but is meant as a reminder to the reader of the major scientific fields related to ecopreneurship and a short walkthrough of them. In this part of theory, also a so-called framing of ecopreneurship is offered, a sort of guide, which suggests to the reader how the involved concepts overlap and relate to each other. Also, the framing is not meant as a last-word definition of the ecopreneurship field, but as a basic conceptualization the term ecopreneurship for its use it in the rest of this study, and perhaps as a starting point for other studies.

Instrumental theory introduces the concepts of eco-innovation, eco-opportunity and eco-commitment. These concepts have been established and utilized separately by other researchers, and my contribution is only to group them, and use them all together in order to describe ecopreneurship in practice. This part of theory is thus what will be applied as a frame of reference when collecting and analyzing information on potentially ecopreneurial companies.

3.2 Framing Ecopreneurship

Contrary to other areas in business research, the field of ecopreneurship research is relatively new (Schaper, 2002, p.38). It began to develop as a field in the early 1990ies, when some authors began to examine “the green entrepreneur”, “the environmental entrepreneur” and the “eco-entrepreneur” which subsequently merged into “ecopreneur” (Schaper, 2002, p.38). Despite a small but growing body of literature on the subject, the field of ecopreneurship, because of its relative novelty, remains somewhat fragmented, and some of its concepts remain unclear and with fuzzy definitions. Ecopreneurship remains under-researched, especially lacking empirical studies of ecopreneurial companies, since Schaper (2002, p.38) states “Attempts to profile green or environmentally responsible entrepreneurs is a relatively under-researched field.” Because of the above mentioned fragmentation, I find it helpful to frame the concept of ecopreneurship for this thesis before I proceed to examine closer its contents.

A. Abrahamsson (2006, p.10) argues that despite their names, the descriptions of sustainable and therefore implicitly also eco-entrepreneurship so far have been dominated by a management narrative rather than an entrepreneurship narrative. After a review of some of the existing literature on ecopreneurship I came to a similar conclusion (Section 3.5). Parallel to Abrahamsson's claim (2006, p. 13) that “The concept of sustainopreneurship primarily should be an extension of the conceptual body related to entrepreneurship to stretch its meaning into and contextualize it in the sustainability domain, rather than the other way around” I argue that ecopreneurship too should be conceptualized mainly in terms of an entrepreneurial discourse that stretches into the realm of sustainability, which is what I will attempt in this chapter (Figure 3). Before this can be done
however it needs to be stated, for the sake of clarity, that I count ecopreneurship to be a segment or a subdivision of the larger field of entrepreneurship, a subdivision which I understand to represent the intersection of the entrepreneurship field and the ecological and economic parts of the sustainability concept as defined in the Brundtland report (WCED, 1987). (Figure 3)

When contemplating ecopreneurship relative to Abrahamsson's tentative definition of sustainopreneurship, I would like to highlight that I perceive no artificial distinction or “siloization” (Abrahamsson, 2006, p. 9) between the two, but rather an intentional delimitation from the larger concept of sustainopreneurship. In graphical terms one should imagine both ecopreneurship and sustainopreneurship as intersections of the entrepreneurship and sustainability studies fields (Figure 4). However the overlap between sustainability and entrepreneurship constituting sustainopreneurship, also includes the sustainability goal of social equity or social sustainability, which I deliberately excluded from the framing of ecopreneurship. Ecopreneurship can therefore be seen as a separate concept, hierarchically on the same level with sustainopreneurship and not as a sub concept of it.

Figure 3. Framing ecopreneurship in terms of the surrounding scientific fields

From my point of view exclusion of social equity is meaningful, not only because I believe it to be observable in practice, but also because of the potentially divergent implications in theory. As can be clearly seen in figure 4, the area of the intersection between entrepreneurship and sustainability for sustainopreneurship is larger than the area of intersection for ecopreneurship. This means that because of the inclusion of social equity, a larger number of subconcepts become eligible for operationalization. A theory of that kind would in my view become to complex and to cumbersome
to employ as a meaningful tool of analysis. Even if the added complexity would not turn out to be a practical problem, the question remains, why I have to consider social equity when I want to analyze how an ecopreneur reconciles the demands of business or the market with the demands of the environment. Indeed, as I present in section 3.3 of this chapter, the three goals of sustainability are interconnected, and I also outline how they are interconnected. But that’s on a societal level, it’s true that if some people are starving because of social inequities, they will not protect the environment, they will probably slaughter the nearest endangered species and eat it. In my view however, it is the job of the government or society as a whole to give consideration to this aspect, a single company does not need to consider social equity, if it only wants to implement a more environmentally friendly business model. If an ecopreneur voluntarily considers social equity concerns as well, this shall not be a contradiction. But theoretically I see no reason to postulate a social equity condition for ecopreneurship. The bottom-line is that the link between ecopreneurship and social equity is voluntary at best. I can therefore disregard it and still formulate a valid and useful definition of ecopreneurship. I choose to do so for two reasons. The first reason is that I believe that the resulting complexity from including social equity would make it impossible for me to answer my research question and fulfil the purpose of this thesis in a satisfying manner. The second reason is that, I believe that there are numerous interesting companies in the real world, which primarily try to accommodate a concern for the environment next to their business goals, but not necessarily a social equity concern. Cases studies of such companies will thus help understand ecopreneurship in practice, even when no social equity dimension included in the theoretical framework.
Ecopreneurship vs. Sustainopreneurship

**Sustainopreneurship**

- Entrepreneurship
- Sustainopreneurship

**Ecopreneurship**

- Entrepreneurship
- Ecopreneurship

**Sustainability Studies**

- Ecological Sustainability
- Economic Sustainability
- Social Equity

*Figure 4. The difference between ecopreneurship and sustainopreneurship*
The implications which an adaptation of the venture to only two as opposed to all three of the goals of sustainability may have for innovation, nature of opportunities and personal motivation in an ecopreneurial venture, merits in my view a separate treatment not only in practice (like in case studies) but also in theory. Because of this divergence, the theory and empirical part presented later in this thesis is applicable to ecopreneurship, but not necessarily to sustainopreneurship.

Ecopreneurship is chosen by me to consist of the concepts of eco-innovation, eco-opportunity and eco-commitment, because after the literature search that I performed they represented the intersection that is known to me between the two larger theories of sustainability, particularly economic and ecological sustainability, and entrepreneurship. In this part of the theory the different concepts in which ecopreneurship is framed are explored, and the three concepts of eco-innovation, eco-commitment and eco-opportunity will be discussed in-depth in the instrumental theory part.

The combination of two fields as divergent as entrepreneurship and sustainability may seem odd or counter-intuitive to those readers not familiar with sustainability studies or both of the fields. Although others (Abrahamsson, 2006) have chosen before me to combine these two fields in order to frame related concepts (sustainopreneurship), and therefore my approach of framing ecopreneurship in this fashion is not totally original, I do still think, that some argumentation for doing so will facilitate understanding and acceptance of the later parts of this thesis. Sustainability and entrepreneurship may seem like the opposing sides of a spectrum or even intrinsically hostile in the perceptions of some readers, because environmentalism, which is manifest in sustainability, may be described as the rising concern about environmental degradation caused mainly by the selfish pursuit of economic growth, whereas “entrepreneurs are often recognized as the creators of economic growth, but as optimizing selfish and materialistic individuals” (Anderson, 1998, p.135). Environmentalism is based on attitudes, and has a very strong moral dimension. Entrepreneurs too are strongly influenced and motivated by a moral dimension i.e. believing that what they are doing is in a sense right or better, and they're also shaping their businesses according to the attitudes they hold. Furthermore derived from this moral attitude is an idea of what constitutes value. Entrepreneurs are concerned with creating value, and if their idea of value coincides or approaches that of an environmentalist, which is not so strange since entrepreneurs are human beings also and therefore share human concerns like a concern for the environment, then a chance for ecopreneurial action emerges (Anderson, 1998, p.136).

Both entrepreneurship and sustainable development will each be discussed under its respective headline in two subsequent separate sections of the explorative theory chapter.
### 3.3 Sustainable Development

The reason why I treat sustainable development under a separate heading is because I chose to frame ecopreneurship the way outlined in the “framing ecopreneurship” section. Sustainable development, as will be explained below, represents the conceptual link between environmental problems, and the societies causing them, and suggests ways of avoiding those problems. While the field of sustainability is a very broad one, the economy and the environmental degradation it causes, as well as the potential solutions to that degradation are definitely part of it. Entrepreneurship is today recognized as an important force for growth and for change in the economy (Landström, 2005b, p.49), in the same economy that lies at the root of so many environmental problems. Some general guidelines for sustainable economic development will be presented here and their significance for ecopreneurship will be discussed.

*Sustainable development: development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*

(OECD, sustainable development, 2008, p. 24)

Sustainable development as first defined in the “Brundtland Report” (WCED, 1987) deals with three major equally important interconnected goals (Holden & Linnerud, 2006, p.175):

1. Safeguarding long-term ecological sustainability (the ecological goal)
2. Satisfying basic human needs (the economic goal, i.e. economic sustainability)
3. Promoting inter- and intra-generational equity. (the social goal, i.e. social sustainability)

Other legitimate goals stemming from sustainable development must be subordinated to these three goals. A development that fulfills minimum/maximum requirements for all three characteristics is thus deemed to be sustainable.

#### 3.3.1 Ecological Sustainability

The Brundtland Report states that “At a minimum, sustainable development must not endanger the natural systems that support life on earth: the atmosphere, the waters, the soils and the living beings” (WCED, 1987, p.44).

Economic growth and sustainable development are not irreconcilable per se, however economic growth usually does utilize the earth's resources and different limits to the ecological sustainability of the use of resources like materials, water and land exist. Renewable resources like forests, fertile soils or fishing stock have a natural rate of regeneration, and they shouldn't be depleted faster than their specific rate of regeneration in order to be used sustainably. Finite resources like fossil fuels and minerals are to be depleted in such a way so as to ensure that they do not run out before acceptable substitutes are available and so as to foreclose as few future options available as
possible. For the depletion of both kinds of resources a view of the effects on the whole ecosystem needs to be adapted, and maximum sustainable yield needs to be defined according to the effect on the entire ecosystem. Recycling, economy of use and minimization of waste, aided by technology and by incorporation into moral principles should be the guiding principles for resource utilization in the economy. (WCED, 1987, pp. 44-45)

Entrepreneurship can contribute in several ways to achieving those guiding principles. Innovation, an important factor in entrepreneurship, could be deployed both in the form of technological or product innovation as well as procedure or organizational innovation (Rennings, 2000, p.322) in finding ways to increase recycling, economize on resource use and minimize waste. An entrepreneurial vision could be formulated that includes in its objectives the conservation of natural resources, and consideration for the environment, rather than solely focusing on profit maximization as an objective. Environmental needs should be translated into market opportunities, and since entrepreneurs are often the first to exploit new opportunities, they could not only profit from them personally but by pioneering their use, they may also shift wider parts of a given market towards a more sustainable path (Schaltegger, 2002, p.54).

3.3.2 Basic Human Needs

The Brundtland report mentions employment, food, energy, housing, water supply, sanitation and health care and that all should have the opportunity to satisfy their aspirations for a better life, as long as this is not in conflict with the first and the third goal (WCED, 1987, p.44). The human need given highest priority is employment, because it can then satisfy many of the other above-mentioned needs. The challenge is to provide employment to a growing number of job-seekers especially in developing countries, employment that does not jeopardize the environment in the long run, and that can meet the minimum consumption requirements of poor households. Energy consumption is a prerequisite for satisfying some human needs: a certain amount of energy is needed for heating, cooking and other basic human needs, but it is not so much the amount as it is the energy source (firewood/coal/nuclear power) that creates the impact on the environment. It is thus not only a challenge to meet minimum energy requirements, but also to adapt consumption patterns of energy towards sustainable sources. Furthermore human needs can be met more easily when population size is stabilized at a point consistent with carrying capacity of the ecosystem it relies on. (WCED, 1987, pp. 54 – 56)

Living standards that provide for more than the basic needs can be sustainable, but only so if they do not compromise long-term ecological sustainability (Holden & Linnerud, 2006, p.177). One approach to measuring sustainability criteria is using the ecological footprint for ecological sustainability and using GDP/capita PPP for satisfying human needs. Ecological footprint accounting determines the land and water area that is needed to support a population. A population may consist of individuals, companies, activities, or it could be a country (Kitzes & Wackernagel, 2009, p.812) Holden and Linnerud define a sustainable development area (SDA) in ecological footprints and GDP/capita PPP, with a minimum requirement for human needs (GDP/capita PPP) and a maximum requirement for the ecological footprint. When positioning a sample of 118 countries in this diagram, it becomes clear that developing and industrialized countries face two different challenges. The main challenge for developing countries is to satisfy human needs better to achieve a place in the SDA, whereas the main challenge for industrialized countries lies in reducing their ecological footprint(s) (Holden & Linnerud, 2006, p. 181).

While OECD (industrialized nations) countries as a whole would need to reduce their ecological footprint by more than fifty percent to reach the SDA, much variation exists within the sample of
rich countries. Austria for example only has an ecological footprint of about 4 hectares/capita, marginally above the upper limit of 3.5 hectares/capita proposed by Holden and Linnerud (2006, p.181), while Sweden consumes 7 hectares/capita. Both countries, however, lie at almost exactly the same level of GDP/capita PPP, the measure used by Holden and Linnerud for satisfaction of human needs (Holden & Linnerud, p.182). This example demonstrates that the relationship between human need satisfaction and impact on the environment is not a linear one, which is very encouraging as it hints that sustainable development for industrialized countries can be achieved without sacrificing substantial quality of life for their people.

Because the challenge for industrialized countries lies mainly in achieving ecological sustainability rather than satisfying the human needs that are often already well-served, also the challenge for prospective entrepreneurs here is of an ecological nature. Every innovation, large or small, that helps reduce the ecological footprint of rich countries' inhabitants, is a valuable contribution to sustainable development in those countries that entrepreneurs can make. Because in developed or industrialized societies most of the mentioned basic human needs are already fulfilled, they represent for rich society no longer a goal, but a limitation. That means that efforts do not need to be focussed on achieving them, but can instead be put fully behind the reduction of the ecological footprint, while maintaining as high a level as possible of human need satisfaction.

The challenge for entrepreneurship in developing countries is to provide sustainable employment, that both allows for the employed to satisfy their basic human needs through their salary, and that respects the ecological sustainability criteria, i.e. jobs that do not destroy the environment. The other obvious contribution that entrepreneurship could make to satisfying basic human needs is to deploy, in innovative, less damaging and more effective new ways, those basic services and goods like energy, sanitation, food, housing, health care etc., needed by the poorer societies on earth in order to enter the SDA.

### 3.3.3 Equity

Intergenerational equity refers to the notion that sustainability can only be reached when the ability for survival of future generations is not jeopardized by the satisfaction of needs of the present generation. Intragenerational equity refers to equal access to resources and distribution of costs and burdens. (WCED, 1987, p.43) Many problems connected with resource depletion originate from an unequal distribution of political and economic power in a society. (WCED, 1987, p.46) As I outlined in the “framing ecopreneurship” section, the social goal of sustainable development is not conceptually a part of ecopreneurship, and if included, the resulting form would be Abrahamssons (2006, p.13) sustainopreneurship. This does not however preclude an ecopreneur from also considering social aspects, quite the contrary, many ecopreneurs also show signs of a social conscience in their dealings with the communities they're located in, and with their employees. (Allen & Malin, 2007, p.837) For the purposes of this thesis however I chose not to include a social requirement in the definition of ecopreneurship.

### 3.3.4 Interconnectedness

One of the guiding themes in sustainable development is the interconnectedness of issues. The three main goals of sustainable development themselves are an acknowledgement of the fact that action in one field always also has consequences in the other fields. The two most prominent reasons as to why ecological sustainability must be achieved relate directly to the other two goals: In order for human needs to be met in the future, the earth's natural base must be conserved. (Holden &
The welfare of economy, environment and people is inextricably linked, and decision makers have to understand that only focusing on economic growth and neglecting the social and environmental cost of economic growth will lead to damages in all areas. All three areas will have to be considered simultaneously if sustainable outcomes are to be achieved. (OECD, 2008, p.25) Likewise, not all ecosystems everywhere can be preserved, and this is not a bad thing. If a forest in one place will be cleared in order to make place for social or economic development, this can be sustainable, if all of the effects on ecosystems are taken into account, and perhaps a natural park nearby will be enlarged. (WCED, 1987, p.45)

3.4 The Field of Entrepreneurship and some of its Concepts

The field of entrepreneurship research is a broad multidisciplinary field that has developed significantly over the years. From Schumpeter's (1926) original analysis of the entrepreneur's function as an agent of creative destruction within the economic system, to the postwar era's behavioral science focus on personal attributes of the entrepreneur the pendulum has now once again swung back towards a more process-based view of entrepreneurship (Landström, 2005a, p.18).

Because of the multidisciplinary, contextual and evolving nature of entrepreneurship research, one has to accept that no universally valid definition of entrepreneurship exists (Landström, 2005a, p.22). The different approaches to conceptualizing entrepreneurship have to be understood as non-exclusive and non-exhaustive, allowing for more insights and knowledge still to be added, without necessarily refuting the existing wisdom. Landström (2005b, p.7) compares the entrepreneurship field to the Heffalump, a character in the children's book Winnie-the-Pooh:

“... a rather large and important animal. He has been hunted by many individuals using various trapping devices, but no one so far has succeeded in capturing him. All who claim to have caught sight of him report that he is enormous, but disagree on his particulars.”

Because of the multifaceted nature of the entrepreneurship field, it is understandable that there are many different definitions and descriptions circulating. For the purpose of this study, I am not interested in the definitions that pertain to the entrepreneur's characteristics, traits and features, but I am interested in those definitions which define entrepreneurship by what an entrepreneur does. One view of entrepreneurship, to which I can subscribe is that of Gibb (1995, p.312) “the entrepreneur is an opportunity seeker, someone who combines the factors of production in an innovative manner and who seeks out and exploits opportunities and gaps in the market”. This definition highlights the centrality of the concepts of innovation and opportunity in entrepreneurship. A third concept commonly mentioned in entrepreneurship research is that of entrepreneurial vision. By vision, authors refer to a sort of guide or plan of how the existing resources can be put together in an innovative way in order to exploit untapped opportunities (Keogh & Polonsky, 1998,p.39). Keogh and Polonsky (1998) argue that vision is preceded by commitment to ideas or values which influence the formulation of the vision. Holding a certain vision, in a next step an entrepreneur will champion this vision and influence the goals of his/her company so that his/her vision will be reflected in them (Schaltegger, 2002, p. 47).
There are other aspects of entrepreneurship which are also important in research, but which will not be discussed because they're outside the scope of this thesis. First the process of risk-taking, the taking of personal financial risk or taking this risk on behalf of investors, is treated extensively and by many authors (Landström, 2005b, p.28). The role of entrepreneurship and small business in economic growth and in job creation is another aspect which has been underscored by many authors (Landström, 2005b, p.49). It is not that those concepts aren’t interesting or relevant for ecopreneurship, quite on the contrary, an inquiry into what risk-taking implies in an ecopreneurial context, if it may also extend to environmental risk, rather than solely to financial risk, and the question whether sustainability and economic growth, which entrepreneurship is said to generate, are contradictory would all be interesting and relevant to examine. However for the purpose of this thesis I will focus on innovation, opportunity and commitment in entrepreneurship, because I found relevant research on eco-versions of these concepts.

3.4.1 Innovation

Innovation is the action or process of innovating, “to innovate” comes from Latin and means to make changes in something established, especially by introducing new methods, ideas, or products (Encyclopedia Britannica Online, Academic edition, 2009-01-09). Most scholars agree that innovation is important to society, companies and individuals, but the field of innovation research is large, and the academic disciplines of the authors are sometimes remote. Fields as diverse as neurophysiology, psychology, philosophy, sociology, economics and business and management sciences have contributed to research with their perspectives on innovation (Shavinina, 2003, p.3). Over the years a number of models have been developed to explain the process of innovation in the firm, and more broadly in social institutions. Those models appear in a chronological order, and each incorporates current knowledge on the innovation process: the black box model, linear models (technology-push and need-pull), interactive models, system models, evolutionary models, and innovative milieu (Marinova & Phillimore, 2003, p.45). These models have been influential also in business research, however their main aim of explaining the process of innovation in institutions like private companies does not coincide with the aim of this thesis. Rather the aim in this chapter is to provide a short overview on innovation in firms and in the economy, as a background for introducing the concept of eco-innovation later in this chapter.

In “Theorie der wirtschaftlichen Entwicklung” (1926, p. 119), Schumpeter defined innovation to be either one or more of the following: introduction of a new product or a new quality of a product, introduction of a new production process, the opening of a new market, development of new sources of supply for raw materials or other inputs or changes in industrial organization. Innovation is the key to competitive advantage for entrepreneurs; it is the tool with which to exploit opportunities. Innovations may be applied to products or services that are sold to customers, but it may equally be used to improve the company's internal processes in terms of efficiency and/or effectivenes (Morris et al, 2006, pp. 55-56). In accordance with its different manifestations, the OECD (2000) distinguishes between process-, product- and organizational innovation. Process innovation refers to efficiency gains, i.e. that a given amount of output can be produced with less input. Product innovation refers to improvements in existing products or the creation of new ones, and organizational innovation refers to new forms of management, such as Total Quality Management (TQM). Furthermore innovation is not to be confused with invention which is only the idea or the model of the new product, however an invention only becomes an innovation once it is introduced to the market (Rennings, 2000, p.322). Numerous categorization systems exist, which permit researchers to measure and rank innovations according to their significance, or to the methods and procedures used in their development, or according to some other factor that influences innovation (Halila & Hörte, 2006, pp. 373-375).
3.4.2 Opportunities

Opportunities are an important part of the entrepreneurial process. Shane (2003, p.18) defines an entrepreneurial opportunity as “...a situation in which a person can create a new means-ends framework for recombining resources that the entrepreneur believes will yield a profit.” Not all opportunities are always profitable, they differ significantly in expected value, and in some industries the frequency as well as the expected value of opportunities is higher than in other industries (Shane, 2003, p.19).

Opportunities can be divided into Kirznerian and Schumpeterian opportunities. Kirzner believed that opportunities are based on existing information, to which entrepreneurs have varying access and which therefore have been exploited to different degrees. In Kirzner's version, the entrepreneur brings the economy back to equilibrium state (Shane, 2003, p.20). Schumpeter (1926, p.119) on the other hand believed that opportunities are based on new information stemming from technological, political, regulatory or other socio-economic and demographic changes. The entrepreneur then recombines resources in new, innovative ways to account for those changes, and hopes to generate a profit from selling the altered product (Shane, 2003, p.20). Nowadays many researchers believe that both Schumpeterian and Kirznerian opportunities exist, and that entrepreneurs exploit both kinds. In this view, Kirznerian opportunities reinforce established patterns whereas Schumpeterian opportunities disrupt the existing system (Shane, 2003, p.20).

Both kinds of opportunities are thought to spring from different sources. Kirznerian opportunities are thought to be due to errors and omissions that prior market participants have made, because of which the market is in a state of disequilibrium. The sources of Schumpeterian opportunities on the other hand can be grouped into technological changes, political and regulatory changes, and social and demographic changes. Those external changes have the potential to disequilibrate the market if entrepreneurs act on them, and eventually lead to a new equilibrium in the market. About one half of the founders of INC 500 companies (an index of the 500 fastest-growing private companies in the US) stated that they had founded their companies in reaction to a specific change in technology, regulatory regime, or other external factor (Shane, 2003, pp.22-23). Schumpeter (1926, p.119) furthermore describes five forms of exploiting opportunities (through innovation): new products or services, new geographical markets, new raw materials, new methods of production and new ways of organizing (Shane, 2003, p.33).

3.4.3 Motivation, Vision, Commitment

Shane (2003, p.97) states that “People's personalities and motivations will influence the likelihood that they will exploit entrepreneurial opportunities ... people with certain motivations will exploit opportunities that others will not.” Especially in psychology and behavioral science, motivation for actions is seen to be triggered by different needs. McClelland, whose theories are influential in management and organization, attributes motivation to three basic needs: need for achievement (nAch), need for affiliation (nAff) and need for power (nPow) (Kaufmann, 2005, p.53). McClelland's needs are also thought to motivate and even to some extent define the characteristics of entrepreneurs (Landström, 2005b, p.43). Another needs-based model that explains motivation is Maslow's hierarchy of needs. Maslow groups needs in a hierarchy, the fulfillment of lower level needs precedes advancing to next level needs. Those needs are as follows in rising order: physiological needs, safety needs, needs for love/belonging, esteem and self-actualization (Kaufmann, 2005, p.53). The needs-based theories are quite broad and sometimes generic, and one should be cautious in applying them, since they may “explain” almost all kinds of behavior. Nevertheless, the above-mentioned theories may give considerable insight into and explanation of
the behavior of ecopreneurs and their underlying motivations.

The entrepreneur is not only someone who combines resources in innovative ways and exploits opportunities, he also has a guiding vision, a kind of assumption about the nature of an opportunity and the means to exploit it, that helps him to cover what others perceive as a void (Keogh & Polonsky, 1998, p.39). Vision doesn't come from nowhere; it is necessarily a social construct that is fed by many sources; previous experiences, personality type, education, commitment to ideas and values and other sources (Taylor & Walley, 2003, p.14). One such source of the ecopreneurial vision, that will be given some attention later in this chapter, is that of commitment to environmental values as an informer of the entrepreneurial vision.

3.5 Critique of two Authors' Conceptions of Ecopreneurship

After having defined the theoretical framework, in which ecopreneurship is to be seen as the intersection of sustainability and entrepreneurship, I find it important to argue for why I chose to include certain authors' concepts in the instrumental theory, and not others. In this part I present the negative argument. Instead of discussing exactly why the concepts of eco-innovation, eco-opportunity and eco-commitment harmonize with both entrepreneurship and sustainability, I discuss why some other author's conceptualizations of ecopreneurship do not harmonize with them. The reason for proceeding this way rather than presenting a positive argument is two-fold. First of all I wanted to show that I had read and reflected over several different conceptualizations of ecopreneurship. But due to a limitation in pages for this thesis, as well as a limitation in the amount of time I am able to invest in it, I had to stop short of a full discussion of all the concepts I had read on ecopreneurship. Instead, I picked the two articles, Schaltegger (2002) and (Pastakia, 1998), with which I disagree the most, and discuss the shortcomings in them, also as an example of the kind of reflections I had on the other articles I had read. The other side of the reason for presenting a negative argument rather than a positive one is that I want to demonstrate that I had made a conscious choice on the subjects I include in the instrumental theory. I hope that the reader will subsequently believe me, that the purpose of this part is not the delight of the malicious joy a student may experience when pointing out the inadequacies of professors' writings, but rather the above-stated reasons.

3.5.1 Critique of “A Framework for Ecopreneurship”

Schaltegger (2002, p.47) begins his paper by describing the entrepreneur, and the entrepreneurial personality, and then offering a narrow and a wide definition of ecopreneurship. In the narrow sense, according to him, ecopreneurship deals with the “start-up of a very innovative company supplying environmental products and services”, and in the wider definition it is about “value creation through environmental innovations and products, exceeding the start-up phase of a company”, to which he adds the attributes of “market-oriented” and “personality-driven”. Schaltegger then proceeds to introduce a matrix (Appendix C5) in which he positions the concept of ecopreneurship in relation to other management approaches which integrate some environmental concern into business. As distinguishing criteria he uses “priority of environmental goals in the company” on the y-axis and “market effect of business” on the x-axis, both on a scale from low to high. Not surprisingly, the management approach he positions in the upper-right corner, which means it has the highest values in both dimensions, is one that he calls ecopreneurship.
Apart from some classical macro-economic dilemmas like the under-supply of goods with positive externalities and the over-production of goods with negative externalities, as exemplified by a phenomenon called “the tragedy of the commons”, which Schaltegger conveniently “forgets” discussing when introducing his “framework for ecopreneurship”, he also falls victim to a misconception of ecopreneurship. To Schaltegger ecopreneurship is basically a management tool that can be used to innovate environmentally, and he therefore compares it with other management tools in his framework. He completely misses Schumpeter's (1926, p. 124) point, namely that entrepreneurship is to be seen as an economic and societal phenomenon of an altogether different kind than management, which Schumpeter in some regards even describes as the opposite of management. The ideas Schumpeter, one of the pioneers of entrepreneurship thought, expresses on the topic of entrepreneurship in “Theorie der wirtschaftlichen Entwicklung” become valid by association also for ecopreneurship, if one accepts my framing of it (section 3.1). Schumpeter (1926, p. 111) defines entrepreneurship as the non-routine, innovative trying of new combinations of factors, which he sees as markedly different to the administration or management of the well-established and proven. Therefore comparison of ecopreneurship with other management approaches according to the criteria outlined above is possible but futile.

Furthermore, the parameter of market effect is not at the heart of the entrepreneurship concept, but one out of many possible consequences of entrepreneurship. So not only is the comparison of apples and cucumbers futile (ecopreneurship and eco-management, one is a fruit the other a vegetable), but one of the units of measurement (market effect) is also inappropriate. It would be like comparing the height of the trees on which cucumbers and apples grow. It is possible to compare, but what is the point?

It is legitimate to look for market effect of environmentally friendly products or services, and it is also legitimate to look for market effect (in the hope for a high market effect) of eco-innovations, but it is a misunderstanding to make high market effect (or mass market penetration) a characteristic of ecopreneurship, because it is only very secondarily related to ecopreneurship. Ecopreneurship may lead to strong growth or a paradigm shift and as a consequence of that it may also achieve a high market effect or mass market penetration by a product or service that is the result of ecopreneurship. But high market effect or even growth doesn't necessarily have to materialize, because they are merely possible results of ecopreneurship, but not defining characteristics. A framework for ecopreneurship should instead be devised where the factors of which it is composed, eco-innovation, eco-opportunities and eco-vision are identified and/or “measured”.

The misconception to which Schaltegger falls victim to is that of seeing ecopreneurship as a management approach rather than a form of entrepreneurship. This claim is not only derived from how he defines the term in his paper, but it is also supported by how Gerlach (2003, p.1) categorizes him as “viewing ecopreneurship as a matter of strategy”. I believe it is reasonable, not least because of the etymology of the term ecopreneurship, to accept my framing of it as a sub-concept of entrepreneurship rather than a management approach. If one is to accept this very uncontroversial framing of ecopreneurship, then the reason for Schaltegger's misconception could either be because of a different, more management-type framing of ecopreneurship, or because of a misconception of entrepreneurship. Indeed, Hjorth et al. (2003, p. 96) lament the spreading of an “entrepreneurship discourse” wherein entrepreneurship is very narrowly defined as a subdivision of management knowledge. They maintain (Hjorth et al, 2002, p.101) in accordance with Schumpeter, that entrepreneurship is in fact a broader social phenomenon that stretches further than the economic/management realm.

Even if one is to accept that the eco-aspect in ecopreneurship can in fact be identified by looking for the “priority of environmental goals in the business” (Schaltegger, 2002, p. 49) this is still an inadequate measure for determining the environmental friendliness/progressiveness of a company.
The problem is that no proof exists that the priority of environmental goals is positively related to the actual environmental performance of a company, and it is therefore inappropriate as a measure for ecological sustainability (what the eco in ecoentrepreneurship stands for). And this is assuming that the company isn't simply adopting environmental goals for PR-reasons.

Briefly, in Schaltegger's framework for ecoentrepreneurship the one variable (market effect), has very little to do with the concept of entrepreneurship, and the other variable (priority of environmental goals), although theoretically related, fails to measure ecological sustainability. It would be nonsensical to apply a framework which does not capture what it is supposed to capture (ecopreneurship), that's why I choose not to utilize it. If one for some reason insists on utilizing this framework one should perhaps rename the concept it is supposed to capture from eco-preneurs to Schalto-preneurs.

3.5.2 Critique of “Grassroot Ecopreneurs: Change Agents for a Sustainable Society”

In another article, Pastakia (1998, p.157) researches “grassroots-ecopreneurs” in India. I noticed positively the broader definition of ecopreneurs as “individuals or institutions that attempt to popularize eco-friendly ideas and innovations, either through the market or non-market routes”, a definition in line with Schumpeter (1926, p.111), who also sees entrepreneurial behavior in a range of different social actors, and with Hjorth et.al. (2003, p.101) who see entrepreneurship as a broader social phenomenon. However some flaws appear when Pastakia claims that eco-conscious producers internalize environmental externalities, an imprecise or false description of the economic role ecopreneurs play, because it is the nature of an externality that no one single actor can internalize it without immediately being priced out of the market. I believe that this error may be due to the even more nascent stage ecoentrepreneurship theory was in, when Pastakia wrote his article, so that he could not lean on more developed theory for his article which otherwise centered on other questions. This conceptual weakness of not really explaining what a business opportunity for an ecopreneur looks like, has led me to believe to that it is important to shed some light also on the nature of eco-opportunities, and of including them in my conception of ecoentrepreneurship.

A second point of criticism is that throughout the article, Pastakia doesn't distinguish between entrepreneurial (or ecoentrepreneurial) behavior and managerial behavior, so typically managerial tasks like “deploying creative strategies and diffusing products and ideas” (1998, p.158) are ascribed to the ecopreneur who, on top of that, strives to bring about “incremental change”, something that is far from self evident to be an entrepreneur's goal, but belongs to the managerial realm. Schumpeter (1926, p.114) claims that an entrepreneur often has to perform many non-innovative, non-entrepreneurial tasks also, especially business and managerial tasks, but that we should not confuse them with entrepreneurship. In order to highlight this crucial distinction between ecopreneurs and managers more, I include eco-innovation in my conception of ecoentrepreneurship.
4 Instrumental Theory

Having framed ecopreneurship as the intersection of the entrepreneurship and the sustainability disciplines, it is now time to look in more detail at the three sub-concepts of ecopreneurship: eco-innovation, eco-commitment and eco-opportunity. While the explorative theory’s purpose can be seen as answering part of the research question (“to define ecopreneurship in theory”), the purpose of the instrumental theory is to present the three sub-concepts of ecopreneurship in detail.

In section 4.1 I present eco-innovation as described by Halila and Hörte (2006), Rennings (2000) and Wagner (2008). I first define eco-innovation with the help of several other authors’ definitions of it, and then proceed to distinguish between different kinds of it. Finally, I adopt the classification system developed by Halila and Hörte (2006) with its six different categories of eco-innovations. In section 4.2 I present environmental commitment as developed by Keogh and Polonsky (1998). I rename it from environmental commitment to eco-commitment in order to be clearly identifiable as a sub-concept in my ecopreneurship framework and also employ Keogh and Polonsky’s (1998) stipulation that eco-commitment is a commitment to an entity rather than an idea. Furthermore I also adopt the categorization system developed by Keogh and Polonsky (1998) which distinguishes between three different kinds of eco-commitment, and complement it with the steps suggested by Lynes (2004) to establish environmental commitment in companies. In section 4.3 I introduce the third sub-concept of ecopreneurship, eco-opportunity, as described by Dean and McMullen (2005). First the reasoning of Dean and McMullen (2005) and Pastakia (1998) is presented, namely that parallel to the formation of entrepreneurial opportunities from market failures, eco-opportunities can be conceptualized as arising from environmentally relevant market failures. In a second step, the five different categories of eco-opportunities arising from different environmentally relevant market failures, which Dean and McMullen (2005) identify, are presented. The three sub-concepts of ecopreneurship, which are presented in this chapter, are subsequently operationalized in the empirical part of this study.

4.1 Eco - Innovation

Rennings (2000, p. 322) suggests, that the distinctive feature of eco-innovation as compared to innovation in general is a concern about the direction and content of progress. In particular a concern about whether innovation leads to the mitigation or resolution of an environmental problem, some of which where pointed out in the introduction of this thesis. The “Innovation Impacts of Environmental Policy Instruments” - project introduced the term environmental innovation and defined it very broadly: “Eco-innovations are all measures of relevant actors (firms, politicians, unions, associations, churches, private households) which; develop new ideas, behavior, products and processes, apply or introduce them, and which contribute to a reduction of environmental burdens or to ecologically specified sustainability targets.” (Rennings, 2000, p.322)

One way of measuring the reduction in environmental impact achieved by an eco-innovation, is by stating the so-called factor X reduction in resource use. The factor 4 and factor 10 concepts originate in the Wuppertal Institute, and are promoted by Von Weizsäcker and others as creative ways to reduce the resource intensity of economic activity (Halila & Hörte, 2006, p. 377). Factor reduction refers to the idea of reducing the resource use per unit of service or product by a certain factor, and can be achieved through a combination of technological, financial and lifestyle changes.
It is important to point out here, that the idea behind factor X reduction is that the actual environmental effect of an innovation rather than the intention behind the innovation determines if an innovation is environmental.

Rennings (2000, p. 323) highlights the danger of a technology bias in the understanding of what constitutes an eco-innovation. He argues that unsustainable development itself is a result from technology outpacing changes in social organization, and thus emphasizes the importance of social innovations such as lifestyle-changes in order to tackle ecological problems. In this regard, authors (Rennings, 2000, p. 323; Halila & Hörte, 2006, p. 377; Wagner, 2008, p. 16) also often distinguish between integrated and end-of-pipe technology for environmental impact reduction. End-of-pipe or additive technology refers to measures mitigating the environmental effects of an essentially polluting or otherwise environmentally harmful product or service e.g. waste treatment, recycling or waste disposal. This is contrasted by the integrated systems approach which aims at every step of the way to minimize the environmental effect of the system, so that only little or no need for waste treatment or other mitigation arises. An example in case is a gasoline-powered car with a catalytic converter in the exhaust as compared to an electric car. The catalytic converter removes only the most harmful byproducts of the fumes created by the essentially harmful internal combustion engine, while the electric car delivers the same service (individual transportation) without the exhaust fumes.

In order to analyze and compare eco-innovation in different companies, one needs a scale, a unit of measurement, at least in a metaphorical sense. Many attempts have been made to classify or categorize innovations, mostly according to significance of the innovation, and/or the methods and procedures used in their development. In this thesis a classification system that was developed by Halila and Hörte (2006, p.380) specifically for categorizing eco-innovations will be used. Halila and Hörte (2006, pp. 375-380) compare a range of existing classification systems for innovation in their article, and employ and adapt the most significant characteristics for the purpose of measuring eco-innovation. In order to test for feasibility and practicality, they apply their taxonomy on the hundreds of contributions to the Swedish annual national environmental innovation contest running from 1998 – 2004, hosted by Nutek, the Swedish agency for economic and regional growth.

The classification system, named simply “New eco-innovation classification system” by Halila and Hörte, measures three dimensions of eco-innovations, according to which results are organized into six categories. The three dimensions are:

- Degree of creativity and kind of knowledge needed to develop the innovation
- Extent of the innovation (component of a product, product, part of a system, entire system)
- Expected environmental effect (in terms of factor X reduction)

The categories for eco-innovations developed by Halila and Hörte (2006, p. 380) are:

**Product care (Category 1)**

Continuation of an existing product. The knowledge needed is standard or basic, and the resulting factor X improvement is low. Example: New color scheme, design-update (product face-lifting)

**Minor product improvement (Category 2)**
Some aspects or components of an existing product are improved. The knowledge required is business-specific competence or a high level of familiarity with the specific product. A factor improvement of no more than factor 5 is to be expected. Example: model change or addition of a new model in the product line.

Major product improvement (Category 3)

Requires a branch-specific general knowledge base related to the product in question. New product or fundamental change in existing product, not directly based on the previous model. Improvement of up to factor 10 is possible.

Functional innovation (Category 4)

A new way to fulfill a function, with a new principal solution, where knowledge is collected from other areas. Categories four, five and six demand an extensive knowledge base, stretching beyond a specific branch. This is also called meta-competence. A factor 10 improvement is possible. Examples: Calculators based on electronics rather than mechanics. Cooling by refrigerator rather than ice blocks.

System innovation (Category 5)

Implies the replacement of existing systems by new ones, and the creative contribution may transform the knowledge field. An improvement of up to factor 20 is possible. Examples: Broadcasting by TV rather than radio.

Scientific breakthrough (Category 6)

The name implies that scientifically-led competence is necessary for this category of eco-innovation, and the improvement potential is no less than factor 20. Example: Discovery of DNA.

The findings of Halila and Höfte (2006, p. 384) imply that the majority of eco-innovations are to be found in categories two, three and four. In their categorization of contributions to the Swedish annual national environmental innovation contest, a striking 96% (ibid, p.384) of all innovations where located in categories two, three and four.

4.2 Environmental Commitment (Eco-Commitment)

Commitment to something = the willingness to work hard and give your energy and time to a job or an activity.

Oxford Advanced Learner’s Dictionary

As was indicated in section 3.4.3 (Motivation, Vision, Commitment), the vision an entrepreneur follows may be influenced by different factors. This is also the case for the ecopreneur’s vision, and because the ecopreneur follows an ecopreneurial vision, it is preceded by one, or a mixture of three forms of environmental commitment: affective commitment, continuance commitment and normative commitment. Keogh & Polonsky (1998, p. 40) modify the model of organizational commitment proposed by Meyer & Allen (1991) and its three dimension of commitment stated above, so that it becomes commitment to the environment, and then apply it to entrepreneurship. If
not specifically pointed out, commitment to the environment may appear like commitment to an idea or issue.

Keogh and Polonsky (1998, p.41) argue that commitment to ideas is problematic, not least because it is not very well researched. They propose instead that the environment be regarded as an entity, not only a physical entity, but also an entity made up of the various forces that aim to bring it on the company agenda, like regulations, market forces and internal forces. Both individuals and organizations can display commitment in this model.

4.2.1 Affective Commitment

Affective commitment can be understood as an emotional attachment to the environment, something that makes the consideration of environmental concerns and the achieving of environmental goals an end in itself. This is the strongest form of environmental commitment, and an ecopreneur operating under affective commitment to the environment will always strive for the most environmentally friendly solution possible. This will not only lead to more radical eco-innovations, but it will also lead to exploiting eco-opportunities that others don’t see or perceive as marginal or uninteresting (Keogh & Polonsky, 1998, pp. 40, 42).

4.2.2 Continuance Commitment

Continuance commitment is concerned with the economic and social cost of disregarding environmental concerns, or what economists call opportunity cost. Someone operating under continuance commitment strongly respects social and economic norms, and will therefore direct efforts to pursue eco-opportunities which are socially but also economically “acceptable”. Since this approach aims to minimize tangible and intangible cost, as in the form of a tarnished public image, to the company, which may be arising from disregarding environmental concerns, the eco-opportunities it exploits and the eco-innovations it delivers will be more limited in scope than those of the ecopreneur operating under affective commitment (Keogh & Polonsky, 1998, pp. 40, 42, 44).

4.2.3 Normative Commitment

Normative commitment means that the person guided by it will respond to a feeling of obligation or indebtedness. This indebtedness may be caused by external influences, such as environmental protection laws, or by the individual identifying obligations to the environment. One key feature of this form of commitment is that the people and organizations guided by it, will exploit eco-opportunities and produce eco-innovation only to the point their feeling of indebtedness warrants them to, and limit consideration for the environment that goes beyond that point. When the sense of indebtedness is caused by environmental legislation or rules, this leads to the ecopreneur only fulfilling the bare minimum requirements, and this form of commitment may then be regarded as weakest.

4.2.4 Establishing Eco-Commitment

Having been introduced to these three different forms of commitment, one may be left to wonder how they can be observed in reality. Lynes (2006, p.7) suggests that evidence of the environmental
commitment of a company manifests in:

- The pledges it makes to a course of action
- The actions undertaken in relation to its pledges
- The responsibility taken for its actions
- The dedication to improving its environmental performance
- The level of involvement with environmental issues (internally and externally)

The way the term commitment is utilized in this thesis, it is neither preceded nor succeeded by motivation, but both exist at the same level. This means that one form of motivation may be equated to one or several forms of commitment and vice-versa. Some forms of motivation may seem more concrete, and therefore easier to grasp, than the three, slightly abstract, forms of commitment introduced above. Some of those more concrete forms of companies’ motivations for showing environmental concern are: financial benefits (through efficiency gains), competitive advantage, image enhancement, stakeholder pressures or a desire to avoid or delay regulatory action (Lynes, 2006, p.31). None of these motivations correspond to affective commitment at least in a company. The individual advocating the inclusion of environmental concern however may still be affectively committed to the environment, and present the above listed motivations in order to convince stakeholders through more business-like arguments.

The different forms of environmental commitment become more significant in the context of entrepreneurship than in e.g. management, because an entrepreneur arguably both has more power to determine strategy (guided by the (eco-)entrepreneurial vision), and more freedom to let personal commitments and values influence strategy and company policy (Keogh & Polonsky, 1998, p.45), (Schaltegger, 2002, p.47). Environmental commitment naturally also has an important role to play in corporate management situations in larger companies, but management restricts by it’s very nature the impact employees’ and managers’ commitments and values can make on business decisions (Schaltegger, 2002, p.47).

Environmental commitment is important in the context of this thesis, because, on the one hand, it complements our impact – based understanding of ecopreneurship stemming from categorizing eco-innovations, and on the other hand it may help explain why different kinds of eco-opportunities are seized by ecopreneurs based on the kind of environmental commitment they operate under. Since motivation and commitment are important ingredients to what drives an entrepreneur, understanding what kind of commitment to the environment an ecopreneur has, is significant in it’s own right. Identifying the sort of eco-commitment an ecopreneur has, may in addition help understand the ecopreneurs choice of eco-innovation and eco-opportunity and thus act as a link between these two dimensions.

4.3 Eco-Opportunities

When economic activity creates environmental degradation or social damage, economists have sought to attribute this fact to market failures. Entrepreneurship theory often identifies inherent opportunities in market failures, for entrepreneurs to exploit and thereby accrue entrepreneurial rents. Dean and McMullen (2005, pp.57-69) identify a list of environmentally relevant (i.e.
damaging) market failures, explain how they may lead to environmental degradation, and propose how ecopreneurs may remedy them and mitigate the environmental degradation, thereby exploiting environmental (eco-)opportunities. Based on how the different eco-opportunities are exploited, Dean and McMullen (2005) develop a theory of environmental entrepreneurship. The following market failures are proposed as possible sources of eco-opportunity: public goods, externalities, monopoly power, inappropriate government intervention, and imperfect information. The authors themselves state that the list of identified market failures may not be complete, and may be amended by other authors. They also admit that not all market failures, even if environmentally relevant, necessarily constitute eco-opportunities (Dean & McMullen, 2005, p.58).

My aim is not to test or amend the proposed theory of environmental entrepreneurship, but to use the list of environmentally relevant market failures and the eco-opportunities in my thesis, as a guide for identifying the kind of eco-opportunities the companies researched in the case studies are exploiting.

Market failure is defined as: “the failure of a more or less idealized system of prize-market institutions to sustain desirable activities or to stop undesirable activities”. (Dean & McMullen, 2005, p.55) An eco-opportunity is assumed to be an environmentally relevant market failure, which if given a cost-effective solution, people would pay for to have it removed. By exploiting this eco-opportunity, the ecopreneur not only achieves entrepreneurial rents but also alleviates an environmental burden (Dean & McMullen, 2005, p.58). Environmentally friendly products or services may be directly beneficial to the environment, or at least be have less harmful impact than their non-environmentally friendly alternatives (Pastakia, 1998, pp. 157-158).

An ecopreneurial rent arises from the exploitation of an eco-opportunity. It accrues to the ecopreneur who first seizes a new opportunity, which because of the lack of competition generates above-average returns (Dean & McMullen, 2005, p.57).

4.3.1 Environmentally Relevant Market Failures and Inherent Opportunities

**Public goods**

Public goods are marked by their non-excludability, i.e. individuals can consume them regardless whether they have paid for them or not. If the public good is in limited supply, an incentive exists for economic actors to exploit it as fast as possible before others can benefit from it. This situation is described as the “tragedy of the commons”, and best exemplified by the overfishing of fish stocks in non-territorial waters, which has lead to the extinction of some fish species, and the severe decline of others (UNEP, 2007, pp. 4-5). Ecopreneurs establish excludability for public environmental resources through developing and enforcing property rights by technical and/or political measures, and thereby mitigate environmental damage. (Dean & McMullen, 2005, pp.50-51)

**Externalities**

Externalities are costs or benefits that occur in a transaction, which are not reflected in the pricing, because they affect third parties which are not a party to the transaction. An example of a negative
externality is the noise pollution which occurs in the vicinity of airports, which is not reflected in the ticket price, because neither the airliners nor their passengers have to incur their consequences. Similarly in the case of a vaccination a positive externality may arise, since not only the recipient of the shot benefits from a better health, but also the people around him profit from a lower probability of catching a disease, and his employer profits from fewer absentee hours due to better health. Because of the unequal distribution of costs and benefits, which is not accurately reflected in the pricing, products and services with positive externalities are under-supplied and those with negative externalities are over-supplied. Externalities persist because of high transaction costs associated with measuring externalities and enforcing the rights of those not included in the private transaction.

Ecopreneurs develop economic institutions to reduce transaction costs, as has happened through the development of the CCX (Chicago Climate Exchange), where emission rights are traded. By reducing transaction costs, the ecopreneur ensures that environmentally relevant positive and negative externalities are produced in amounts acceptable to society and environment. (Dean & McMullen, 2005, p.61-63)

**Monopoly Power**

Monopoly power refers to the kind of market failure that occurs when monopolies exhibit profit maximization behavior. In this case, the product or service provided by the monopoly will be overcharged and undersupplied to the market by the monopoly. Furthermore, because of a lack of competition, monopolies (especially natural monopolies) often operate very inefficiently, also in their use of natural resources, and thereby generate much more spillage and waste than would be generated in a perfect competition situation. In addition to inefficiency, monopolies also resist organizational change more than companies under perfect competition, organizational change being a prerequisite for a transition from environmentally harmful practices toward more environmentally responsible operations. The environmental impact of monopolies may thus either be positive or negative. Positive, because monopolies produce a smaller quantity of the environmentally harmful product or service than would be produced under perfect competition, or negative because inefficiency in resource use, and resistance to organizational change that could remedy these inefficiencies, leads to greater environmental degradation than would otherwise be the case. Ecopreneurs, who can break environmentally relevant monopoly power either through market appropriation or other mechanisms, both mitigate environmental impact and accrue ecopreneurial rents. (Dean & McMullen, 2005, p.63-65)

**Inappropriate Government Intervention**

Inappropriate government intervention distorts incentives and costs for economic actors, a so-called Pareto-inefficient outcome, which results in environmental degradation if the government subsidizes industries that are harmful to the environment. An example of environmentally damaging government intervention are subsidies for fossil fuel extraction, which leads to more greenhouse gas emissions and other negative environmental consequences, that would not have otherwise occurred to the same extent. Ecopreneurs who influence the political framework towards modifying the government intervention in environmentally beneficial ways or eliminating environmentally harmful subsidies, can both collect entrepreneurial rents as e.g. wind power becomes more lucrative, and reduce environmental degradation. (Dean & McMullen, 2005, p.65-66)
Imperfect Information

Imperfect information may lead to market failure, and if the information that is not known to market participants relates to the reduction of environmental impact, then market failure due to imperfect information entails environmental degradation. Imperfect information among producers can be divided into:

- A lack of knowledge about supply conditions like cleaner technologies for producing a product or service in question

- A lack of knowledge about demand conditions, like customer preferences for environmentally friendly products (e.g. organic food)

An ecopreneur with knowledge about these conditions can gain considerable competitive advantage over his uninformed or ignorant competitors, e.g. through employing environmentally superior, more efficient, technology in production, or by accessing market segments of environmentally conscious consumers who are willing to pay a premium for eco-friendly products.

Likewise, imperfect information among customers may lead to purchase decisions favoring environmentally damaging products, which they would not have bought had they been informed. An ecopreneur can seize this eco-opportunity by informing consumers about the environmental attributes of a product, as has happened in the case of green labeling of organic food. The informed consumer’s purchase decision of environmentally friendly products both generates an entrepreneurial (ecopreneurial) rent for the ecopreneur, and reduces environmental damage through the substitution of environmentally harmful products with more environmentally friendly ones. (Dean & McMullen, 2005, p.66-69)
5 Empirical Methodology

In this study, “Empirical Methodology” does not refer to the very general research method by the same name, but denominates the set of methods and procedures used in the empirical part of this study. More specifically, in the empirical methodology chapter, I describe the methods and procedures that I used in the collection and analysis of the data from the four cases that are studied in this thesis. The four empirical cases in this thesis are: Salt & Brygga, an eco-restaurant in Malmö, Replik AB, an environmental consulting firm in Malmö, Ernehag Consulting AB, an environmental consulting firm in Ängelholm and Apocalypse Labs, a design bureau with a sustainability focus.

The empirical part of this thesis is a requirement for answering the second half of the research question of this study: “How can ecopreneurship be defined in theory and understood in practice?” It directly relates to the second purpose of this study (“To investigate if and how eco-innovation, eco-opportunity and eco-commitment manifest in Swedish green companies, and among their leaders”), and is a prerequisite for fulfilling the third purpose (“To analyze the patterns in which the above-mentioned concepts may appear in green companies, and to discuss the implications of that for ecopreneurship”). Data collection takes the form of open-ended questions in semi-structured interviews, and is supplemented by background information about the companies from their respective websites, as well as information from the Swedish business register via “Affärsdata” (Appendices A1-A4). In the case of Salt & Brygga, triangulation of the data collected from the interview with Björn Stenbeck, the owner of Salt & Brygga, could be performed through an interview with an employee of Salt & Brygga to whom anonymity was granted. The possibility to do a triangulation interview came to me as an unexpected opportunity to further improve the quality of the findings, and is to be seen as an extra, and not as a prerequisite for the quality of the findings. Because of the way I formulated the interview guide (section 5.3.3), and the steps I had taken to brush up my interview technique (section 5.4.1), I am fairly confident that most of the information obtained through the interviews is of high quality even without the additional procedure of triangulation through another interview.

5.1 Interview Type and Filter Criteria

5.1.1 Why Semi-Structured Interviews?

There are a number of properties attributed to semi-structured interviewing, which motivate my choice of this data collection method. In a semi-structured interview, there is more interest and more space for the interviewee's point of view, than what is possible in a structured interview or in a survey (Bryman & Bell, 2003, p. 342) Open-ended questions encourage “rambling” and allow for explanations and descriptions by the respondent (Bryman & Bell, 2003, p. 342), which may lead to capturing more accurately the perception and experience of the respondent than what is possible in a structured interview. Since I am interested in the respondent's perception, of e.g. the eco-opportunity he or she is exploiting, a data collection method like semi-structured interviewing, which allows me to capture the respondents’ perception, is my preferred choice.

In semi-structured interviewing, the researcher has more flexibility in adapting to the interview
situation and responding to the direction in which the interviewee takes the interview. A researcher conducting a semi-structured interview has the freedom to depart from the interview guide, if he deems the departure relevant to answering his research question (Bryman & Bell, 2003, p. 342) (Glesne, 2006, p.79). Since the aim of my study to some extent is exploratory rather than hypothesis-testing, and especially the theme of environmental commitment demands for interpretation of answers, the possibility to deviate from the interview guide, e.g. to let the respondent recount an experience, to me is an important opportunity to gather a rich and deep data material (Bryman & Bell, 2003, p. 343) which I can interpret with regards to the topics of my interest.

Furthermore, since deviations from the interview guide are allowed, it is also possible to reiterate questions and thereby ensure that they are not misunderstood, and that the desired answer is actually obtained. Also, the open-ended nature of the questions allows for the respondent, to provide information that was not anticipated by the interviewer, and therefore not specifically asked for. What is also possible in this format, is for the respondents to explain thoughts and new concepts, which are unfamiliar to the interviewer. (Bryman & Bell, 2003, p. 343) The last two properties of open-ended questions are important in my research, because I am not an expert in each of the respective professional fields of the interviewees. Although I did make an effort to learn all the relevant facts about the studied companies before the interview, Jan Miörner, an environmental consultant I interviewed, still needed to explain to me the important points in an ISO 14001 certification during the interview, something for which the interviewing format allowed, and which improved the quality of the obtained data.

5.1.2 Filter criteria

The use of certain filter criteria most closely resembles an approach called theoretical sampling (Bryman & Bell, 2003, p.329). This sampling strategy was introduced as an alternative to probability sampling, which was seen as inappropriate for qualitative studies by many researchers (Bryman & Bell, 2003, p.329). The basic idea behind theoretical sampling is “Data gathering driven by concepts derived from the evolving theory and based on the concept of making comparisons” (Bryman & Bell, 2003, p.329). This description largely applies to the nature of my research too. In my theory chapter I generated new theory, which evolved in the course of the literature review. “Making comparisons” of theory and findings, is partly what the third purpose of my study “To analyze the patterns in which the above-mentioned concepts may appear in green companies...” encompasses. The difference between my approach to qualitative sampling and theoretical sampling as described by Bryman & Bell (2003, p.330), is the absence of a feedback loop. Qualitative research is often based on a grounded theory approach, where new concepts or theory are generated from the collected data, and then used as new theoretical sampling criteria for more data collection. Since only one round of data collection is performed in this study, no repeated theoretical sampling takes place for the collection of interview data. The details of my approach to theory generation can be found in “Research Strategy”.

In order to find promising candidate companies for case studies I apply a filter, or if you want criteria for convenience sampling. Those filter criteria are green company, to account for the eco-part and small to medium-sized company to account for the entrepreneurship-part. Green is applied in a very broad sense here, and includes everything from a full-grown eco-friendly business idea to “end of pipe” products with a few green characteristics. I select green companies because I see some kind of environmental concern, regardless of it’s extent and of its impact, as a prerequisite for fitting into the definition of “ecopreneurial”. This does not mean that green companies automatically have to be ecopreneurial, but if there is not at least something environmentally friendly about them, they will not display any of the sought-after characteristics, and studying them
Choosing small to medium sized companies in Sweden as a sampling frame is a little less self-evident, and more pragmatic than the choice of green companies as objects of study. Small and medium sized companies are not the only companies where entrepreneurship and thus ecopreneurship may manifest, but they are more likely to do so than big companies, and the form may be different (intra – vs. entrepreneurship). I believe that especially ecopreneurship is more likely to appear in small and medium sized companies, because there the strategic decisions are more influenced by the entrepreneur’s values and commitments than in larger companies. Especially the kind of ecopreneurship that is based on an affective or a continuance commitment to the environment should be more frequent in these smaller companies because they usually represent goals beyond or other than profit maximization, something which is often the prime goal of corporations, especially when they are stock market-listed. Another more pragmatic reason for focusing on small and medium-sized companies is the issue of access. I expect easier access for interviews and questions to relevant decision-makers, managers, owners and ecopreneurs in smaller companies than in larger companies.

5.2 Selection of Cases

5.2.1 Number of Cases

In the early stages of planning my thesis I came to the insight that ca. five cases would be ideal for my study. I regarded this number as sufficiently many to make it worthwhile to look for commonalities and differences between the cases and perhaps establishing patterns in the manifestation of eco-innovation, eco-commitment and eco-opportunity. Circa five companies were also sufficiently few in order to make “penetrating interpretations” (Kvale, 1996, p.102) of the interviews and not be drowned in data, which would have negated this possibility. Later on I could only organize four companies whose entrepreneurs were ready to be interviewed by me during the short period of time I spent in Malmö.

However I could make up in part for the loss in case numbers through interviewing one employee of Salt & Brygga, thereby increasing the depth and quality of the data for the S & B case. After having conducted the five interviews in relation to four companies, I felt that the interviews had given me a sufficient quantity and quality of data from which to establish patterns in the manifestation of eco-opportunity, eco-innovation and eco-commitment, so that I did not need a fifth case. I had prepared a fifth case, the Govinda group of vegetarian restaurants, whose franchise manager agreed to an interview via Skype, for the eventuality that one or more of the interviews in Malmö would not deliver the results I was hoping for. Since all four cases provided satisfactory results, balancing the possible contribution from an interview conducted via Skype (essentially a telephone interview) against the extra workload, and therefore reduced time left for a penetrating interpretation and subsequent discussion led me to choose quality over quantity.

5.2.2 Selecting Respondents

One of the companies, Apocalypse Labs, was recommended to me by a friend who knows one of the owners, Jenny Nordberg, and who found that it would be of interest for my research. Apocalypse Labs is a design company with many different projects, one of which is an eco-friendly
soap which is made from used cooking oil. After reading through the company homepage, I found that its business idea fulfilled my requirement for eco-friendliness, and that it was a small owner-managed company, my other filter-requirement. In addition to fulfilling my two filter criteria, knowing the owner through a friend facilitated access and probably increased her openness towards my questions. The other three companies, Replik AB, Ernehag Consulting and Salt & Brygga, I discovered on an online platform called “hållbar utveckling i Skåne” (sustainable development Scania), a platform supported by the region of Skåne which lists companies in Skåne which strive for sustainability in their business operations. Replik AB and Ernehag Consulting are both environmental consultants, and Salt & Brygga is an eco-restaurant in Malmö. I had a look at each of the companies’ websites in order to find out whether their business ideas coincided with my filter criteria, which they did.

5.2.3 Contacting the Respondents

In a next step, I sent out individualized e-mails to all four of the companies introducing myself and my research, and asking for an interview appointment for the time-period from the 17th - 19th of April 2009, the time of my study trip to Malmö. All four of them replied positively, and suitable appointments were quickly arranged. I expected that repeated e-mails or telephone calls would be necessary in order to convince the companies to grant me an interview, since the benefit for the company may not have been clear to the respondents. So to convince them I had prepared some arguments like, the potential for learning for the entrepreneur, the possibility to contribute to increasing knowledge on environmentally friendly businesses, the benefit of being part of an academic study, and the assurance given that all data obtained would be subject to a respondent validation. Surprisingly to me, the entrepreneurs all replied positively and welcoming, as if it was totally natural that they would meet me for an interview. They were less concerned with questions of confidentiality or validation than I expected them to be. I got the feeling that they were sympathetic to my research and therefore wanted to help me as good as they could, which also showed in how flexible they were in making appointments. Elisabeth Ernehag of Ernehag consulting even accepted a last-minute postponement of the scheduled interview to the next day, which became necessary because I had missed the train to Ängelholm where the interview was going to take place. Finally in combination with an interest for my research, the entrepreneurs may also have felt flattered because I selected their respective companies as relevant to my research. I also contacted two other companies, Rossling Design, and Barista Fair Trade, which unfortunately could not receive me for an interview. Rossling Design, a fashion company tailoring clothes made from eco- and fair-trade- certified raw materials was recommended to me by Jenny Nordberg (of Apocalypse Labs), an example of snowball sampling. Barrista Fair Trade is a coffeehouse chain with cafés in Sweden, which states to employ a sustainable business model based on fair-trade and eco-certified sourcing of supplies. Both of them would have been interesting to include, but as discussed under 6.2.1., their non-inclusion is no obstacle to fulfilling the purposes of this study.

5.3 Constructing the Interview Guide

5.3.1 Topics and Types of Questions

The interview guide contains three levels (Appendixes C3, C4). On the highest level the topics of eco-innovation, eco-opportunity and eco-commitment. Grouping the questions according to topics
was chosen in order to facilitate analysis of the interviews, which is also divided into the corresponding topics. On the second level under each topic there is a small number of open-ended introducing (Kvale, 1996, p.133) or starter-questions (e.g. what is your business about). These questions were meant as anchors around which the interview should evolve. Under each open-ended question I listed a larger number of smaller questions, which I prepared mainly as an aide-mémoire to myself, in order to have adequate questions ready if the situation would demand it. The types of questions listed on the third level are probing questions, to make the interviewee elaborate on something he/she mentioned (Kvale, 1996, p.133), specifying questions (Kvale, 1996, p.134), if general statements were made (e.g. how exactly could that be achieved?) or structuring questions (Kvale, 1996, p.134), which bring back the focus to the topic of interest in case the interviewee drifts off too far. The third level questions were not mandatory, and it was up to me to determine whether the initial explanations given by the interviewee were sufficient, or if more detailed questioning was necessary.

5.3.2 Sequence of Topics

Kvale (1996, p. 129) states that a good interview guide should indicate the topics and their sequence in the interview. In my interview guide, the questions concerning Eco-innovation, eco-opportunity and eco-commitment are listed under these three respective headings and in this specific order. The order was chosen because I deemed the questions relating to the eco-innovations to be good conversation-starters. The questions “What is your business about? Tell me about your business idea?” and “Please tell me more about the eco-friendly products/services of yours!” in my view are sufficiently uncomplicated and uncontroversial to relax the respondent, and at the same time they are also open, so as to encourage the respondent to answer freely and exhaustively.

The questions concerning eco-opportunity where of a slightly more complicated nature, and I wanted the respondent to be a little “warmed up” before answering them, so I put them in the second place.

The specific questions relating to eco-commitment were put in the last place, because I did not want the interviewee to be concerned with how his answers given to the previous two topics would reflect on his eco-commitment. Some of the questions pertaining to eco-innovation and eco-opportunity were also meant by me to work as dual or triple-purpose questions. One example for a multiple – purpose is the question “Is your entire product range eco-friendly? Why? Why not?”, which is listed under the heading eco-innovation. Depending on the explanation the respondent gives, it may also deliver insights on his perception of customer demand, which thematically belongs to eco-opportunity, and his motivations for having or not having a complete eco-friendly product line, which then in turn could be interpreted as one of the three forms of eco-commitment (affective, continuance and normative). The other reason for putting the topic of eco-commitment in the third place was the general nature of the questions in this part (e.g. “What do you think is a company’s role in reducing environmental harm?”). I intended to make the respondent digress from the core topic of his own company, and thereby learn a little more about his general views on eco-companies. I wanted the respondent to digress only after having given me the answers connected specifically to his company, because I expected it to be cumbersome to focus back on details after having digressed, and I wanted to avoid a framing of the opportunity- and innovation-related answers. This was because I thought that the answers relating to the details would be more concrete and more likely to be undistorted than the answers given on commitment. Therefore I thought it would be less of a problem if the answers related to commitment were framed in terms of what had been said about eco-opportunity and eco-innovation than the other way around.
5.3.3 Translating Research Questions into Interview Questions

Kvale (1996, p.132) writes of thematic and dynamic aspects of interview questions. By thematic aspects, Kvale basically means “how well are the interview questions suited to produce answers that are relevant to the purpose of the research?”. The content of the questions can be prepared in advance, and reflected upon calmly. When I began re-reading the concepts stated in the instrumental theory part of the thesis, in a second step, I began to write down in simple terms what exactly I wanted to find out in relation to each of the concepts, and only in a third step did I formulate the actual questions for the interview guide, which I subsequently revised after having asked my thesis supervisors for feedback. Dynamic aspects of the interview are e.g. judging what type of language is appropriate to use with a specific respondent, anticipating what type of questions are socially acceptable to a specific respondent and also the ability to sense if there is more behind a topic the respondent introduces, and to make him talk about it if it could be useful in relation to the purpose of the interview. In order to prepare for the dynamic aspects of interviewing I consulted Seidman and Irving (2006) on interview technique. However preparing for the dynamic aspects of interviewing could only be helpful to a certain point as Glesne (2006, p.79) points out that “the process of creating good interviews takes practice”, something I lacked.

5.3.4 Language Issues

The language of this thesis is English, but the mother tongue of four of the respondents is Swedish, and the study took place in Sweden. Translation from one language to another can lead to loss of meaning and distortion (Bryman & Bell, 2003, p.356). The degree of loss and distortion is determined by the skill of the translator, and whether equivalents of expressions used in the source language exist in the destination language. This degree of loss and distortion has to be weighed against the reduced freedom of expression resulting from the respondents' deficiencies in their command of English. Although Swedes in general have a very high level of English, speaking about abstract subjects, the terminology of which they may only know in Swedish is an inhibiting factor. I chose to conduct the interviews in Swedish because I believe I could keep distortions and loss at lower levels than what would have resulted from interviews in English. The reasons are: My command of Swedish is very good, I have a diploma of Swedish language proficiency for university studies (TISUS) and a very good command of English, and I therefore believe to be able to keep loss and distortions at low levels. Swedish and English belong to the same group of languages (Germanic languages), and many concepts that exist in Sweden are universal for the “Western culture”. As opposed to my respondents, I have the luxury of time and reflection and dictionaries when translating, whereas the respondents are in a spontaneous speech situation, which gives them fewer chances to reflect and practically no chance to consult a dictionary. The transcriptions of the interviews are thus in Swedish, but the analysis (findings chapter) is written in English. When deemed useful for the analysis, some sentences from the interviews are quoted, but the quotes are translated to English.
## 5.4 Conducting the Interviews

### Table 1

<table>
<thead>
<tr>
<th>Person, Company</th>
<th>Date</th>
<th>Start</th>
<th>Duration</th>
<th>Location</th>
<th>Ambiance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Björn Stenbeck, Salt &amp; Brygga</td>
<td>20090417</td>
<td>13:45</td>
<td>45 min.</td>
<td>Dining hall S &amp; B, Malmö</td>
<td>Quiet, occasional guest greeting</td>
</tr>
<tr>
<td>Jan Miörner, Replik AB</td>
<td>20090417</td>
<td>16:00</td>
<td>70 min.</td>
<td>Private office of Jan Miörner, Malmö</td>
<td>Quiet, two little dogs, no disturbance</td>
</tr>
<tr>
<td>Anonymous employee of Salt &amp; Brygga</td>
<td>20090418</td>
<td>12:30</td>
<td>30 min.</td>
<td>Trädgårdscafé, terrace of a café, Malmö</td>
<td>Windy, background noise, but speech recorded was audible</td>
</tr>
<tr>
<td>Elisabeth Ernehag, Ernehag Consulting</td>
<td>20090418</td>
<td>17:00</td>
<td>50 min.</td>
<td>Outdoor terrace of a bar, Ängelholm</td>
<td>Some background noise, people talking, music, speech was recognizable</td>
</tr>
<tr>
<td>Jenny Nordberg, Apocalypse Labs</td>
<td>20090419</td>
<td>15:00</td>
<td>55 min.</td>
<td>Living room of Jenny Nordberg, Malmö</td>
<td>Quiet, no disturbance</td>
</tr>
</tbody>
</table>

### 5.4.1 Interview Technique

All interviews were recorded, and the respondents were notified of the recording before the start of the interviews. The recorded interviews were transcribed, both in order to facilitate analysis and discussion of the interview material, and to increase the dependability of the research. One-minute time-stamps were used in the transcriptions in order to facilitate navigation. Both in the presentation and in the analysis of the findings I use the time-stamps to refer to the relevant parts of the respective interviews. The use of time-stamps in the presentation an analysis of the findings is meant to increase intersubjectivity and to facilitate navigation for the reader. Time-stamps are shown in the format of (hour:minute:second) and refer to the exact minute in each respective interview when a statement has been made. Consequently, time stamps in the Salt & Brygga case refer to the interview with Salt & Brygga founder Björn Stenbeck, time stamps in the Replik AB case refer to the interview with Jan Miörner etc. All respondents were also informed of the respondent validation procedure employed. Respondent validation (Bryman & Bell, 2003, p.290) for this study entailed sending out the transcribed interviews to the respondents so that they can make sure that the points they wanted to make actually came across, and to give them the chance to remove passages they don't want to have published. The transcriptions are not included in the thesis.
due to practical limitations concerning the number of pages, but can be made available by the
author in the form of .pdf files upon request. The audio recordings will only be made available if
none of the respondents object to any parts in their respective transcriptions. The audio record as
well as the transcription of the interview with the employee of Salt & Brygga will not be made
available at all, because the employee asked me not to.

The location for interviewing was chosen according to the respondents' wishes, but with a view to
ensure a quiet enough atmosphere for recording to be possible. All respondents pledged to answer
follow-up questions by e-mail if they should arise, and the received e-mail answers are incorporated
into the analysis.

Other issues I kept an awareness of and tried to keep in mind both when constructing the interview
guide and conducting the interviews are:

- The use of language which is comprehensible to the respondent (Kvale, 1996, p.130)

Because of the very different backgrounds and positions of three of the four respondents, I chose to
formulate the questions sort of “halfway between” academic and simplified, so that I could depart
from the exact wording in either of the directions during the interviews.

- Avoiding leading questions (Bryman & Bell, 2003, p.349)

All of the second level questions in the interview guide are open-ended, and also the third-level
questions were revised after feedback from my thesis supervisors in order to reduce leading or
yes/no questions.

- The importance of silence (Seidman & Irving, 2006, p.92)

Allowing pauses for reflection, and waiting for the respondent's thoughts to be formulated is an
important part of qualitative research because it can often lead to accurate descriptions of
perceptions, experiences and emotions, things a qualitative researcher is interested in. I had to
actively refrain myself from talking too much, one of the biggest differences between a qualitative
interview and a normal conversation.

- Active listening (Seidman & Irving, 2006, pp.78-79)

The ability not only to stubbornly follow the interview guide, but to “sense the immediate meaning
of an answer and the horizon of possible meanings that it opens up” (Kvale, 1996, p.132) This
means determining if further probing may be worthwhile, and doing so without losing track of the
remaining topics to be asked. Remaining silent was one of the hardest parts of interviewing, and
since I had an awareness of the issue, I also noticed how I sometimes failed to be an active listener.

5.4.2 Background Information

There are a number of steps a qualitative researcher can take to prepare for the dynamic aspects of
the semi-structured interview. In order to be able to ask pertinent questions, it is advantageous that
the researcher be well-informed about the companies and the people who he is going to interview,
before he begins the interview. I thoroughly read the websites of the four companies I studied. All
of the four company websites (http://www.saltobrygga.se/; http://www.replik.nu/;
http://www.ernehagconsulting.se/; http://www.apocalypselab.net) contained useful information
about company activities which prepared me for the interview. In addition to reading the websites I talked to people who know Jenny Nordberg of Apocalypse Labs and who had an insight into S & B respectively, about these two companies. I also called Elisabeth Ernehag of Ernehag Consulting and Jan Miörner of Replik AB and asked them about the main activities of their respective businesses both in order to be better prepared and to make sure that they would fit with my filter criteria.

Information of a general kind, like personal and professional background of the respondent, and other facts the respondent may consider important, is important in qualitative research. The general facts create a context for the rest of the interview, and help readers to understand the answers to the more specific questions in the light of this context (Bryman & Bell, 2003, p.349) Two open-ended introductory questions were included in the interviews to elicit this information from the respondents.

5.4.3 Reflection

Sufficient time should be allowed to allow for reflection after each interview. Reflection on how the interview went, if the questions in the interview guide achieved their desired effect, if the researcher talked too much or too little, how the surroundings influenced the interview etc. may provide small but crucial clues to improving the quality of the ensuing interviews (Seidman & Irving, 2006, pp. 78-79). I scheduled for time to sit down and write down my impressions of the interview directly after each respective interview. This way I could obtain a maximum of information as long as the impressions were still fresh in my memory (Appendices C1-C5). This procedure helped me to ask more probing questions in the second interview I conducted (with Jan Miörner), after realizing that I had asked Björn Stenbeck relatively few such questions.

5.5 Analyzing the Findings

5.5.1 Use of Recordings and Transcriptions

The analysis of the interviews is presented in the findings chapter under a separate heading for each company that participated in this study.

There is a variety of tools and methods for analyzing qualitative interviews, but for the purposes of this study I concentrated on the ones that can be applied to transcribed interviews. Kvale (1996, pp. 192 -203) introduces five main methods for interview analysis: meaning condensation, meaning categorization, narrative structuring, meaning interpretation and ad hoc methods. Kvale (1996, p.187) maintains however that there are no “magic tools for finally uncovering the treasures of meaning hidden in the many pages of opaque interview transcripts.” and that “The central task of interview analysis rests with the researcher, with the thematic questions he or she has asked from the start of the investigation...”

My approach to analyzing the interviews I conducted revolves around the three themes of eco-innovation, eco-opportunity and eco-commitment. Because of the multiple-purpose-nature of the questions in the interviews, the transcription text is considered as a whole for each of the three themes, and meaning is extracted from it in the light of the theory as well as the context of the interview. This means that certain answers or parts of answers will be considered, if they are relevant to the questions I have in mind relating to the instrumental theory (e.g. what is the extent of
an innovation? Does the ecopreneur aim to achieve the maximum environmental performance and is this a sign of affective commitment or continuance commitment?) and to the second purpose of the thesis. I visualized all the questions that that arose from reflecting on my theory, in the form of hand-written notes, as a link between instrumental theory and interview guide. The notes aided formulating the exact questions for my interview guide, as the questions in the interview had to be tailored to my respondents, and could not be the same as I had formulated for myself. In most cases the meaning of a longer passage, e.g. the account of an event, and its meaning will be condensed. Instead of re-telling the different stories of Salt & Brygga's tough first years, they are condensed to “the first years were an uphill-battle against negative customer attitudes, unhelpful banks and a lack of publicity”. I am aware that some of the meaning of the transcribed text will be lost, but condensing is a conscious choice in order to bring forward the relevant themes more clearly. These condensed meanings and also some of the original statements, are then in many cases used as a basis for interpretation (e.g. is Björn’s perseverance in the first years a sign of affective commitment to the environment or just good business sense?). So in brief the process can be described as selecting, condensing and interpreting what has been said in the interviews, in order to arrive at answers to the question of if and how the three concepts (eco-innovation, eco-opportunity and eco-commitment) manifest in eco-friendly companies. This approach contains parts of meaning condensation (Kvale, 1996, p. 193), meaning categorization (Kvale, 1996, p. 196), and meaning interpretation (Kvale, 1996, p. 201) and since it is my own blend of these methods it is most accurately called “ad-hoc” method.

5.5.2 “Measuring” Ecopreneurship

Subjective judgement is used for measuring the concepts analyzed in the findings chapter of this thesis. Subjective judgement following the interpretations of the information obtained from the interviews is a good way of judging the kind of eco-opportunity the respective companies exploit, and for judging the kind of eco-commitment the ecopreneurs may hold. It is a good method, because the kind of eco-opportunity that ecopreneurs perceive can be constructed from the answers to the interview questions and from the context of the interview. The same goes for eco-commitment only that because of the indirect nature of questioning used for establishing eco-commitment requires even more interpretation of answers than answers relating to eco-opportunity. The information obtained in relation to these two themes can then furthermore be corroborated when compared to general information about the companies from other sources than the respondents (e.g. company websites, tax register etc.) This way of “measuring” the concepts is also in line with the qualitative research design of this study, and the taken view on epistemology and ontology.

*How to Establish the Reduction of Environmental Impact?*

When trying to establish the potential factor reduction, i.e. the degree of mitigation of the environmental impact, it is not credible to claim a specific number in this thesis, because no exact measurement had been performed. Environmental impact is an absolute variable that can be measured with the help of various tools (ecological footprint, environmental accounting, life-cycle analysis) (Holden & Linnerud, 2006, p.178; Schaltegger, 2002, p.50), and then be represented in a relative scale such as factor reduction, which compares the eco-friendly product or service to a benchmark and thus establishes the relative reduction in environmental impact. Neither the measurement of the environmental impacts of different eco-innovations, nor their comparison with a benchmark, are performed in this study. The reasons for not measuring the environmental impact directly are the time constraint imposed on this thesis, and the lack of knowledge and experience of
the author in applying e.g LCA, environmental footprint or environmental accounting. For the purposes of this study, an approximate factor reduction will be estimated by subjective judgment, and deducted from the extent and knowledge required for the eco-innovation, as is proposed in the categorization for eco-innovation (Halila & Hörte, 2006, p. 380). Instead of giving an exact value for the reduction in environmental impact, an approximate range is estimated e.g. a factor reduction of 1-5 or a 5-10 instead of 3.67. This rough estimate of the factor reduction will still permit the categorization of companies into broader categories, while not jeopardizing the credibility of the study by claiming certain values, which have not been measured in an exact manner.

Not exactly measuring environmental impact and comparing it to a benchmark is not an obstacle to fulfilling the multiple purposes of this thesis. The empirical part of this thesis is investigating three different criteria, eco-commitment, eco-opportunity and eco-innovation, with a focus on their manifestation in real companies, and the detection of patterns in their manifestation. Analyzing if and how these three factors manifest is still possible, even if one aspect of one of the factors, the reduction of environmental impact through an eco-innovation, is estimated in a rough way. If it turns out that these three factors do manifest in patterns that are implying different categories of ecopreneurship, there is a case for measuring environmental impact reduction as well as the other factors in a more accurate manner in future research.
6 Findings and Analysis

In this chapter, the findings from the interviews with the entrepreneurs behind the four companies chosen (Salt & Brygga, Replik AB, Ernehag Consulting and Apocalypse Labs), are presented and analyzed case by case. In the analysis of each respective case, the text is structured according to the concepts of Eco-Innovation, Eco-opportunity and Eco-commitment. Although the interview guide (Appendixes C3 & C4) for conducting the semi-structured interviews was structured by me according to these themes, for the analysis of each respective concept, the interview transcriptions as a whole were used as the basis of analysis. This approach is chosen because of the multiple purposes of some of the questions in the interview guide, as well as the semi-structured nature of the interviews. One respondent’s descriptions and explanations of the eco-innovations in place in his or her respective company may both give insights into the kind of eco-innovation present in the company and the kind of opportunity that the company is faced with. It would therefore be counterproductive not to consider one section of the interview for the analysis of another concept, and therefore the whole interview is considered for each respective concept. The semi structured nature of the interviews allows for flexibility, and digressions of the respondents into different directions, which is encouraged in order to gain as much rich description and obtain as much information as possible. These digressions can occur at all points in the interview.

6.1 Case 1: Salt & Brygga, Björn Stenbeck

Table 2
Case Summary Salt&Brygga

<table>
<thead>
<tr>
<th>Company</th>
<th>Eco-Innovation</th>
<th>Eco-Opportunity</th>
<th>Eco-Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt &amp; Brygga</td>
<td>Major Service Improvement</td>
<td>Primarily market-based, imperfect Information, educating consumers</td>
<td>Affective eco-commitment</td>
</tr>
<tr>
<td></td>
<td>Category 3</td>
<td></td>
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</tr>
</tbody>
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6.1.1 Introduction

Salt & Brygga (henceforth S & B) is an eco restaurant in the Västra Hamn district of Malmö. The owner, Björn Stenbeck, opened S & B in 2001 and successfully runs it to this day. S & B is widely known for its far-reaching eco-concept, which goes beyond the sourcing of organic ingredients, an approach adopted by many restaurant in Sweden today, to include eco-friendly measures throughout its gastronomic value chain (00:05:13 – 00:08:09). Västra hamn is a recently developed urbanization project, a fact that allowed Björn Stenbeck to influence the interior setup of his restaurant's premises in cooperation with his landlord MKB (Malmö Kommunala Bostad – the municipality-owned housing company of Malmö). Björn Stenbeck is 54 years old, son to a danish mother and partly grew up in Denmark. He recalls being raised by his parents to respect the...
environment, at a time when such things as an environmental movement yet had to emerge. Björn is a teacher by training, but has worked in the gastronomic sector before he decided to open S & B in 2001. Björn was ahead of his time when he started his venture, and S & B had to fight an uphill battle against negative or uninformed customer attitudes, unhelpful and inflexible suppliers, and unsympathetic banks. One of the methods he used to gain acceptance for his service was to always offer equally high or superior quality as compared to non-organic restaurants. A goal he only partly succeeded with as an interview with one of his employees, who wants to remain anonymous, has shown. When demand for eco-friendly products in Malmö increased, S & B was one of the very few places in the gastronomic sector positioned to take advantage of this new demand. Today, S & B is economically successful, it has managed to pay off all of its bank loans, and runs at a profit (Appendix A1).

6.1.2 Eco-Innovation

Eco-Innovations at Salt & Brygga

The premises of S & B were in the process of being built when Björn Stenbeck came to an agreement with the landlord, MKB, and this allowed him to exercise some influence on the architectural details of them in cooperation with MKB, the landlord. The main wishes he was able to accommodate were:

- An organic waste separation facility with two separate storage tanks for organic waste composting and culinary oil waste respectively, integrated into the basement of the building
- A large garbage recycling room in the back of the restaurant, at a time when recycling was still voluntary for restaurants in Sweden, and not performed by a majority of restaurants
- The use of non-toxic paints in all of the restaurant's premises
- Strictly non-toxic wire-coatings in all electrical installations
- Non-toxic and non-allergenic materials on the entire premises
- Photovoltaic panels on the south-facing wall of the building, and on the building's roof, which supplement the restaurants electricity supply when the sun is shining

These environmental measures are complemented with locally-produced wooden chairs and tables, energy-saving lighting, parts of which were upgraded when white LED lights became available. The electricity is sourced from a supplier that provides electricity from renewable energy sources only (Grön El), and into whose grid the surplus generated from the solar panels can be fed back, which effectively spins the electricity meter backwards. The eco-innovations mentioned so far, are all part of the surroundings, and influence the eco-friendliness of the gastronomic service only indirectly. This category of entirely voluntary eco-innovations is part of what sets S & B apart from many other restaurants that adopted an eco concept, and of course from all the restaurants which are not run under an eco-concept.

Björn has made it a priority to source as much as possible of the ingredients of the food and drinks he sells at S & B from organic producers, which produce locally (in order to reduce the negative
environmental impact of long transport routes), or alternatively from overseas producers that adhere to fair-trade standards and standards for organic production. He gave me an example of how cumbersome the process of sourcing was when he recounted how gastronomic distributors of coffee literally laughed at him for asking for fair-trade labelled coffee for his restaurant in 2001 (00:09:07). He had to work out a deal with a tiny company from Gothenburg that had supplied fair-trade coffee to churches and community organizations in Gothenburg, a deal which made him the first restaurant in Malmö to offer such coffee. He also told me of his attempts to convince farmers in Scania (the province surrounding Malmö) to shift to organic production mode, because there were no local organic sources available for some types of ingredients when he started. Moreover, Björn, who had been a vegetarian under a period of fifteen years, deliberately tries to serve a lower proportion of meat in his dishes, because of the negative environmental impact of the meat production process (00:34:00). He offers vegetarian alternatives, and likes to use a variety of beans and lentils, even in his meat dishes, because he regards them as an ideal combination of health- and eco-friendly features. The interior furnishing of the restaurant was chosen with a focus on durability and timeless chic as Björn intends to keep it for a long time, in order to avoid the environmentally harmful process of renewing the interior design in five-year intervals (00:06:57).

Creativity and Knowledge

The knowledge required for implementing the eco-innovation at hand is partly business specific, partly general knowledge of environmental issues and solutions. The business specific knowledge required in this case is a good understanding of how a restaurant is run, a prerequisite for improving the environmentally harmful aspects of it. The level of knowledge related to environmental issues, which is required to implement the eco-innovations at S & B is general. Björn has no special education, or training with regards to environmental issues, rather what he possesses is a high level of personal interest for the subject, which induced him to read books, spend time at eco-friendly places in California, and actively search for measures which reduce the environmental impact of a restaurant business. If the knowledge required is “business specific and general - category 2” (Halila & Hörte, 2006, p.380) , the creativity required to implement solutions is high. As an example, while eco-friendly alternatives existed for many of the raw materials used at S & B, the challenges in actually acquiring them where sometimes considerable (00:39:00 – “artichokes grow like weeds in the climate of Scania, but the farmers don’t like to cultivate them, so we have to import them from Italy and Spain where they spray them with pesticides and chemicals”). Also some measures, like the composting facility in the basement of the building, had not been implemented in a restaurant before; it thus required creativity to conceive an adaptation of these solutions for this context.

Extent and Impact

The extent of the eco-innovation (Halila & Hörte, 2006, p.380) is rather far-reaching, considering the fact that not only one component of the business e.g. organic ingredients for the food, but a great many aspects of the business were considered.

Considering all measures implemented, and both the quantity and the magnitude of the differences in comparison with a non-eco friendly restaurant, a factor improvement of five or more becomes plausible.
Classification of Eco-Innovation

For the purpose of classifying S & B's level of Eco-Innovation I consider the business as a whole, and not it's single products or services. This makes sense in the case of S & B since it is essentially the combination of eco-friendly features in the form of an eco friendly restaurant, which can be regarded as Björn Stenbeck's accomplishment. On the other hand, only some of the measures themselves are actually Björns own innovations, while a larger part of them come from outside sources.

Overall, I propose to classify S & B as a “Category 3 Major Product Improvement” type of eco-innovation (Halila & Hötte, 2006, p.380) but I choose to call it a “Major Service Improvement”, because S & B gives a service rather than produces a product. The service rendered is still largely similar to what non-eco-friendly restaurants do, i.e. fresh food is prepared and served in a restaurant facility, but many of the small details are adapted for reduced environmental impact. The combination of the relevant factors, medium knowledge but high creativity, large extent of innovation, and a medium reduction in environmental impact, most closely amount to a “Major Service Improvement” (Halila & Hötte, 2006, p.380).

Time Factor

Some of the eco-innovations which Björn implemented when he started S & B, like a recycling facility or solar panels, are nowadays rather commonplace in Sweden, (although Björn claims the opposite, 00:29:00), and may therefore not be regarded as an innovation anymore. However to be fair in my judgement, I'll have to take into account the degree of novelty at the time of implementation and not at the time of my study. The same time factor also applies to the serving of organic fair-trade coffee in restaurants. This is also a practice that Björn pioneered in Malmö, and which has become so mainstream nowadays, that it can hardly be seen as an eco-innovation anymore.

6.1.3 Eco-Opportunity

Imperfect Consumer Information

When regarding the nature of the eco-opportunity present at S & B, the evidence gathered from my interview with Björn is somewhat ambiguous. On the one hand he describes a sort of uphill battle against negative or uninformed customer attitudes towards his eco-friendly gastronomic services, which he sought to neutralize by offering equal or superior quality in cooking and customer service as well as ingredients (00:10:03, wine, espresso). On the other hand he claims that his restaurant is widely known even in far-away places (“we get whole pages in magazines from Germany and France…”, 00:15:00). He speaks of conscious customers from all over Sweden, even from all over Europe, who frequent his restaurant specifically because of its eco-attributes (00:14:00). A factor that may spread some light on the issue is the time factor. Many of the examples Björn gave of negative customer attitudes date from an early period, while many of the positive ones date from a more recent period. This observation implies that customer attitudes have changed over time, an observation which coincides with my subjective picture of changed consumer attitudes towards eco-friendly products over the last 10 years or so. I asked Björn by e-mail and he answered me (Appendix C1), that the attitudes of his customers towards organic food had changed to the better about two years ago, so around spring 2007. I tried to corroborate Björns statement by having a
look at the sales statistics of organic labeled food (Appendix C6), the sales of which increased by 14% from 2006 – 2007, however I could not find complete statistics for the years before and after. A sales increase of 14% could indicate a change in consumer attitudes, from which also S & B would benefit, but it could also be part of a continuous growth trend, which would imply a more gradual change in consumer attitudes.

Another factor that may also explain some of the change in the attitudes of Björn's customers is his approach of providing equal or superior quality compared to non-eco restaurants. This approach may have led to that previously uninformed or indifferent customers changed their attitudes, because of the positive experience they had at S & B. Although this explanation is supported by the large number of regular guests Björn claims to have (00:15:00), it is challenged by the employee I interviewed (anonymously), who criticizes vehemently the lack of quality control and consistency in service and food quality.

A more reliable way of finding out about the motivations behind the purchase decisions of S & B's customers would be a customer survey, although even in such a survey customers may have reasons to conceal their true motivations for dining eco-friendly. In the absence of a customer survey, we have to rely on the opinions of Björn and his anonymous employee. If Björn’s opinion is correct, and some of his guests became more positive towards eco-restaurants because of the positive experience they had at S & B, then this would amount to S & B exploiting “Imperfect Information among Customers” (Dean & McMullen, 2005, p.66-69). I.e. customers that were previously unaware of the existence of eco-friendly restaurants learned about it through a visit at S & B. Also the previously indifferent segment of customers, which became convinced of the value of his concept by the good service and food quality, fall into the category of “Imperfect Information among Customers”, i.e. they were indifferent or skeptical because they were uninformed of the possibility of high-quality eco-restaurants.

I tend to trust the employee’s opinion, both because I make a personal judgement about his honesty, but also because he has nothing to gain from spreading negative facts about the service and food quality at S & B. Björn on the other hand has an inherent interest as an entrepreneur to appear in the most positive of lights, and conceal problems in food and service quality. If such problems exist, I am almost certain that he would not have told me about them, so as not to harm the reputation of his restaurant. If this is the case, it is not because of the service and food quality that customers come, but despite the fluctuations in it. If food and service quality are not the main reason for why customers are attracted to S & B, I find it reasonable to assume that the far-reaching eco-concept of S & B indeed is a reason for the attractiveness of S & B to its customers. If this is the case, the kind of market imperfection Björn had exploited, is more accurately described as “Imperfect Information among Producers” (Dean & McMullen, 2005, p.66-69). The producers in this case are more accurately described as the providers of catering services i.e. the managers or owners of restaurants in Malmö. The nature of the imperfect information that was present among catering service providers must consequently have been their unawareness of a coming eco-trend at the time when Björn started S & B. Even if some of the owners and managers were aware of the coming trend, they probably didn't perceive an economic opportunity in it back in 2001. This reasoning is supported by Björn's claim that gastronomy business is very conservative and resistant to change (00:32:00), a claim that is supported by my personal experience of working in the restaurant sector.

Björn, who was very much aware of environmental issues and ways to mitigate environmental impact due to his previously described concern for the environment, naturally did see an opportunity where others did not. He claims today that he had the vision to foresee a large customer demand for his eco-restaurant at the time he started his business (00:22:00). My interpretation of the interview however suggests that the factual basis for his belief that customers would be attracted to an eco-restaurant was very thin. He did not mention to me in a word how he had arrived at his
assessment of customer attitudes towards eco-friendly restaurants. I believe that it is more likely, that because of Björn's knowledge of a larger coming eco-trend, he assumed that this trend would also apply to the restaurant sector. In the words of the anonymous employee: “He made an informed guess and he got lucky”. This statement is to be understood with regards to the business opportunity. However I do believe that Björn, perhaps contrary to the business side, very clearly did perceive the environmental side of the opportunity. My belief is not only supported by the fact that Björn is very knowledgeable about most environmental issues related to his restaurant, but also by my observation of the interviews. He spoke passionately about the improvements he could implement, as if he was thirsting for them to finally be put in place, and he showed honest frustration when telling me about how other restaurants still don't separate their recyclable waste from the non-recyclables. The indications mentioned point towards that Björn saw a very obvious opportunity to run a restaurant in a much more eco-friendly way than was being done at the time he started, and that he anticipated some customer demand for it, although one may also say he hoped for demand. Fortunately for S & B and Björn, the demand materialized albeit after a tough period of the three initial years, and S & B is a debt-free, economically successful business today. (Appendix A1)

As I have argued for above, the category of eco-opportunity which in my opinion most closely resembles the one Björn exploits, is that of “Imperfect Information among Producers” (Dean & McMullen, 2005, p.66-69). In my view, the other types of eco-opportunities mentioned in the theory very clearly do not apply to the case of S & B. Gastronomic service is not a public good, it's a genuine private good i.e. only one person can consume it once the service is provided, and access can effectively be limited such that only who pays gets served. The eco-opportunity at hand is not one that builds on internalizing externalities as a business model either. To be sure, Björn internalizes some of the environmental externalities that his business causes, but his business is not built on internalizing environmental externalities per se the way various ETS (emissions trading schemes) are practicing it. Unfortunately, despite Björns best efforts, other restaurants can continue to pollute and harm the environment without paying an extra cent for it. Furthermore there are no monopolies in the restaurant sector in Sweden, the competition is rather free, and there is only some government intervention, little of which encourages environmental degradation. In any case, Björns business model does not include limiting environmentally harmful government intervention, and can therefore not be described as such.

6.1.4 Eco-Commitment

Eco-commitment is a property that can both be possessed by companies and by people (Keogh & Polonsky, 1998, p.41). Entrepreneurs shape and formulate the policies in their respective companies, and the shape they give to their businesses reflects their personal vision (Schaltegger, 2002, p. 47). In the case of S & B the connection is very straight-forward. Björn is the person who displays eco-commitment, and in S & B he implements business decisions which are informed by his commitment to the environment. In S & B, Björn is the man who makes all the decisions. He states this in the interview himself (00:23:00) and it is also confirmed by my triangulation interview with an anonymous employee (“HSB – han som bestämmer” – “he’s the boss”). There is no doubt in my mind that within the organizational and economic constraints that apply to his business it is Björn who determines the eco-commitment of S & B, and I will therefore treat the commitment of Björn and the commitment of S & B as the same notion.

Based on the answers I received from Björn, and reinforced by the information obtained in the interview with one of his employees, I came to the conclusion that Björn holds “Affective Commitment” (Keogh & Polonsky, 1998, pp. 40, 42) to the environment. As will be laid out in the next paragraph, Björn’s affective commitment can be observed in both his statements and his
actions.

Pledges and Actions

One indication for affective commitment is that Björn strives to achieve the maximum environmental performance possible for him (00:05:13). He does not only implement measures up to a certain threshold which is mandated by rules or certification, nor does he only act to the point where environmental improvements are socially acceptable or desirable. S & B exceeds the requirements given by law, and Björn also claims that S & B exceeds by a wide margin the requirements for the environmental certification KRAV. He therefore resigned from KRAV and instead became certified by the “Svan” label (00:26:00). Normative Commitment (Keogh & Polonsky, 1998, p. 40), living up to certain environmental rules or goals in accordance with a sense of obligation to the environment, which environmental laws and KRAV requirements represent, can therefore be excluded. Björn implemented his far-reaching eco-concept at a time when it was less than clear that it corresponded to what is socially desirable, and therefore Continuance Commitment (Keogh & Polonsky, 1998, p. 40), which is based on the notion of minimizing social cost arising from disregarding the socially desirable, may also be excluded. He told me that in the year 2001, when he started S & B, he had to struggle with many negative prejudices, and that all things ecological still were victim to ridicule. Clearly, when Björn started his restaurant he was ahead of the curve, ahead of the ensuing eco-trend. Björn’s biography, the time he had spent in California, his vegetarianism and the respect for the environment his parents allegedly instilled in him, all make it plausible for me that his commitment is more than just a PR-stunt, but actual “Affective Commitment” to the environment (Keogh & Polonsky, 1998, p. 40).

However the establishment of S & B was also a smart business move, as his restaurant today is doing economically well. In a sense, taking this seemingly irrational step of starting up S & B and installing all these costly extra devices like the composting facility and the solar panels, which do not directly contribute to the revenue stream was a prerequisite for his later success. When “Green” became trendy, the customers clearly perceived him as holding a true commitment, manifested in his early start and in his far reaching concept including these exact aforementioned measures which did not directly contribute to the revenue stream. In the eyes of his customers this put him miles apart from mere opportunists or green-washers. Or did it? Was this not just an intelligent strategy by someone with insight into environmental issues for making money? Did the solar panels and the composting facility indirectly contribute to the profitability of S & B after all, via increased customer goodwill? Learning about all these environmental issues and some possible solutions to them still required a lot of time, interest and curiosity from someone who has his professional background in a completely different field (teacher). I therefore find it reasonable to argue that Björn’s knowledge of all the ways to mitigate environmental impact in his restaurant is evidence enough of affective environmental commitment. Someone who is indifferent to the environment wouldn't have spared the time and made the effort to learn about things which are not directly relevant to his professional field (teacher). Moreover, a smart business move and affective environmental commitment (Keogh & Polonsky, 1998, pp. 40, 42) don't have to be opposed. In fact they are connected. Shane (2003, p.97) states that “People's personalities and motivations will influence the likelihood that they will exploit entrepreneurial opportunities ... people with certain motivations will exploit opportunities that others will not.”. Accordingly, someone with an affective commitment to the environment as a motivation may be able to perceive eco-opportunities in places where others see nothing. I find it plausible to understand Björn’s business idea in this exact sense. Naturally there are limits to the interpretation of someone's actions and statements, and in order to be absolutely sure about Björn's motivations one would need to be inside his mind. Because I'm not telepathic, and because I do not believe in the legitimacy and utility of water-boarding my interview respondents, the chance remains that I misinterpreted Björns eco-commitment.
One more indication of the authenticity of Björn's affective commitment to the environment are the anonymous employee’s statements in the triangulation interview: “no concept, no manual, no rules in the kitchen, the only rule is -ekologiskt- (organic)” Also the criticism that Björn had focused too much on his eco-concept, and that he's forgetting the customers' needs over it, to me is an indication of where his primary commitment lies. The employee suggested, that instead of being a restaurant owner Björn should become an environmental activist. It crossed my mind that this is perhaps exactly what he is. Maybe Björn Stenbeck is an environmental activist, who primarily uses his business as a tool to further his environmental agenda. In any case, the above-listed arguments make it very plausible to me that Björn in fact holds affective eco-commitment rather than normative or continuance commitment to the environment (Keogh & Polonsky, 1998, pp. 40, 42, 44).

6.1.5 Main Issues in the Interview with the S & B Employee

Because of concerns that the identity of the employee I interviewed may be revealed, and that this may lead to trouble with Björn Stenbeck, the employee asked me not to make the transcriptions of the interview with him publicly available. The main issues which surfaced in the interview were issues of quality control, the lack of respect and trust Björn showed for his employees, and Björn’s environmental commitment. The eco-innovations which Björn told me of, were all confirmed by the employee. The employee also confirmed that questions of environmental impact were always very high up on Björn’s list of priorities, and that he found that Björn was focusing too much on the environment, and that other parts of the business suffered from it. The employee said with an ironic undertone, that Björn should be categorized as an environmental activist rather than a restaurant owner. The only inconsistency I could find in Björn’s affective eco-commitment was the employee’s comment that Björn drives a large BMW. However, as I checked the transcriptions of the interview with Björn I found that he told me that his car runs on the biofuel, which is produced from the organic waste in the tanks of S & B (00:05:59).

The remarks concerning inconsistent quality control mainly had to do with the quality of the meals served, and the quality of customer service. The varying quality of the meals, despite using only prime organic ingredients, is apparently caused by two things. Björn does not use recipes for the meals that are prepared, so that their ingredients and preparation can fluctuate a great deal, depending on which chef is on duty. The other reason is that Björn always wants to create new dishes, and never wants the same dish twice on his lunch menu, which effectively bars long-time guests from having their all-time-favorite dishes for lunch. What makes the quality fluctuate in new dishes is that Björn is no chef. Nevertheless he is extremely stubborn and does not allow the chefs to contribute anything to “his creations” which sometimes makes them less than acceptable. The variations in service quality have mainly to do with the high turnover rate in both service and kitchen staff, so that there are always some “rookies” in the team, who have yet to learn the routines of S & B.

The high staff turnover rate leads us straight to the third main issue, social responsibility, respect and trust, or Björn’s lack thereof. The anonymous employee was pretty disillusioned by the working conditions at S&B. He mentioned that Björn did not care for his employees as persons, that he does not trust them with anything, so that they would not be allowed to have any input in the working schedule, and that suggestions by his employees concerning any other part of the business were not welcome either, because Björn always knows best. The employee, who is qualified for his work, felt that it was disrespectful on the border to an outright insult, that Björn who is a teacher by training, would summarily dismiss all suggestions and ideas from his employees, regarding e.g. improvements in the kitchen and in service, thereby ignoring his employees' professional knowledge and experience. Furthermore he mentioned that not all employees were treated equal,
and that those employees who belong to Björn's family would never need to do unpleasant tasks like cleaning, lifting heavy things or cleaning and cutting vegetables. The fact that Björn employed all of his employees legally and with no unpaid overtime was confirmed by the employee, but the attempt by Björn to present this fact as his great social responsibility, was perceived as a bad joke by the employee.

While the comments on Björn's preoccupation with all issues concerning the environment confirmed his eco-commitment, his self-declared social responsibility was thoroughly refuted by the employee's account of how Björn treats his employees.

### 6.2 Case 2: Replik AB, Jan Miörner

#### Table 3

*Case Summary Replik AB*

<table>
<thead>
<tr>
<th>Company</th>
<th>Eco-Innovation</th>
<th>Eco-Opportunity</th>
<th>Eco-Commitment</th>
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<td>Indirect Functional Innovation - Category 4</td>
<td>Market-based and regulations-induced</td>
<td>Not determined for company, affective for the person Jan Miörner</td>
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</table>

#### 6.2.1 Introduction

Replik AB is a company of two consultants, Jan Miörner and Sten-Olov Eldh, who together own the company. Jan Miörner advises customers in three main areas: environmental management (miljöledningssystem), quality management and questions of working environment. About half of their customers come from the private sector, and the other half comes from the public sector. In the public sector, the clients consist mainly of Swedish municipalities and municipality-owned companies or public utilities. In the private sector, the clients who hire them for environmental management consulting, are either companies which have a strong environmental impact, and are required by legislation to reduce environmental degradation and therefore implement environmental management systems, or light industrial companies like parts suppliers to larger industrial companies, which are required by their customers to have an environmental certification e.g. ISO 14001 (“You may not even deliver a nut if you don't have ISO 14001” 00:09:05). The tools Jan is using are different management techniques and a pedagogic approach to implement environmental management systems in his clients' businesses. Given that these systems are implemented correctly, and that documentation of these systems is delivered according to the rules of the certification norms, Jan's clients can then become certified according to a standard (e.g. ISO 14001) they chose. The certification is of course given by a third party, and not by Jan or Replik AB, but for whom the successful certification of a client company is a measure of success. Other than strictly preparing clients for certification, Replik AB also in a more general sense helps its clients to reduce their environmental impact in chosen areas, and to put into place management systems that enable clients to measure and improve their environmental performance. According to Jan, many larger industrial or energy companies have become aware of environmental impact reduction, not only as a way to improve their image, but to achieve cost savings through more efficient resource use (“they're
making money like hell wit this” 00:54:00).

Jan is originally a primary school teacher, and has later studied human resource management at Lund university, from which he graduated with a BA in 1989. After that he started working for a larger consultancy, first with questions of work environment, and then he gradually moved into the area of environmental management systems. He specifically enjoyed the environmental management part, and had the opportunity to work with some pioneering figures of the field (Det Naturliga Steget, Karl-Henrik Robért, 00:02:02). Jan is very knowledgeable on all sorts of sustainability related issues and concepts of environmentally friendly business. He presented me with different of books (Plan B 3.0 by Lester Brown, 00:57:00), dealing with questions of environment and sustainability, which he enthusiastically recommended me to read.

6.2.2 Eco-Innovation

Eco-Innovations at Replik AB

Determining what kind of eco-innovation (Halila & Hörte, 2006, p.380) is to be found in Replik AB was not as straight-forward as in the previous case, S & B. The two things which struck me, were that first of all, Jan does not deliver a physical product but a service, and the second feature is that he doesn't actually reduce his own company's environmental impact, but he helps other organizations to bring environmental management systems into being in order to reduce theirs. However as we know from the theory, innovation also applies to services and processes (OECD, 2000), and in order to gain a better grasp, Jan distinguishes between direct and indirect environmental impact (00:21:00), direct being the environmental impact of Replik AB, and indirect referring to the environmental impact of his clients. What still confused me was determining what the actual eco-innovation at hand was. Whenever Jan accepts a job in environmental consulting, he helps companies reduce their environmental impact in different ways (00:31:00). Most of the times, his job consists of helping to introduce management structures which plan, report, evaluate environmental impact, and take corrective action if necessary (“plan-do-check-act”, 00:07:02). So, although he does it in an indirect manner, he contributes to reducing environmental impact. Since I defined “eco-friendly” in a rather broad sense for this thesis, the indirect reduction of environmental impact which Jan brings about, could be seen as the eco-part in eco-innovation? But what is the innovation then? Although the emergence of environmental management systems and eco-consulting is a fairly recent phenomenon, the theory (things like Life-cycle-analysis, environmental accounting, ecological footprint) which lies behind it is in no way Jan's achievement. Jan learned and possibly internalized many of the theories, and in order to be an innovator one does not need to be the inventor (Rennings, 2000, p.322). It has to be stated however, that it is neither Jan's claim nor could I find any evidence, that he happened to be the first one two offer environmental consulting services on any given market.

There are however two aspects which I find very innovative about Jan's business. The first one lies in the nature of services – one service given is never completely identical to another, because it is situational, and it is provided between people, and the social interaction of people from which the service arises is never completely identical. This means in the context of Jan's business, that it is always up to him to apply the generic tools he has at his disposal in new and meaningful ways which suit his client. The other innovative aspect of Jan's service delivery is that in order to achieve meaningful change towards environmental impact mitigation in a client's organization, he is transferring the initiative to the leaders of the organization (01:08:00). In his view, the only way to successfully implement an environmental management system in an organization is to have the
backing of the organization's leadership (01:08:00 – 01:09:00). Since these two innovations cannot exist in isolation from the rest of the services Jan delivers, I came to regard the whole service of environmental consulting as the eco-innovation in Replik AB. Only if all stages and processes of environmental consulting as a whole are working together and make the client organization implement the prescribed management changes, is there a possibility that these management changes in turn will lead to a reduction of the environmental impact of the client. Henceforth the process of environmental consulting will be considered as a whole to determine its level of eco-innovation.

**Knowledge and Creativity**

The knowledge Jan puts to use when consulting his clients is extensive. It ranges from different tools of analysis like LCA (00:06:00 – 00:11:00) to change management (01:05:00) to knowledge of certification systems like ISO 14001. Some part of this knowledge and management way of thinking certainly comes from his studies of human resource management, but a large part certainly has also accumulated over his more than 15 years of work experience in the field. When making his clients aware of different environmental issues, Jan probably also benefits from the pedagogical skills his previous career as a teacher gave him. It is hard to categorize the knowledge needed for the eco-innovation at hand in Replik AB. On the one hand, it is business-specific (category 2 of the 6 categories of eco-innovation) (Halila & Hörte, 2006, p.380), that is specific to the business of environmental consulting. On the other hand it is extensive and stretches beyond the boundaries of one discipline (category 4). This is both true for academic disciplines, like law (for environmental legislation), management (for the practical implementation), and sustainability issues, and it is also true for the range of clients which Jan advises. Among the clients are hospitals, recycling companies, sewage treatment companies, manufacturing companies etc., which all require an individual adaptation of the tools and concepts Jan uses, to the specific circumstances in each company. Because of the extensiveness and the advanced level of the knowledge required for Jan's environmental consulting I deem it to be category 4 or extensive and covering different disciplines. Categorizing the knowledge as business-specific i.e. specific to the business of environmental consulting would be missing the point of the vast nature of this business area. It would be more reasonable to argue that environmental consulting not only represents one business area, but several ones which are connected by a theme (the mitigation of environmental impact) and a number of tools.

The point of creativity has already been discussed above. The inherent creativity in the service provided by Jan lies in the adaptation to each respective client's particular circumstances. This does not mean that Jan has to “re-invent the wheel” for each respective client of his, but rather that he has to put on winter tires or summer tires or spikes. What I want to express in this metaphor is that I judge the degree of creativity required for the eco-innovation as medium.

**Extent**

Here again we are confronted with the problem of which angle to choose when regarding extent. If we apply extent to Replik AB, the answer would be end-of-pipe or limited extent. The only aspect concerned by the eco-innovation (Halila & Hörte, 2006, p.380) is the service that is provided to the customer, and no other aspect of the business. In fact it is even less than that, since environmental consulting is only one of three kinds of consulting Jan specializes in, the others being quality management and working environment issues (00:01:00 – 00:02:00). However since I already established the indirect nature of the eco-innovation in Replik AB, I think it is reasonable to judge
the extent of the eco-innovation at the place where it is delivered, and where it has its impact, in the client's organization. In the client's organization, the extent can vary from dealing with one specific issue or business process, to introducing a whole environmental management system, as is required for e.g. certification (00:16:00 – 00:19:00). It can however be said, that the work of Jan is never limited to only one aspect or one product, but always deals with parts of systems or entire systems. This can be claimed because Jan himself states that in most client companies, he doesn't possess the necessary technical or otherwise expertise to improve one the environmental performance of one specific product or process (00:18:00). I deem the extent of the indirect eco-innovation, i.e. the eco-innovations Jan enables his clients to implement, to be between medium and integrated, since this is the range within which Jan operates (00:18:00 – 00:20:00).

Environmental Impact

Environmental impact (Halila & Hörte, 2006, p.380) can first of all be divided in direct and indirect environmental impact. The direct environmental impact of Replik AB is limited to the environmental impact of its office in Köpenhamnsvägen in Malmö, and to the business trips of the two owners, Jan and Sten-Olov. Although Jan concedes that the choice of transportation is important in order to minimize the environmental footprint of Replik AB, he also adds that the direct environmental impact of Replik AB is really negligible (00:21:00), and that the services he delivers to his customers are the really important part in terms of environmental impact reduction (00:22:00). Unfortunately Replik AB has not measured the environmental impact reductions that could be achieved in client organizations, apparently because no demand for such a service had existed from their clients' side (00:26:00). In the absence of more or less objective data on measurement of environmental impact reduction, we are left once more to infer, both from the kinds of projects Replik AB has worked with, and from the level of the other two factors, extent and knowledge/creativity, how much environmental impact reduction can be achieved. I believe that in absolute terms, the potential environmental impact reduction that can possibly be achieved through the measures which Jan helps companies to implement, should logically be the largest in those companies that have a large environmental impact in the first place.

In companies like sewage companies, energy companies, but also hospitals, the reductions possible may equal factor five or more (this is my speculation), however I am not sure whether these impact reductions should be measured in that way, since many of these companies only reduce environmental impact to the levels laws and regulations force them to. Jan thinks that due to a tough competition, few companies are ready to reduce environmental impact beyond the levels required by laws (00:53:09). One noteworthy exception exists however, namely the group of organizations for which environmental impact reductions go hand in hand with cost reductions, stemming from more efficient resource use (00:54:00). For companies like paper mills who e.g. find ways to utilize their excess heat or other waste products, or real estate owners who save money on upgrading their properties to passive house standards to save energy and money simultaneously, I believe that impact reductions beyond factor five can be achieved. If one accepts the argument presented in the beginning of the eco-innovation part, that Replik AB should be credited for the environmental impact reductions which could be achieved in their clients' businesses because of their services, then inferring from category four knowledge and the medium to extensive extent of the eco-innovation, I would suggest that a factor reduction ranging from factor three or four, all the way up to factor ten is reasonable. The large range depends on the large amount of variation that exists in the client companies of Replik AB, and the scope of the projects they get involved in. One more argument for giving credit to Replik AB for the environmental impact reductions achieved in their client companies, is that those reductions may simply not have been realized without the presence of Replik AB, because nobody convinced the client companies that this could be a good idea (01:09:01).
The type of eco-innovation (Halila & Hörte, 2006, p.380) resulting from the constituting factors is functional innovation or category four. This functional innovation is implemented in the client organizations, and may therefore be termed indirect functional innovation.

6.2.3 Eco-opportunity

First of all it has to be noted that the environmental opportunity and how it is linked to business opportunity in Replik AB is different to how it exists in other organizations. Rather than being a cost, the improvement of environmental performance in client organizations is an indirect source of income for Replik AB. This means that the more a client company strives for or is forced to reduce its environmental impact, the more Replik AB's services will be demanded. Since Replik AB can only be successful if their customers are successful in achieving their environmental goals, the financial success of Replik is linked to the environmental performance of their customers (via the intermediary of customer satisfaction). This congruence of eco- and business opportunity is remarkable, as it does not put the entrepreneur in a dilemma where he needs to choose between profitability and environmental performance, because both go the same way.

Demand

The demand for the environmental consulting services offered by Jan and Sten-Olov, is caused by different factors. Some sorts of businesses, especially those which produce a large environmental impact, have to fulfill legal requirements such as having an ISO 14001 certification, showing that an environmental management system is in place (00:19:00). Especially parts suppliers to the auto industry and other light industrial companies see themselves confronted with conditions set by their customers, who not only require quality management systems, but also environmental management systems (00:08:00 – 00:10:00). These companies turn to Replik AB to receive help in meeting the requirements necessary for certification. Another category of companies expects to gain an advantage (also in image) over competitors from being certified and therefore hire Replik AB (00:44:00). Some companies also realize that economic gains are to be made from more efficient resource and energy use, and this group of companies also sometimes asks for guidance from Jan (00:54:00). The above mentioned forms of demand for environmental consulting services are either market-based or caused by government regulations. The one kind of market failure that Jan indirectly states that he is aiming to exploit is imperfect information (Dean & McMullen, 2005, p.66-69), as he tries to trigger organizational learning in his client organizations (00:31:00 – 00:32:00) learning that should ideally involve that clients learn themselves to identify opportunities for environmental impact reduction, and the understanding that these impact reductions often make business sense (00:54:00). The other kinds of market failure clearly are not present in this case.

Jan’s View on Opportunity

In relation to that one market imperfection, imperfect information, which could be seen as being exploited by Jan, he has encountered three categories of decision-makers in his client companies over the years. Jan developed three labels for them which I see very fitting: “the complainer”, “the
“visitor” and “the customer” (01:05:02). The complainer really resists systematic environmental work in his company; he ridicules environmental concerns, or thinks that all environmental requirements put on companies these days are just the result of one big conspiracy that he is the victim of. Luckily, Jan has the impression, that this group is rather small, and that they become fewer and fewer. The largest group of managers and company leaders Jan encounters in his work are the visitors (01:06:00), who are not actively resisting the implementation of environmental management programs, but who are rather indifferent to them, and who certainly don't prioritize them. Without the support of this group of people, however many initiatives are doomed to fail. This is almost worse than the effect of the complainer, because the “failure” of an environmental initiative which often really is due to a lack of support and a half-hearted implementation, discredits it in the eyes of those who were previously positive towards it. The third group, which Jan calls customers, is decision-makers who actively pursue environmental impact mitigation, because they arrived at the understanding that they are good business opportunities too. With this group of people Jan can usually find the best solutions, when they hire him for advice, they are already actively pursuing environmental goals and only want help in getting there. Jan sees as part of his job to transform the visitors into becoming customers, e.g. by putting them in the driver seat of the change process, letting them formulate the goals of the environmental initiative, and then also take the initiative for the implementation (01:08:00). I really like Jan's way of looking at his entrepreneurial challenge, both because it's a smart way to describe his eco-opportunity, but also because it is full of optimism, and incorporates a belief that environmental progress really is possible.

6.2.4 Eco-Commitment

The unusual relationship of environmental performance improvement and economic success present in the case of Replik AB, pointed out in in the eco-opportunity section, makes it a difficult task to establish commitment to the environment through indirect questions. The criteria for establishing eco-commitment such as to check whether it is a goal in itself or to strive for environmental improvement or if it is just a reaction to customer demands or regulation becomes useless. This is because the striving for the maximum environmental improvement, if it is present, can not automatically be taken as an indicator for eco-commitment, since the commitment may always also be to revenue for Replik AB, and the measures taken to obtain it are largely identical. Also when looking at the kind of legal framework for environmental issues that Jan may advocate, the same problem arises. Stricter environmental laws for companies would only increase the demand for the services of Replik AB, and thus increase the revenue stream. Certainly, Jan is positive towards strict environmental legislation, and gives the example of Sysav, a waste-collection and recycling company operating in about ten municipalities in Skåne, whose present-day leadership in environmental issues can be attributed to a wake-up call in the form of stricter laws introduced earlier (00:40:00). He thereby argues that stricter legislation is not only good for the environment, but that it can also be an opportunity for innovative companies to assume a position of environmental leadership. On the other hand, probably in an effort to give objective answers and to display his knowledge and insight into his business, he also states that the tough competition in most markets makes it very hard if unlikely that companies go beyond the requirements, laws or certification rules put on them(00:53:09). Although advocating stricter environmental laws is usually a standpoint taken by people like environmental activists, whereas representatives of businesses often claim that the market alone is capable of taking care of environmental problems, in the case of Jan, this is not a clear indication for his affective commitment (Keogh & Polonsky, 1998, pp. 40, 42) to the environment either, because stricter laws would almost certainly increase the revenues of Replik AB.

It feels terrible for me to question and doubt Jan's commitment in this way, but what has to be understood is, that it is not Jan's commitment I am doubting, it is my possibilities to prove it for his
company, or even argue for it. When interviewing Jan in his apartment-office in Köpenhamnsvägen, I got to know him as a dedicated and competent individual. I had the impression that Jan sort of took his own eco-commitment as self-evident, and that it is the commitment of his clients that required scrutiny. This impression came from the fact that he never really argued for or even tried to explain his own eco-commitment. I thought at first that he abstained from that because he is a positivist, who thinks that all statements that cannot be proven, which of course a statement by him about his commitment to the environment could not be, are useless in a scientific sense. However upon more reflection, I came to the conclusion that I mentioned above, that he probably did not highlight his own commitment more, because it is so self-evident for him. My suggestion is therefore to split up the analysis, into Jan and his company. For Jan the person, the secondary indications like “level of involvement in environmental issues” is a good way of checking, however, for Replik AB as a company it is not, and in the absence of better ways to check for the eco-commitment of Replik AB, I deem it undetermined.

Robbed of my main tool of analysis, inquiring how far the entrepreneur is willing to go in the implementation of eco-improvements, I have to resort to more secondary ways of checking for commitment. Jan's general involvement with environmental issues, a criterion put forward by Lynes (2006, p.7), seems to be very high. I derive this from the library filled with books on environmental and sustainability issues that Jan keeps at his office, and also from the large background knowledge he displayed in the interview, on environmental issues (01:04:00, 00:57:00). Also the fact that he stated several times, that he cannot help companies who want him to “fix” the papers in order to receive an environmental management certification (00:50:00) is a light indication of eco-commitment. It is a light indication of normative commitment (i.e. he feels obliged to follow environmental laws), but not helping other companies to sneak around the real purpose of environmental legislation is also a more general sign of morality, and good business sense. In Jan's business, reputation is everything, and Replik AB gets virtually all of it's consulting jobs from satisfied clients who re-hire them for new projects, or from new clients to whom they were recommended (00:36:00).

Another, stronger indication of environmental commitment is the statement that Replik AB is also prepared to drop a project if their client doesn't commit to real changes (01:10:00). As with the other indirect signs of eco-commitment above, statements like this are hard to impossible to verify. If a company pledges to have products which are more environmentally friendly than regulations require, this statement is relatively simple to verify by a look at the actual products. If Replik AB claims they were dropping a project because the client was not ready to truly commit to making changes, this is very hard for an outsider to verify, since it could have been dropped for a variety of other reasons.

The fact that Jan is in the business of environmental consulting, and not in another area of management consulting where he could probably make much more money, could also be interpreted as an indication of his eco-commitment. Concluding from the more secondary ways to establish eco-commitment, Jan's involvement in environmental issues, his views on environmental laws and regulations as well as his decision to be an environmental consultant in the first place, I feel comfortable to assume affective eco-commitment (Keogh & Polonsky, 1998, pp. 40, 42) for Jan. For Replik AB as a company I simply cannot determine it in a satisfying manner given the tools at my disposal, and I therefore deem it to be undetermined.
6.3 Case 3: Ernehag Consulting AB, Elisabeth Ernehag

Table 4
Case Summary Ernehag Consulting AB

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6.3.1 Introduction

Elisabeth Ernehag's business, Ernehag Consulting AB (henceforth EC AB), is in the same business as Replik AB, and therefore the analysis of the three concepts (eco-innovation, eco-opportunity and eco-commitment) is bound to bring up similar results to those found in Replik AB. In the instances where this is the case, I will refer to the analysis in Replik AB instead of analyzing them in the same depth. Instead I will spend more analysis on the aspects which are different to Replik AB. Elisabeth is a different person, and has a different style, and sometimes different angles on similar issues, which shaped the course of the interview, and will be considered in the analysis of the interview. EC AB is a one woman business, with Elisabeth as the only employee. The three main areas of consulting are environmental management, quality management and working environment issues. Elisabeth describes herself as a “natural science person” with an interest in aerodynamics and airplanes in general, and her first job was therefore that of air traffic controller in the military (00:01:00). She soon discovered that she desired more contact with people in her work and therefore changed over to Scandinavian Airlines (SAS), where she worked with quality management (00:01:00), and through the airline's involvement with questions of noise pollution and other environmental impacts, she gradually moved into the area of environmental management (00:02:00).

After twenty years at SAS, Elisabeth decided to quit and start her own consulting agency. The main reasons were freedom to decide, speed (she expressed that SAS as a big organization moved too slowly for her taste 00:03:00) and working only with the pieces of her old job that she enjoyed. Elisabeth closely cooperates with the Swedish Standards Institute (SSI), a non-profit organization, on who's behalf she organizes workshops and seminars in quality management and in environmental management for different organizations. The SSI also functions as a broker for Elisabeth, from whom she receives her customers and her assignments (00:17:05). Elisabeth describes herself as a very structured person who likes order and clear rules and regulations. She cites this predisposition of hers as a reason for why working with environmental management systems gives her pleasure and work satisfaction (00:02:00).
6.3.2 Eco-Innovation

Creativity and Knowledge and Extent

The sort of eco-innovation at hand in EC AB manifests itself much in the same way as in Replik AB, i.e. indirectly. If Elisabeth successfully delivers her service of environmental consulting, her customers will then in turn implement measures in their companies, which mitigate environmental impact. Since the eco-innovation present in EC AB is very similar to the one in Replik AB, it is not surprising, that I also judge its different components in a similar fashion. Creativity and knowledge is deemed as category four (extensive and covering different disciplines) (Halila & Hörte, 2006, p.380), just as is the case in Replik AB and with the same motivation. When determining the extent of the eco-innovation delivered, it is clear that it could theoretically be at the same level as in Replik AB. In practice however one has to acknowledge the fact that EC had existed for a shorter period of time than Replik AB (Appendixes A2, A3 – note that EC AB had the legal form of “ekonomisk förening” before it was founded as an “Aktiebolag”, and did therefore not publish financial information prior to its status as AB), and that it therefore had had fewer customers (Appendixes A2, A3, “omsättning”), and less variety in its customers (“most often larger manufacturing companies” 00:18:04) than Replik AB. Because of the practical limitations stated above, the extent of the eco-innovation at Ernehag Consulting is only medium. If the operations and the customer base expand over the years, and more experience is gained, there is a high likeliness that EC AB will also implement more far-reaching solutions in clients' organizations, which then will count as integrated or extensive.

Impact

Also in EC AB the environmental impact can be divided into direct and indirect environmental impact. While Elisabeth, similar to Jan, also states that the direct environmental impact of her own company is small, and that the more substantial improvements can be made in her client organizations, she maintains however, that EC AB also has an environmental policy of its own (00:15:00), and that she would like to invest into a electric or biofueled car, and in more electricity saving electronic equipment for herself, if her resources allowed (00:31:00).

If one is to accept the argument presented in the analysis of Replik AB, that environmental impact reductions in client organizations should indirectly be attributed to the activity of the environmental consultant, who in many cases created the preconditions for reducing environmental impact. Then the potential impact reductions for EC AB should be deemed equally high as in Replik AB (factor 4 – 10). Because of the more limited operations of EC AB as compared to Replik AB (outlined above), I believe that the actual indirect environmental impact reduction achieved by EC AB is lower than in Replik AB, somewhere around factor 5. However I do see a greater potential for indirect environmental impact reduction as the company develops over time, up to a factor of 10.

Major Service Improvement

In light of the explanations given above, pertaining to environmental impact, extent, and knowledge and creativity required for the eco-innovation, I estimate it to be a major product (service) improvement (category 3) (Halila & Hörte, 2006, p.380), with the potential to become a functional innovation. The major service improvement manifest in this case, is the service given to the client, and the eco-innovation it represents in client companies. It may therefore also be termed indirect
major service improvement.

Other Innovations

There are a number of specific approaches or details in the delivery of the environmental consulting service, which Elisabeth developed and uses, which I find worth mentioning, because they could be seen as innovations. One of these recurring themes in the interview was her insistence on delivering a “tough message” to the company leadership (“...I think I have a tougher message than most environmental consultants...”, 00:16:00, 00:53:00). By tough message she means, that she often argues in terms of hard economic facts, especially the cost savings potential, to convince the company management of her client organization.

She does this for three reasons. First, in her experience, the management of many of her client organizations is totally uninterested in the kind of environmental management systems she helps implement, unless they see a chance to squeeze a profit out of it (“they do absolutely nothing if they don't see economic potential in it” 00:55:00). Secondly, she sees not the “carrot and the whip” (lingo for reward and punishment) as the prime motivator of people, but lust (00:10:00). Lust to her means feeling good about work, having a joyful attitude about the job you do, and she believes that this joyful attitude can be created differently for different groups in the company. She thinks, that what can foster a joyful attitude for management personnel in many cases, is the prospect of making money or saving money (00:10:00). This is not to be misunderstood as a bonus for the managers, which would be a carrot, but it represents lust, because saving money for the company implies that the management is doing its job well, which in turn brings about a joyful attitude about their work. Against this background, it seems like a smart idea to use a selling argument which appeals to the economic aspirations of company management. Elisabeth also states that if she has to convince other stakeholders in a client organization, she uses other approaches that she thinks will appeal to lust (00:15:00). She thinks that employees in an organization appreciate if the organization has a good environmental policy and a good CSR policy, that this is something to be proud of.

The third reason why she uses hard economic facts as arguments, and why she uses a style which she calls “arrogant” (00:55:00) (i.e. if you don't see the economic potential in this, and the risks in not pursuing it, then you're probably not so smart...) is also her next little innovation. This approach is shared with Replik AB, but Elisabeth expressed it even stronger, it is to always make sure for her to have the full support of the company leadership in her consulting jobs (“...always top-down...”, 00:25:00). She thinks that if you don't have the support of the boss, or the company management, you may as well forget about implementing anything at all in a client organization. In this point, Elisabeth's view coincides with that of Jan, who also believes that it is important to have the support of the management in a client organization. In contrast to Jan, whose approach is to “put the CEO in the driver's seat for change”, Elisabeth's approach is more aggressive (“...you have to put up a good fight with company management...” 00:55:00).

To me it is unclear which one of the two approaches works better. I did not tell Elisabeth about Jan's approach, and it could be that she had not yet considered Jan's approach. However it could also be that different approaches are suitable for different clients, and the two companies definitely differ in terms of the clients they have.

The two small innovations which I now laid out are not direct eco-innovations, however the entire business model of environmental consultants is not a direct eco-innovation either, but only an indirect one. If the business model as a whole can be deemed an indirect eco-innovation, than the above mentioned individual approaches may be seen as small components of thereof, which Elisabeth can be credited for using.
6.3.3 Eco-Opportunity

The sort of eco-opportunity exploited by EC AB is also pretty similar to the one present for Replik AB. Part of the demand for EC's services originates from the market, where especially larger companies desire certification like ISO 14001 for several reasons, and part of the demand is regulations-induced, where businesses with a large environmental impact are concerned. The larger organizations are in the case of EC AB mainly industrial and manufacturing companies (“... mostly industrial companies...”, 00:17:00 – 00:18:00). In the instances where the demand from these companies is not regulations-induced, it comes partly from concerns over public image, but in many cases also from the fact that environmental management can lead to a more efficient use of resources, which brings about cost-savings (00:06:00).

The one eco-opportunity suggested by theory which applies in this case, imperfect producer information, came out much more clearly in the interview with Elisabeth, than in the preceding cases. When asked about obstacles she sees to the implementation of her suggestions in client companies, Elisabeth answered: “fear” (00:21:00). She argued that companies are afraid of knowing about negative environmental impact, not because the information is hard to get, but because of the overwhelming media attention given to the subject. Elisabeth thinks that company leaders often feel that environmental impact is something that appears overwhelming and complicated, and expensive to deal with (00:21:00), so that they sort of revert to a defensive reflex where they just don't want to know about it. According to Elisabeth, overcoming this fear can be achieved through education, a service she provides to organizations through seminars and workshops, which teaches her clients to see the issues and the solutions in clear and sober terms. This to me is both the description of a case of imperfect information (Dean & McMullen, 2005, p.66-69) and of its exploitation by an innovation.

Furthermore, Elisabeth mentions two opportunities, which her clients rather than her own company are faced with. She thinks that one key opportunity in implementing environmental impact reductions in companies is “staying ahead of the curve” (00:28:00). Her reasoning goes that when a company reduces environmental impact more than what is currently standard in its business, it will be rewarded, because it means correctly anticipating consumer demand for more eco-friendliness. She also states, however, that this involves “teaching the consumers what their wants are” (00:29:00), and compares it to the electronics industry, where products like color TV or flat screen TV are a result of the technological development, and not strictly a reaction to a customer want. The staying ahead of the customers is certainly a valid point, but I think it should be seen in the light of what Björn Stenbeck called an eco-trend amongst consumers (E-mail). I think that it is more reasonable to argue in terms of an ongoing trend, which directs demand in certain foreseeable ways, like more eco-friendliness, and that the task is to stay ahead of this specific demand by satisfying it with more eco-innovations.

The other opportunity for client companies which Elisabeth sees lies in these days' economic crisis. She takes the classical marketing wisdom that in a tight market; producers gain an edge through product differentiation, and apply it to eco-innovations. In her view, environmental improvements provide a good opportunity for companies to create a clear profile for themselves in the minds of their consumers, something which differentiates them from other companies, and therefore helps them thrive in times of crisis, when other companies only compete on price. (00:27:00)

6.3.4 Eco-Commitment

As anticipated after the analysis of the case of Replik AB, also in this case the kind of eco-
commitment present in this company is hard to establish. This shall not imply that there is no eco-commitment, but that the nature of the business makes the normal procedure for determining eco-commitment infeasible. Because of the indirect nature of environmental impact reduction in environmental consulting firms, the dilemma of choosing between reducing environmental impact, and reducing cost is not given. This is not to say that eco-commitment is not important in environmental consulting companies, but that other tools for analysis have to be used, because it most likely manifests differently.

In fact Elisabeth Ernehag admits herself that she does not primarily position her company as an environmental or eco-company, but that this is nevertheless an important part of the business (00:49:00). Since it is not primarily the eco-commitment of EC AB that leads to a large difference in environmental impact mitigation, but the eco-commitment delivered in its services to client organizations, it may be useful to distinguish between the eco-commitment of EC AB and that of the person Elisabeth Ernehag. From Elisabeth’s remarks (00:54:00) I understand, that the process of convincing the management of client organizations to adopt effective and viable environmental solutions is tough and tiring and cumbersome. It could be argued that it is Elisabeth Ernehag’s personal eco-commitment that motivates her to sell the best possible solution to a client, and to implement it in the most effective way, so that it really becomes integrated in the client organization, and not only on paper.

From the statements Elisabeth made in the interview, I gained the impression that she holds an affective commitment (Keogh & Polonsky, 1998, pp. 40, 42) for the environment. Judging Elisabeth’s eco-commitment based on her statements, roughly corresponds to the criterion mentioned in section 4.2.4 of this thesis of “the level of involvement with environmental issues” (Lynes, 2006, p.7), only that it is her personal involvement that will be considered not the involvement of her company. This of course happens under the assumption that Elisabeth was honest in her statements given in the interview, because there are no other other ways for me to verify the validity of her statements. The reader shall thus be made aware that the indications for eco-commitment hereafter presented, are used under the presumption that her statements were true, and that the claim of affective eco-commitment only holds under the same assumption.

The indications I identified for affective eco-commitment (Keogh & Polonsky, 1998, pp. 40, 42) are the following: Elisabeth states that she had been raised by her parents to respect the environment, and not to waste resources (00:07:00-00:08:00), and that she subsequently carried this belief with her, also into her professional life. Similar to Jan, Elisabeth also displayed knowledge of environmental issues, especially of the three pillars of sustainability as presented in the Brundtland report, which she claims to be inspired by in her work (00:49:00 – 00:50:00). The fact that she spared energy and time to acquire this knowledge is interpreted by me as an indication of her genuine interest in environmental issues, fueled by an affective commitment to the environment. Elisabeth also stated that she would enjoy it much more to advocate measures for the mitigation of environmental impact simply for the sake of nature, but that she had found that argumentation in economic terms is the only way to get companies to pay attention to her message (00:17:00). This adaptation to organizational realities in order to achieve environmental improvements manifests almost in the exact way described in theory (section 4.2.4), and it implies that she is willing to use whatever vehicle (i.e. hard economic arguments) works best in order to achieve better environmental performance in her client organizations. This performance I believe she wants achieved primarily in order to help the environment and only secondarily to make a profit.

Elisabeth mentioned at several points throughout the interview, that she sees social responsibility and anti-corruption as important parts in her work, and of business in general (00:23:00, 00:36:00, 00:05:00), which to me is an indicator of how she internalized the values of sustainability. Sustainability, as is laid out in the explorative theory, is concerned with reconciling the demands of
economy, society and environment, and thereby acknowledges the equal importance of the ecological environment in relation to the other two fields. Attributing this high importance to the environment is to a sign of a coherent long-term perspective, but adopting it for use in her business is a sign of affective eco-commitment. Yet another indicator of her eco-commitment is the fact that she left her job at SAS in order to only work with the parts of her old job which she enjoyed, like the area of environmental management. This jump into the unknown that the starting her own business meant, could of course have been taken for other reasons than solely her concern for the environment, and she also states the issue of “standing on her own feet” and “seeing the results more rapidly” (00:03:00). However I believe that there must have been a combination of reasons, of which her eco-commitment is likely one. In contrast, her statement, although honest, of seeing no limits in how far to go in the mitigation of environmental impact (00:33:00) is not naïve, but it exactly reflects the position of her company: the more environmental impact mitigation pursued by her clients the better for her business. It is only logical that EC AB attempts to portray this image to its clients so as to inspire them to go further. Because of this relationship, the statement cannot be taken as an indication for eco-commitment of EC AB. Lastly, Elisabeth recognizes that her company is not achieving its full environmental potential and is also aware of the areas in which improvements could be made, and of the limitations that stop her from achieving it (00:31:00). The constraints she names are economic, but she did not explain in detail of what kind they are, but I am certain, concluding from my overall impression of her as a truly dedicated and enterprising individual, that she is going to realize more of this potential as soon as she has the means to do so.

Summarizing the above-said, I state that I cannot determine the eco-commitment of EC AB, but based on her different statements made in the interview, I deem the personal eco-commitment of Elisabeth Ernehag to be affective.
6.4 Case 4: Apocalypse Labs, Jenny Nordberg

Table 5
Case Summary Apocalypse Labs

<table>
<thead>
<tr>
<th>Company</th>
<th>Eco-Innovation</th>
<th>Eco-Opportunity</th>
<th>Eco-Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apocalypse Labs</td>
<td>Functional Innovation</td>
<td>Market-based, imperfect consumer information,</td>
<td>Affective eco-commitment</td>
</tr>
</tbody>
</table>
|                | Category 4           | inappropriate government intervention, own-criteria: non-
|                |                      | market eco-opportunity                               |                            |

6.4.1 Introduction

About the Company

Apocalypse labs is an environmental design bureau, owned and managed by Jenny Nordberg and Petra Lilja. The owners are product and industrial designers by training, and their business idea for Apocalypse labs is to “work for a sustainable development with design as a tool” (00:07:00). Some of the hallmarks of their work for a sustainable development are:

- To demonstrate alternative, more sustainable ways to develop, manufacture and sell products (00:07:00)
- To create a public debate through the products they make, around subjects they feel desire attention, like the social and environmental impacts of a product, during all stages of its life cycle, or about the necessity of consumption and the culture of consumerism (00:07:00)
- To adopt a holistic view on products, considering all stages of a product's life, for which they developed a method called past-present-future
- To work with waste materials, to which they refer as “materials with a history”, as input or base materials in the products they design, and find ways to give them a second life (00:12:00, 00:27:00)

One of their biggest projects so far has been “the soap”, which they developed, produce and sell, and this is also the product through which I found out about them. “The soap” is based on used vegetable oil from deep fryers in Falafel restaurants in Malmö, a hazardous waste, which is transformed together with solely environmentally friendly ingredients into bars of soap with almost no environmental impact. Apocalypse Labs (AL) also designs and develops a range of other products, like a floor covering made from used car tires, lamps that are grown from liquid crystals and other products. As a design bureau they also accept assignments for product design or for
developing design concepts from private companies and other organizations, which they pick depending on if the project coincides with their values and goals, and if they believe it is important. AL is able to pick and choose assignments because of the good reputation their previous projects gave them, and the fact of being widely known in their business for their no-compromises approach to environmental issues. (00:22:00, 00:30:00) AL chose the legal form of “ekonomisk förening” a Swedish legal form for companies roughly translated to “economic association”, which allows for-profit business, but which according to Jenny has less of a “corporate image”, and stands more for solidarity (00:06:00). According to Jenny, this image more accurately reflects their belief, that making money is only one of the several goals they pursue with their business, and that making “enough” and also achieving their environmental and social goals is better than becoming “stinking rich” (01:00:00, 00:09:00).

**About Jenny**

Jenny Nordberg was my interview partner for this case, and in order to put the subsequent analysis of the findings in a context for the reader, I asked her for some background information about herself in the beginning of the interview. Jenny describes herself as a person who since her childhood got involved in many issues in which she was interested. She also describes herself as a very determined person, and states that she had known that she wanted to become an industrial designer since she was seven years old. She chose the natural science focus in secondary school despite the fact that she also enjoyed arts and the more artistic subjects, because a natural science focus increased her chances of being accepted to the industrial design program at university. Between secondary school and university Jenny lived in London for a year, and afterwards went to a preparatory art school in Sweden, which Jenny also describes as steps in the way towards becoming an industrial designer. After that, Jenny was accepted to the five-year industrial design program at Lund University, from which she graduated in 2004. (00:01:00 – 00:03:00) After graduation Jenny immediately started her own company, together with a partner with whom she no longer works for personal reasons, and started to “freelance” (work as an entrepreneur who works on projects for clients). Jenny stated that she soon got bored with the kind of assignments she received from her clients, that they were superficial and only involved coloring and shaping products' physical form, but not their functions and other aspects. She felt that the assignments she accepted did not make the most of her potential and talent, and did not pertain to her core interests. In 2007 Jenny took the next step, and started a new company, Apocalypse Labs, together with her business partner Petra Lilja, in order to work on projects which they assign to themselves in harmony with their goals and interests, which are briefly stated above. AL also has a manifesto, which lays out more extensively who they are and what they want to work with (www.apocalypselab.net). The self-assigned projects as well as external assignments are chosen by Jenny and Petra with the criteria stated in the beginning of the introduction in mind.

6.4.2 Eco-Innovation

**Eco-Innovations at Apocalypse Labs**

As an environmental design bureau, AL develops and designs products, but it also produces some of its own products and sells them. In addition, AL also occasionally does consulting jobs on design questions especially with a focus environment and sustainability for various organizations. For the consulting work, the same reasoning involving the indirect nature of such eco-innovations as in the two previous cases applies. In my study of AL however, I put the main focus on the eco-innovations
surrounding the products they design, and especially on “the soap” which is one of their largest projects to date, and which is also the product through which I found out about them. AL chose and developed “the soap” to conform to all of their stated goals. One of its main ingredients, used vegetable oil, is a product with a history, the product created a debate about sustainable consumption, and the re-use of waste-products (“our press list is this long...”, 00:23:00, “it was like an advertising campaign, 00:22:00), and they also applied their past-present-future method in the development of this product in order to give consideration to all phases of the product's life.

“The soap” not only distinguishes itself because of transforming a hazardous waste (used frying oil) into something useful, also the other ingredients and stages in its life are optimized so as to minimize environmental and social impact. The frying oil is used instead of other sources of lipides found in ordinary soap, like palm oil, which is extracted from palm trees that are grown in plantations in tropical climates, destroying rain forests, and causing CO2 emissions by transport half-way around the world (00:12:00). All other ingredients used in the soap are certified environmentally acceptable. Instead of parabenes, which are used as an acidic agent in ordinary soap, and which are suspected of causing cancer, AL uses citric acid from organic sources in “the soap”. The production process applied is an old process which Jenny calls “kallprocessen” (cold process), which uses less energy than the production processes for other soaps, but which is not widely used by other producers, because it takes four weeks to finish (00:15:00). The ingredients for the soap are also chosen from local sources as much as possible. The paper for the packaging is made from sustainably managed forests in Sweden, and is produced in a environmentally certified (svanenmärkt) paper mill. The packaging paper is then imprinted by an environmentally certified printer in Malmö, and is also 100% recyclable. The fat for the soap is collected from the different falafel kitchens in Malmö either by bicycle or by piggy-back riding on delivery trucks, which deliver and collect goods from the restaurants, and which drive their route anyway, not especially for the fat collection, which would cause extra environmental impact. The soap is sold only in a predetermined radius around Malmö, and the modes of transportation within the radius were screened and ranked in order to choose the least harmful one. This is done in order to minimize environmental impact through transportation of the product. (00:12:00 – 00:15:00)

**Creativity and Knowledge**

All the above mentioned eco-innovations implemented in the development, production and sale of “the soap” required advanced knowledge from several different fields, and significant amounts of creativity to implement. The knowledge required (Halila & Hörte, 2006, p.374) which was not covered by Jenny's and Petra's background in product design and development, was either collected (or absorbed) through the study of books, articles, newspapers and internet research, (00:16:00) or through the consultation of a number of mentors (00:17:00). These mentors are a number of industry or other experts, usually with much experience in their respective fields, whom Petra and Jenny contacted specifically for the purpose of becoming their mentors. For the soap project, they received advice from a biochemist for the details of the production process, who was happy to help them out free of charge. For other areas in their entrepreneurship they also consult other mentors, such as a design theoretician and an expert on gender equality. Creativity is also a major factor in developing “the soap”, but not only in the design of the physical shape of the soap, but also in devising solutions to the different obstacles they faced. One challenge was the collection of the used oil, which involved convincing the city of Malmö, which by law is responsible for and the owner of all municipal waste in Malmö, to allow AL to collect some of the used frying oil in Malmö. This feat included a six month legal battle and the threat to contact the media about the situation, and ended with the conclusion of a special contract between AL and the city of Malmö that allows AL to collect the small amount of oil (about 100 litres a year) they need for the production of their soap. (00:36:00 – 00:38:00)
The different areas of knowledge that were combined for the soap project were environmental issues and sustainability, put to use in the PPF (past-present-future) method, chemistry for the production process, product design, and of course some classical entrepreneurial skills for marketing and selling the product.

All of the above mentioned examples portray the multidisciplinary nature and advanced level of the knowledge required to bring to life “the soap”, as well as the level of creativity for finding solutions to different problems. I argue that the level of knowledge and creativity displayed by AL in “the soap” project corresponds to category four.

**Extent of Eco-Innovation**

As can be seen from the descriptions of the eco-innovations in the previous paragraph, the extent of the innovation is very far-reaching. Jenny expresses at several points in the interview her commitment to go “all the way” to always strive for the maximum social and environmental impact mitigation (00:30:00), and says that AL are known in the business as “hard-core”, and that they despise the practice of greenwashing (miljötopping), which corresponds to the term end-of-pipe in the terminology used in this theory. The extent of the innovation stretches all the way from the environmentally friendly sourcing (bicycle) of environmentally friendly ingredients of the soap and components of the packaging, to a low-energy production process to an environmentally conscious approach to distribution of the product. When the product is consumed it is not harmful to neither environment nor health (00:10:00). I judge the extent of the eco-innovations implemented in “the soap” to be system wide, corresponding to category four in the classification system for environmental innovations (Halila & Hörte, 2006, p.380).

**Environmental Impact**

Deriving the environmental impact mitigation from the factors of knowledge and creativity and extent, it should be deemed a factor 10 reduction in resource use (Halila & Hörte, 2006, p.374). However from the description of the eco-innovations included in “the soap” I am left intrigued whether this value should be higher. The questions is if the use of a hazardous waste product as an ingredient, and its transformation into something useful and environmentally harmless should merely account for an environmental impact reduction. I would argue that the recycling of frying oil into soap should be counted as a positive environmental impact, because of the opportunity cost. The alternative destinations for used frying oil are in the best case scenario its incineration by the Malmö municipal garbage incineration plant, and the emission of CO2 in the process, and in the worst case scenario it is poured into a drain pipe, where it first causes problems for the water purification plant if it arrives at one, or causes massive damage to the waterways if its released unpurified. Effectively replacing both of these two scenarios by the soap scenario could be considered a positive environmental impact. However in order to specifically find out whether the environmental impact is positive, or if it's simply less negative (i.e. factor ten) than that of another soap, the environmental impact should be measured and compared in absolute terms, something which is outside the scope and the possibilities of this thesis. In the absence of a better way to establish the exact environmental impact mitigation, I deem it to be a factor ten reduction or better, possibly a positive impact.
6.4.3 Eco-Opportunity

**Market and Other**

The demand for “the soap” is market-based, it comes from environmentally conscious consumers, and from consumers who are indifferent to the environment, but to whom the design of the product and the media attention for it appeal (00:28:00). The demand for the other products and services offered by AL is also market based, it comes from consumers, but also from private companies as well as public sector organizations (00:29:00). Apart from this market-based demand whose satisfaction in the most environmentally friendly way represents the eco-opportunity for AL, it could also be argued that the market imperfection of imperfect information (Dean & McMullen, 2005, p.66-69) represents an opportunity which is exploited by AL. Jenny states that one of the goals of “the soap” was to create a public debate about it and the use of materials with a history (00:07:00). AL succeeded in creating this public debate through achieving considerable media attention for their product, (00:23:00), and thereby managed to disseminate information about the eco-friendly properties to previously uninformed consumers and producers alike. Furthermore, AL also gives public lectures to different audiences, which serve the same purpose (00:20:00, 00:21:00). These activities can be seen as exploiting the opportunity of imperfect consumer information. By informing consumers of the existence of more eco-friendly alternatives, and of the harm that is caused by non-eco-friendly products, Jenny also creates an opportunity for AL, which stems from the new demand from environmentally concerned but previously uninformed consumers.

Furthermore, the special agreement AL reached with the city of Malmö, which allows them to collect the used frying oil from Falafel restaurants (00:36:00 – 00:38:00), can be regarded as the correction of the market imperfection of “inappropriate government intervention”. In this context, the government intervention of the city of Malmö, could be seen as inappropriate, because Malmö city is incinerating the frying oil in an incineration plant, and blocking others from using it, when more beneficial ways of recycling exist. The agreement however is not a general permission to all interested parties to use the used frying oil for more useful purposes but it only covers AL. I am therefore not sure whether AL qualifies as exploiting inappropriate government intervention, because it has not changed the rules as a whole. It is possible however, that if other companies request permission to use frying oil for the same purpose, that the city of Malmö will allow it too.

**AL's own Criteria for Opportunity**

Apart from the definition of eco-opportunity used in this thesis (Dean & McMullen, 2005, p.58), AL have their own definition of what constitutes and opportunity for them. The criteria which they strive to fulfill when launching or participating in a project are listed in the introduction of this case (create debate, holistic view, materials with a history etc.) and can be found in more detail in their manifesto (www.apocalypselab.net). The eco-part of eco-opportunity is very well included in the criteria, but what struck me was the almost complete absence of a mention of a business opportunity in these criteria. Admittedly, I already identified the business opportunity by identifying the various sources of demand for their eco-products and services, but the business opportunity, the possibility of generating entrepreneurial rents, is relatively absent in their argumentation, except when asked how she thinks other companies could be convinced to become more environmentally friendly (“one has to show them that they can make money...” 00:47:00). In another part of the interview Jenny states that AL is not driven by the prospect of making money (00:10:00, “that's not what drives us...”), and she also states that sure, the business as a whole should generate enough income.
so that one can live of it, but some projects are described as more commercial, and others are simply carrying their own cost (00:11:00, 00:21:00).

_Patents and Profit_

Jenny argues, that if products have the potential to generate a social and environmental profit, it is wrong and counterproductive to limit their use, and the spreading of their positive effects through the registration of a patent. She states that AL do not register patents on any of the products they offer, and in fact encourage others to adapt the solutions AL have developed in order to spread the social and environmental benefit on a larger scale (00:21:00). While the eco-part of eco-opportunity certainly profits from this step as more impact mitigation, or even positive environmental impact can be achieved through the faster spread of these products, the business opportunity suffers from it because without a patent, the opportunity to accrue entrepreneurial rents lasts only until another company adopts the eco-innovation used in the product. However from Jenny's statements (“why should you make obscene amounts of money if you can make enough/small amounts?”, 01:00:00) I interpret that she would not be interested in accruing entrepreneurial rents even when she has the opportunity to do so. If it doesn't satisfy the criteria of being a business opportunity, should it then be accepted as an eco-opportunity? As is mentioned in the theory, one part of entrepreneurship is the reflection of the personal goals and values of the entrepreneur in the policies and actions of her company (Schumpeter (1926, p.139) speaks of creating a personal kingdom). If we are to accept this definition, I think the sort of opportunities pursued and exploited by AL should be included in the definition of eco-opportunity, even if they only provide enough for the ecopreneur to make a living and do not make her filthy rich.

6.4.4 Eco-commitment

_Pledges_

AL pledges that environmental impact (Lynes, 2006, p.7) mitigation is among the prime purposes of the projects in which they become involved (“we work for a sustainable development and use design as a tool”, 00:07:00). These pledges can be found in the manifesto (www.apocalypselab.net) AL created to guide its activities, and they were also made in the interview (“the question of environmental impact has always been pretty high up on both of our agendas...” 00:04:00, “... no solution is acceptable but the best...”, “we always go all the way in our projects...” 00:31:00). These pledges imply to me, that AL has the goal of prioritizing environmental questions, and to pursue environmental solutions to the maximum achievable level, not triggered by regulation or customer demand, but by their own values and goals. These pledges are lived up to in plentiful ways, as the different activities of AL demonstrate. In the soap project, the implemented eco-innovations show that a serious effort has been made to achieve the maximum environmental benefit possible, and not only until a certain threshold. Even the economic constraints usually present in the form of profit requirements are broken in the case of AL, as they state that some projects bring in money, some carry themselves, and some cost money (00:25:00, “we grow crystals on a lamp in a completely uncommercial project”). And if somebody else copies their products, it's only the better, because then more social and environmental benefit can be produced (00:21:00).
**Actions**

Ecopreneurs with an affective eco-commitment tend to see opportunities where others don't, and therefore achieve more radical eco-innovations (Keogh & Polonsky, 1998, pp. 40, 42). This is certainly the case for AL's choice of projects: “the soap”, a floor covering from car tires, lamps that are grown from crystals, consulting jobs on urban wind power, are all very radical and unique (as in not a lot of other people got the same ideas), and they are cutting edge in how far they go to mitigate environmental and social impact. The choice of projects is informed by their criteria stated in the introduction, and the soap specifically was also an experiment in the cross-pollination of ideas (“the idea of the soap started in our night club, which was a cross pollination of night club and handcraft”, 00:35:00). The question of whether a market demand exists, only interests them secondarily (00:35:00, “the soap was not an reaction to any kind of demand at all...”), possibly in the projects which they devise to be a little more commercial. This indifference to market demand automatically also means that their eco-commitment is not guided or informed or limited by it, which would be the case for continuance commitment. Regulations or rules or laws, to which the ecopreneur with a normative commitment to the environment adheres out of a feeling of indebtedness, can sometimes be the trigger behind ecopreneurship. In the soap project, AL were fighting against a law which impeded them in implementing their eco-innovation (00:36:00 – 00:39:00), and Jenny stated in this context that quite generally, laws sometimes don't keep the pace with their innovations. Therefore also normative commitment can be excluded; in fact the commitment is so affective, that AL was ready to fight the law, until they could enter into a custom-made contract with the city of Malmö.

**Dedication to improvements**

Other than judging the eco-commitment of a company by the pledges and actions taken in relation to these pledges, which to my understanding in the case of AL are strong evidence of their affective commitment to the environment, Lynes (2006, p.7) also suggests to use “general involvement with environmental issues” and “dedication to improve environmental performance” as indicators for eco-commitment. When asked about improvement, Jenny first told me of the different ways in which she and her business partner are already minimizing both their personal and company environmental impact: they rarely use the car, instead they take the bicycle for most trips, they have a policy of not going by airplane if there is an alternative mode of transport available, and they only allow themselves one day of unsustainable consumption (when they buy coca-cola) a month (00:50:00). Then Jenny told me that they were working on a project to become self-reliant on electricity through a wind power plant, because they do not like the idea that they cannot influence how the electricity is generated which they consume. To me, the mentioning of only one project for how to further minimize their environmental impact is not a sign of low dedication to improvement, but considering all the eco-innovations which are already in place at AL, it is to me a sign of how far they already had got in their quest to mitigate their environmental impact. Jenny appears to me to have made a thorough analysis of the issues she speaks about, just like the thorough analysis of the different impacts of the products which they design, produce etc. Therefore it is also reasonable to assume that AL had applied the same thorough analysis on their own environmental impact, of which the above-mentioned measures are circumstantial evidence. Having applied this thorough analysis, and implemented measures to minimize their own environmental impact, is in itself a proof of their dedication to further improvement of their environmental performance.
**General involvement with environmental issues**

Jenny to me appeared as having a very broad and deep knowledge of all kinds of environmental issues, and that she developed her own opinions on most of them, opinions which I consider well-thought-through. Despite the large portion of the environmental degradation that large companies and corporations are responsible for, Jenny does not think that this frees the individual from its responsibility to reduce its environmental impact (00:45:00). Jenny believes that the ETS (Emissions trading scheme) promoted by the EU is a bad idea, firstly because she does not think that it works, because there are too many permits given out by politicians, and secondly she criticizes the social and moral implications of companies simply indulging themselves with emission permits rather than contributing their share in the prevention of climate change (00:53:00). Furthermore she is convinced that environmental laws and regulations are not strict enough and should be much stricter (00:51:00), and she despises the practice of green-washing (miljötopping), where companies only add a superficially eco-friendly feature to an essentially harmful product, usually accompanied by advertising and PR campaigns (00:30:00). When asked about eco-labels for consumer products, she had a whole range of comments (00:56:00 – 00:59:00) on the different aspects of these labels that should be improved: they are a good start, but they are all organized as private companies, which makes them expensive, and this discriminates small companies that desire certification. She also believes that most of these labeling systems are incomplete, as they either only cover some areas of products, or only some environmental aspects (pesticides and fertilizer for eco-fruits) but not others. All of the above mentioned positions which to me appear as based on a thorough analysis of issues should be regarded as a clear indication of Jenny's and AL's high involvement in environmental issues.

**Verdict: Affective Eco-Commitment**

The analysis of AL's pledges and actions has shown that they strive to achieve the highest environmental impact mitigation, irrespective of demand or regulation. Furthermore their willingness to improve their environmental performance is shown both in the potential they see for improvement, and in the measures they already implemented. Finally the general involvement in environmental issues is both broad, as Jenny is familiar with a wide range of issues, and deep, as she has developed carefully thought-through opinions of her own on these issues. All of the above factors are very clear and strong indications of an affective eco-commitment (Keogh & Polonsky, 1998, pp. 40, 42), held by AL and its two owners.
The aim of this chapter is to highlight and discuss the patterns and themes that emerged during the analysis of the four cases. First on, the focus of discussion is on the three ecopreneurship factors' manifestation in the four cases, and its implications on the concept of ecopreneurship. Secondly, other themes which emerged in the analysis of the four cases, and their implications for ecopreneurship are discussed.

Table 6
Summary of the Cases

<table>
<thead>
<tr>
<th>Company</th>
<th>Eco-Innovation</th>
<th>Eco-Opportunity</th>
<th>Eco-Commitment</th>
</tr>
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<tbody>
<tr>
<td>Salt &amp; Brygga</td>
<td>Major Service Improvement Category 3</td>
<td>Primarily market-based, imperfect information, educating consumers</td>
<td>Affective eco-commitment</td>
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<td>Replik AB</td>
<td>Indirect Functional Innovation Category 4</td>
<td>Market-based and regulations-induced, indirect</td>
<td>Not determined for company, affective for the person Jan Miörner</td>
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<td>Ernehag Consulting</td>
<td>Indirect Major Service Improvement Category 3 potential to become Category 4</td>
<td>Market-based and regulations-induced, indirect</td>
<td>Not determined for company, affective for the person Elisabeth Ernehag</td>
</tr>
<tr>
<td>Apocalypse Labs</td>
<td>Functional Innovation Category 4</td>
<td>Market-based, imperfect consumer information, inappropriate government intervention, own-criteria: non-market eco-opportunity</td>
<td>Affective eco-commitment</td>
</tr>
</tbody>
</table>
7.1 Discussion Ecopreneurship and Sub-Concepts

7.1.1 Eco-Innovation

Eco-innovations (Halila & Hörte, 2006, p. 384) could be observed in all four cases, albeit in different forms and degrees. In this context the heterogeneous nature of three of the four studied companies' business model appears to be relevant to me.

Eco-Innovation in the Gastronomic Sector

The first case, Salt & Brygga, is a restaurant, and since the restaurant business is basically a service business and one of the oldest too, the degree and extent of eco-innovation (Major Service Improvement) surprised me. This is, because in my opinion, the environmental impact of a restaurant in particular, and of the service industry (except maybe airlines) in general, is lower as compared to e.g. the environmental impact of different kinds of industrial companies or resource extraction companies. Subsequently, I believed that if the environmental impact is lower in comparison to other businesses, the potential for improvement, i.e. for implementing eco-innovations, must also be lower. However in the analysis of Salt & Brygga I learned that the extent and creativity of the different eco-innovations Björn implemented in S & B was very high, he basically optimized every step in the value chain of S & B, from sourcing of ingredients, to processing and site management to the delivery of the service, and the eco-friendly disposal of waste and left-overs. What surprised me the most is that Björn could also manage to offset the extra cost of all the measures he implemented, because his eco-innovations not only helped him reduce the environmental impact of his restaurant, but they also opened up to him a new market, that of environment-conscious customers. Now one might argue, that S & B is a special case, and it may be true, that the business concept of S & B is a bit avant-garde, but it very clearly demonstrates the potential for eco-innovations possible in the gastronomic sector. Despite the fact that this is a qualitative study, and that one cannot generalize its results in the same way as in a quantitative study, I believe, that the case of S & B demonstrates that many small eco-innovations which together amount to a high extent, and which require significant creativity to be implemented, are possible in the gastronomic sector. Eco-innovation in Salt & Brygga did thus not only manifest, it also gives an idea of how it may manifest in the gastronomic sector in general, and up to what level (Major Service Improvement) it is possible.

Indirect Eco-Innovation

The second and the third case, Replik AB and Ernehag Consulting, also showed manifestations of eco-innovation. These two cases also highlighted the question of whom to give credit to for an eco-innovation. I chose to give credit to the ecopreneurs in those two consulting firms, and classify them as functional innovation (Replik AB) and major service improvement (EC AB). The indirect nature of the innovations implemented by those two companies still leaves some important questions. They either help their client companies to implement environmental management systems, which in turn (ideally) lead to concrete measures of more resource efficiency and environmental impact reduction in their client companies, or they arrange educational events like workshops and seminars which may lead the participants in client companies to implement such systems themselves. I accept these indirect eco-innovations (and call them indirect because they do
not directly benefit the environment) as such, because there is a chance that without the work of the environmental consultants, their client companies would not have implemented some eco-innovations, especially because they may not have learned that environmental management systems also make sense business-wise and not only for the sake of nature. If one is to accept my argument, I believe that environmental consultants can implement (mainly) indirect eco-innovations up to a level of category 4 (functional innovation).

One could of course also opt for a stricter definition of what constitutes an eco-innovation, and exclude environmental consultants from the definition of eco-innovation, on the grounds that what they do does not directly benefit the environment. In that case they would be excluded from being called ecopreneurs also, despite the fact that they run a profit-oriented, innovative business which through its operations helps to mitigate environmental impact.

In-Sourcing and Networks for Knowledge

The fourth case, Apocalypse Labs, showed the most classic manifestation of an eco-innovation, the design and bringing to market of a product (the soap) with vastly improved eco-friendly features as compared to non-eco-friendly alternatives. I believe that ecopreneurs who design develop and launch eco-friendly products can, depending on their resources, achieve even higher levels of eco-innovation than what has been achieved in Apocalypse Labs. Two peculiarities were noteworthy about how Apocalypse Labs went about achieving their eco-innovations. One was the interdisciplinary character of the knowledge required to develop their eco-innovation, and how they acquired it through a kind of informal network (mentors). The other one was the internalization of so many steps from the development to the production to the sale of the final product. I believe that both of these peculiarities will also manifest in other ecopreneurial companies who pursue the same kind of eco-innovations as AL. The informal networks become necessary because they represent a cost-effective way of acquiring the expertise necessary for achieving advanced eco-innovations. Basically, the higher the level of eco-innovation, the more advanced and multidisciplinary the knowledge required to bring it to life. Therefore, short of their own research labs and R & D facilities, ecopreneurs will need the advice of external experts, who can provide it to them in a cost-effective manner. The other peculiarity, the internalization of many steps in the business process, will be necessary, especially in industries where a large proportion of companies still operate under a non-eco-friendly regime. Internalization, even though more expensive, will be the best way to ensure, that the highest possible environmental impact reduction is achieved in all steps of the business process, without partner companies, like suppliers and distributors or producers or retailers watering down or even removing the eco-innovation. As an industry as a whole moves towards more eco-friendliness, ecopreneurs will also be able to outsource some parts of their business process to other companies without risking their eco-innovations’ potential.

7.1.2 Eco-Opportunity

By and large, the classification system used for determining eco-opportunities is the one I am least satisfied with, and I believe it requires modification before future studies. All four of the studied companies seem to derive their main opportunity from the market, and not from one of the market imperfections mentioned in the theory. All four companies did to some extent exploit the market imperfection of imperfect information (Dean & McMullen, 2005, p.66-69), although one should be cautious about this class of eco-opportunities, since economists themselves are divided about the assumption of perfect information that neo-classical economists make. The Austrian school of economics even assumes Kirznerian opportunities which consist of the mistakes other market
participants make in the appraisal of demand (Shane, 2003, p.20). Other eco-opportunities which were exploited, were the market imperfection of inappropriate government intervention by AL, although I find it questionable to call this an eco-opportunity since it was not the main reason for the development of the soap, and it was not where the demand came from either, it was simply an obstacle that had to be tackled in order to get into business. I see market demand as the main eco-opportunity for all four companies, and I wish I would have had a more detailed categorization of different kinds of market-based eco-opportunities at my disposal for my analysis of the four cases. Different kinds of market-derived eco-opportunities that I could nevertheless identify, were consumer demand for eco-friendly products (AL and S & B), and business demand for environmental consulting services (EC AB and Replik) that lead to more efficient resource-use and thus cost savings. If researched properly, one could probably identify other market-based ecoopportunities, and develop a meaningful classification system for them. Since all of the four studied cases derived their main eco-opportunities from either market demand or from government-regulations induced demand, I believe that these two are also the main sources for other ecopreneurs than the ones studied in this thesis. This is not a definitive statement, and should be put to the test in future studies.

**Self-Defined Eco-Opportunities**

One kind of eco-opportunity I could observe in the case of AL, is what I call a self-defined eco-opportunity (section 6.4.3, “AL's own Criteria for Opportunity”). The idea behind it is that innovation developed and marketed by the ecopreneur does not necessarily need to correspond to a certain demand, but rather to other criteria, which the ecopreneur herself has formulated. In the case of AL, these Criteria can be found in the introduction of their case analysis, and they all directly or indirectly have to do with environmental issues. The idea that not every innovation must be profitable, but that only the business as a whole needs to provide for a living for the ecopreneur deviates from classical entrepreneurship theory. In classical entrepreneurship theory, the goal of exploiting an opportunity is to accrue entrepreneurial rents, which lie above the normal profit margin of the market (Dean & McMullen, 2005, pp.57-69). An innovation which does not fulfill this function would be seen as a failure, and deliberately introducing such an innovation to the market would not make sense. In the world of ecopreneurship however, I think that it can make sense, and Jenny explained why. In the interview (00:21:00, “why should we keep something to ourselves that can do good?”) Jenny highlights, that an eco-friendly product not only benefits the consumer, but it benefits the environment and therefore society as a whole. This could be seen as a kind of positive externality, and if the goal is to create a positive externality, which in turn benefits society as a whole, also the ecopreneurs who markets the product benefits. The question is why it is only the consumer or buyer who should pay for the creation of this positive externality. Enlightened ecopreneurs like Jenny realize that in the long run, they and the ones they love are benefiting themselves, if a larger positive environmental impact can be achieved through the substitution of more harmful products by eco-friendly alternatives. If one applies this reasoning, it makes perfect sense to make a strategic decision to cut the profit margin of one such eco-friendly product to zero in order to make it affordable to a larger group of buyers, and thereby pull the whole market for this product with all the other producers (of e.g. soap) into a more eco-friendly direction. Naturally, not all products in the portfolio of an ecopreneur can have a zero profit margin, because the ecopreneur cannot live from the positive externalities alone. First of all, I believe that more ecopreneurs, and also other entrepreneurs pursue non-market opportunities than what is known, and secondly, that more research into this issue would provide for interesting new conceptualizations of ecoopportunities, as well as reveal more ecopreneurs who exploit self-defined eco-opportunities.
7.1.3 Eco-Commitment

**How it manifested**

In the analysis of the cases, I attributed affective eco-commitment (Keogh & Polonsky, 1998, pp. 40, 42) to all four ecopreneurs I interviewed, but only to two of their companies. Eco-commitment in S & B manifested through going further in the implementation of eco-innovations, and introducing them at an earlier point in time than what market demand strictly warranted. In the case of AL I also found that the soap exceeded the eco-friendliness that was strictly warranted by customer demand, and that AL even went as far as setting aside the profitability criterion, which effectively excludes profit as a motivation for their eco-innovation. In both cases it was relatively straightforward to put the pledges of the ecopreneurs in relation to their actions, see if they coincided, and establish if those actions amounted to going further than market demand and regulations require (affective eco-commitment), going further than regulations but more or less correspond to the markets expectation for eco-friendliness (continuance eco-commitment), or to strictly equal regulations and/or certification requirements (normative eco-commitment). The other criteria for establishing eco-commitment, level of involvement in environmental issues, and dedication to improve environmental performance could be met by all four ecopreneurs. I made a value judgement however, that the last two criteria alone do not suffice to assign any kind of eco-commitment to a company, because I believe the eco-commitment of a company should manifest in its actions in relation to the criteria Keogh & Polonsky (1998, pp. 40-42) set up for establishing one of the three forms of eco-commitment. For ecopreneurs as persons I decided that it was sufficient to display involvement in environmental issues, and dedication to improve the environmental performance. I did this because I see the company as the primary actor in ecopreneurship, and therefore its actions should be measured. When establishing the eco-commitment of a private person, I felt that it would be good enough to show commitment through the other two criteria, much like peace advocates are peace advocates, because they are expressing a strong concern and usually knowledge about the horrors of war, and not because they actively end wars.

**Problems Establishing Eco-Commitment**

In the cases of Replik AB and EC AB, there were two reasons why eco-commitment could not be clearly established. The first one is the indirect nature of the eco-innovation that manifests in those companies, which made it difficult to ascribe the achieved eco-innovations to the eco-commitment of EC AB, and Replik AB, and not to their clients, who are primarily the companies whose environmental impact is reduced, and who are also carrying the cost for it. The second reason was that because of the parallel character of environmental impact reduction, and business income for those companies, the profit motive could not be distinguished from eco-commitment as the motivation for their actions. If we are to accept environmental consulting firms as ecopreneurial firms, and their eco-innovations as indirect eco-innovations, then their eco-commitment should be established in a different way. Instead checking how far they are willing to go in the level of their indirect eco-innovations, it should be examined how far they are able to push their clients toward more eco-friendliness, and from what starting point. Also, in order to differentiate between the profit motive and eco-commitment as a motivator for their actions, instances should be found and examined, in which the profit motive is secondary or irrelevant. One such instance could be the number of clients they turn down for not wanting to improve their environmental performance, but only wanting to “fix the papers”. For future studies I would suggest, to exclude indirect ecopreneurs until a better way to establish their eco-commitment is available. Naturally devising such a classification system for indirect ecopreneurs is also a suggestion for future research.
Usefulness and Name

For the two companies, S & B and AL, in which eco-commitment manifested according to the different criteria set out in the theory, I believe, that the classification system invented by Keogh and Polonsky (1998, pp. 40-44), worked quite well. I believe therefore that this classification system is useful for companies with direct eco-innovations, and no direct correlation between profit and reduction of environmental impact. I am sure that there are many more such companies out there waiting to have their eco-commitment discovered and classified. For the other two companies, EC AB and Replik AB, the classification system for eco-commitment was only of very limited use, and I suggest that it be adapted to indirect ecopreneurs. One last idea that occurred to me in the analysis of EC AB is to rename the highest level of eco-commitment into something other than affective eco-commitment. After more than 20 years of sustainability science, I think it is ignorant to attribute an economically inexplicable affection to the environment to all eco-innovations that go further than market demand and regulations requirement. Everyone at least superficially familiar with the idea of sustainable development must have understood, that the well-being of the natural environment is inextricably linked to the well-being of the economy and of society, and vice-versa. It is therefore not necessarily an altruistic affection to the environment that stands behind the highest eco-commitment an ecopreneur can display, but a healthy, enlightened self-interest. The reader is thus challenged to come up with a better name for the highest level of eco-commitment and suggest it to Keogh and Polonsky (1998) who coined the term affective commitment to the environment.

7.1.4 Ecopreneurship

In this study it could be shown how the different ecopreneurship factors, eco-innovation, eco-opportunity and eco-commitment manifested in different companies, but not necessarily how they relate to the umbrella concept of ecopreneurship. In the exploratory theory part, ecopreneurship was chosen to consist of the concepts of eco-innovation, eco-opportunity and eco-commitment, because after the literature search that I performed, they represented the intersection that was known to me between the two larger theories of sustainability and entrepreneurship. I believe that the concept of ecopreneurship can be claimed to indirectly manifest in the studied cases, because of the satisfying manifestation of its constituting concepts. However this issue remains tricky because I cannot explicitly exclude the possibility of other sub concepts also being a part of ecopreneurship. Because of this incomplete theory situation, the statement that ecopreneurship did satisfyingly manifest in the four studied cases stands under the condition that ecopreneurship is seen as the sum of the sub concepts that are laid out in this thesis: eco-innovation, eco-opportunity and eco-commitment. If this condition is violated, and other sub concepts would be added under the umbrella of ecopreneurship, which subsequently would not manifest in the four cases, ecopreneurship also could not be claimed to be established.

7.2 Emerging Themes and Issues

7.2.1 Direct or Indirect Ecopreneurship

Ecopreneurship manifested in the studied cases in two ways: as direct and indirect ecopreneurship. It was clear and direct in the cases of Salt & Brygga and Apocalypse Labs, in which all three of the sub concepts, eco-innovation, eco-commitment and eco-opportunity appeared in a very obvious and
direct manner (Table 6). In Replik AB and in EC AB however, both the eco-opportunity exploited by the companies, and the eco-innovations used to exploit them are indirect. The eco-commitment of the two companies could subsequently not be derived from their indirect eco-opportunities and their indirect eco-innovations that are used to exploit them. Because of this shortcoming, a decision will have to be made whether to include environmental consulting companies, or other companies where indirect eco-innovations and opportunities could be claimed, into the concept of ecopreneurship. This decision shall not be taken by me, but merits treatment in a separate place. If however, a category of indirect ecopreneurship is to be created, the definition of indirect eco-opportunities and indirect eco-innovation would have to be improved and defined more precisely. Furthermore, in order to attribute some kind of eco-commitment to companies who practice indirect ecopreneurship, new guidelines for establishing eco-commitment for this kind of ecopreneurial companies would have to be created.

7.2.2 Social Equity

Although I deliberately excluded social equity, the social pillar of sustainability (Holden & Linnerud, 2006, p.175), from my conceptualization of ecopreneurship, and therefore did not specifically ask for it in the interviews with the four ecopreneurs I met, the issue nevertheless surfaced in the four cases in different ways. Both of the environmental consultants I interviewed also consulted companies on issues of working environment, which according to Elisabeth (00:05:00) are mainly a way of creating a win-win situation in companies through finding ways to consider the needs of employees. Elisabeth also explicitly states that she regards social equity as a precondition to achieve economic success in companies, in line with the interconnectedness of the sustainability goals (00:49:00).

Although Jan did not explicitly mention the topic of sustainability in connection with his consulting work, the fact that he also advises companies on questions of work environment implies a similar view. In the case of S & B, the issue also surfaced, albeit in a different way. The lack of trust, respect, and social responsibility Björn shows for his employees can be taken as an example of ignoring the social dimension of sustainability. This lack of social equity, in my view and in the view of the employee, is an obstacle for S & B to achieve better results like more consistent service and food quality and lower personnel turnover (which according to the employee is quite high). In the long run, I am quite certain, that the lack of social equity in the form of a more positive human resource policy will also stain the reputation of S & B. This would be a serious problem for a business like Björn's that depends on its good reputation and the trust of its customers in order to make a profit.

Jenny too expressed her consideration for a sustainable development, although in a more general sense, because in her company, there are no employees, only she and her business partner. However the fact that AL sells some products with a zero profit margin in order to achieve a higher social benefit is in my opinion a clear contribution to social sustainability. Furthermore Jenny also mentioned, that in the sourcing of materials for the products AL designs, consideration is also given that they come from suppliers that ensure good working conditions for their employees (like fair-trade products).

The clear manifestation of social equity as a goal or a problem in all studied cases, which I interpret from the findings, surprised me. It shows in my opinion, that the interconnectedness of the three sustainability goals (ecological, social and economic sustainability)(Holden & Linnerud, 2006, p.175), is not just an empty theory, but that it is a living concept, that manifests in the everyday business of companies. Because of that realization, I have to concede, that the more complete
concept of “sustainopreneurship” (Abrahamsson, 2006), which includes also the sustainability goal of social equity, is probably the more helpful framework, if one wants to give consideration to the interconnectedness of the different factors. In future studies, which have as a goal to improve the understanding of the ecopreneurship concept as a whole, the goal of social equity should therefore be included.

7.2.3 Time-Aspect of Innovation

The temporary aspect of innovation, the fact that if an innovation achieves market success, it becomes a part of business-as-usual, is an aspect which I omitted in the theory, but which clearly manifested especially in the case of S & B. In this case, many eco-innovations which Björn introduced, like coffee that is certified organic and fair-trade, that were rather bold innovations at the time they were introduced to the market, today only trigger a yawn in the eco-conscious consumer.

7.3 Recommendations for Future Research

7.3.1 Typology for Ecopreneurship

If the concept of ecopreneurship is to be established further as a field of research, one thing that is definitely required is a typology of different kinds of ecopreneurship. Such a typology should be based on the different factors which constitute ecopreneurship: eco-innovation, eco-commitment, and eco-opportunity, but also other factors if they are shown to be part of the ecopreneurship field. One such extra factor could be social equity, according to the definition of Abrahamsson (2006). However practical ways of establishing its manifestation in organizations would still need to be adopted.

Possible Categories in the Typology

I also have some suggestions for categories that should be included in such a typology. One is the category of indirect ecopreneurship, which, as is discussed above, is marked by the development of indirect eco-innovations (as in environmental consulting firms) in order to exploit indirect eco-opportunities. Another category (as interpreted from the AL case) could be termed self-sustaining ecopreneurship. This category corresponds to the exploitation of self-defined eco-opportunities, rather than strictly market- or regulation-defined eco-opportunities. Yet another category of ecopreneurship, which I also interpret from the case of AL, could be developed, corresponding to the introduction of zero-profit eco-innovations to the market in order to exploit the eco-opportunity of maximizing positive social and environmental externalities. Even with the given three ecopreneurship factors, a large and detailed typology with many more categories than the three suggested by me should be possible. If more factors will be identified as ecopreneurship factors, like e.g. a social equity or social responsibility factor, an even larger and richer typology would result.
7.3.2 “Measuring” the Ecopreneurship Factors

Since the factor of eco-innovation so clearly manifested in two of the four cases, and indirectly manifested in EC AB and Replik AB, I would find it of scientific interest to look for eco-innovation in ecopreneurial companies in a more precise way in future studies. A more precise way to analyze environmental impact reduction would be to conduct an environmental impact analysis, and thus establish the factor improvement in a more accurate way. Also the extent of the eco-innovations in companies could be established more thoroughly by means of LCA (life-cycle-analysis) and by screening all different business processes in a more accurate way, e.g. an on-site inspection of the studied company, asking several people in the company, as well as suppliers and customers, rather than solely relying on the owner/manager of the studied company. The required knowledge for an eco-innovation could also be established in a more detailed way, through e.g. cross-checking with various experts in the scientific/business areas related to the eco-innovation in question. Such an in-depth analysis of eco-innovation in companies would probably require far more resources, both human and financial, than what is at the disposal of a bachelor grade student like me, and would probably deserve to be the subject of a separate study all by itself.

Because of the large role that market-based eco-opportunities played among the opportunities exploited by the four companies in this study, I see it as necessary to complement the theoretical framework for eco-opportunities with a more detailed typology of market-based eco-opportunities. Also the kind of indirect eco-opportunities exploited by e.g. environmental consulting firms, should be conceptualized more clearly in the eco-opportunity concept. On the other hand, the data collection method of asking the person responsible in the studied company for marketing the eco-friendly products, appears to me as largely sufficient, and needs only be complemented if the interviewing of market managers would not yield the desired results. In that case interviewing competing companies' marketing managers or a customer survey may be appropriate.

The factor of eco-commitment caused me some headaches in the cases of Replik AB and EC AB, and should therefore be amended in the way described under the paragraph for companies with indirect eco-innovations, and an assumed direct correlation between level of environmental performance improvement and company revenue. Also, if one is interested in different ways of “measuring” eco-commitment to achieve triangulation, or more reliable results, psychoanalytical methods for examining the commitment of a person may be an interesting venue.
In conclusion, I try to show that the research question of this thesis “How can ecopreneurship be defined in theory and understood in practice?” has been answered in the different parts of this study. I also attempt to briefly summarize how the three purposes of this study (Section 1.2) have been fulfilled throughout its chapters.

The first part of the research question (how to define ecopreneurship in theory) has been answered in chapters three and four. In chapter three, I showed that Abrahamsson’s (2006) conceptualization of “sustainopreneurship” as the intersection of the sustainability and ecopreneurship disciplines, could be modified and extended to ecopreneurship (figures 2 and 3). I furthermore present Anderson’s (1998) argument about how the seemingly opposed concepts of entrepreneurship and sustainability are reconcilable. Also, the most important concepts of entrepreneurship theory and sustainability theory respectively are presented, so as to give the reader an idea of what the “parents” of the ecopreneurship concept are. In chapter four, I present the three sub-concepts of ecopreneurship in detail, which I selected because they have the double merit of both fitting with my conceptualization of ecopreneurship and of being sufficiently concrete to be operationalized for the case studies that followed. Even though I believe that I succeeded in defining ecopreneurship in theory in chapters three and four, I would like to highlight once again, that I regard the theory of ecopreneurship as emerging. Therefore, neither the framing nor the sub-concepts of ecopreneurship necessarily need to be complete, and I especially expect the sub-concepts to be complemented with additional categories and concepts if future research is carried out in that direction.

Summing up the findings from the empirical part of this study, I feel confident declaring that ecopreneurship and its subconcepts manifested in all four of the studied cases (Table 6), albeit sometimes in slightly different forms than expected. In this part, I summarize very briefly the main findings from the analysis and discussion chapters, i.e., how the sub-concepts of ecopreneurship manifested, and how this reflects on theory.

Eco-innovation was at play in all four of the studied cases (section 7.1.1). It surprised me that S & B achieved a category 3 eco-innovation through putting many small eco-innovations together to achieve a large effect. In the second and third cases, the consulting companies, eco-innovation took the form of indirect eco-innovation, as it did not directly reduce environmental impact, but helped others to reduce theirs. AL achieved its high level of eco-innovation (functional innovation) through using networks for gaining access to the knowledge and skills needed for their eco-innovations, and they used in-sourcing, as a means to control all steps from idea to sale of a product and thereby ensure maximum environmental impact reduction.

Even though I could clearly identify eco-opportunities in all four cases (section 7.1.2), they manifested in ways which were not foreseen and well explained by the theoretical framework for eco-opportunities. Instead of originating from market failures, the eco-opportunities that are exploited by the companies in the cases all had market demand as their main source. A theoretical framework for market-based eco-opportunities would have been more helpful in the analysis of the cases, and it is therefore one of my suggestions for future research. In addition to market-based eco-opportunities, I discovered a kind of eco-opportunities which are exploited by AL, which can be best described as self-defined eco-opportunities, and I believe that also this category warrants more research. I could establish affective eco-commitment for all four the ecopreneurs but only for two of
their companies. The indirect nature of the eco-innovation in Replik AB and EC AB made it impossible to establish any form of commitment, because it could not be verified through the steps suggested by Lynes (2006, p.7).

A number of themes and issues emerged from the analysis of the cases, and their importance in relation to theory was discussed in section 7.2. One of these themes is the distinction between direct and indirect ecopreneurship, and the question of how to deal with it in future research. Another issue was social equity, and how the case studies highlighted its importance contrary to my exclusion of the concept from the ecopreneurship framework. Finally the time-aspect of innovation, a topic that probably had been researched in relation to innovation alone but not in relation to eco-innovation, should also be taken into account when looking for eco-innovation. Towards the end of the thesis (section 7.3), with all the information from the previous chapters of the thesis in the back of my head, I encourage future researchers to create a typology for ecopreneurs, and to find suitable methods to capture ecopreneurship in a more quantitative manner. I hope that the reader, after having read my thesis and the paragraphs above, arrives at the same conclusion as I do, that is to say that I have answered the research question and fulfilled the three purposes of this thesis.

8.1 Research Criteria

In all research criteria for evaluating the quality of a study are needed. Because of the different nature of qualitative research, both in terms of theoretical foundations and practical procedures, alternatives to the “quantitative” criteria of reliability and validity have been suggested (Bryman & Bell, 2003, p. 288). Those criteria are called trustworthiness criteria, and they are: credibility, transferability, dependability and confirmability.

8.1.1 Credibility

Is concerned with how credible or believable the results of a study are from the point of view of its participants. Because the qualitative researcher is aiming to understand the social reality as seen through the eyes of the participants, it is only logical, that he is submitting the results of the study to the respondents, so that they can confirm that their perceptions have been represented correctly (Bryman & Bell, 2003, p.288). In order to achieve credibility, I performed a respondent validation of the interview transcripts from the interviews I conducted. All respondents were satisfied with the interview transcripts, and requested no amendments or changes. Unfortunately, I could not, because of time constraints, submit the analysis of the findings to my respondents for validation. But although my analysis is important, it cannot misrepresent the respondents’ views in a grave way, because they can always be checked by the reader in the interview transcriptions which the respondents have agreed on, and also allow for different interpretations. Furthermore, I informed the respondents about the purpose of my study before the interviews in an introductory e-mail, and I informed them also of my recording of the interviews, to which they had no objections. The acceptance of the respondents of the transcripts of the interviews I conducted with them can be taken to confirm the credibility of my findings. One respondent, the employee of Salt & Brygga, was given anonymity. In the shared view of me and the anonymous employee, anonymity was a precondition for the employee to give a credible account of his perception of the phenomena occurring at Salt & Brygga. This interview with the employee was held as a means of triangulation of the data I obtained from Björn Stenbeck at Salt & Brygga. Triangulation can be seen as a means to enhance the credibility of obtained data through the addition of several perspectives on one phenomenon (Douglas, 2004, p. 64). In my research these are the phenomena of eco-commitment, eco-opportunity and eco-innovation.
8.1.2 Transferability

Qualitative data are generally seen as unique to the situation and context that is being studied, and therefore not generalizable in the same way as quantitative data. Since they are unique, the context in which they arise becomes important, both for understanding, and for judging if or how the observed phenomena could possibly occur in other contexts as well (Bryman & Bell, 2003, p.289). In the discussion and conclusion part of this study, I highlight some themes and concepts that arose in the course of the data collection and analysis, which I think are applicable and observable to some extent also in other ecopreneurial companies, like the distinction between direct and indirect ecopreneurship. However the judgement on if and how my results should be deemed applicable to other situations as well is left to the reader, based on the description of the context I provide. Douglas (2004, p.63) points out that “...the readership of grounded theory based entrepreneurship research findings may be the best judge of the generalizability canon.”. The context in my study is mainly provided through the interview transcripts, but also through my interview impressions which I wrote down immediately after the interviews. In these short documents I describe the setting, the atmosphere during the interview and the attitude of my respondent. Interview impressions are attached in the appendix (Appendixes B1-B5) of this thesis.

8.1.3 Dependability

The criterion of dependability parallels reproducibility in quantitative research. Full reproducibility, i.e. the exact reproduction of a data collection (usually an experiment), followed by the same outcome, is problematic if not unattainable in entrepreneurship research, because of the lack of control of the researcher over all the human variables influencing the data collection process (Douglas, 2004, p. 65). In order to achieve dependability, researchers should keep all the records of the research process, problem formulation, notes, selection of cases interview transcripts etc., accessible for inspection by the reader, so that the reader can judge if sufficient procedures have been followed throughout the research process (Bryman & Bell, 2003, p. 289). In my thesis I try to establish dependability through several different measures. I give a detailed account of all the procedures and decisions involved in data collection in the data collection method part of this study. I also produced transcripts of the interviews I conducted, so that the reader can see on what basis I am interpreting my findings. I also attach my interview impressions in the appendix (Appendixes B1-B5), which I wrote immediately after the interviews, so as to give additional information about the circumstances which form the context of the interviews. The lack of documentation for the interview with the employee of S & B is a drawback for the dependability of the study. The inclusion of the interview was a trade-off between dependability of the study, and additional material relevant for the analysis of the case of S & B. I believe that the added material more than compensates the loss of dependability.

8.1.4 Confirmability

Can be seen as the qualitative criteria used to avoid overt bias influencing the results of research. Although complete objectivity cannot be achieved (Bryman & Bell, 2003, p.289), Douglas (2004, p.65) states that the researcher should adopt empathic neutrality, which involves being empathic and non-judgmental towards the research participants, but neutral towards the findings, and strive to report these findings in an unbiased way. Firstly, the canons of good practice demanded by the dependability criterion, which gives the reader an insight into how I went about this study, also provide the reader with an opportunity to check whether the documented procedures have been biased in one way or another. Secondly, I explain in the introduction of this study my motivations
for choosing the subject of ecopreneurship, and I openly state my major preconceptions and biases that I am aware of in a paragraph in the theoretical methodology part of this study. I have tried to remain neutral in my interpretation of the findings of this study, but at the same time given the reader the possibility to check for whether my preconceptions influence the interpretation of those findings.
References

Articles:


**Theses:**


Lynes, J.K. (2004). *The motivations for environmental commitment in the airline industry*. PhD Dissertation, School of Environmental Planning, Griffith University, Australia

**Reports:**


**Books:**


**Online sources:**

Appendices

Appendix A1
Gröna Björnen AB
Orgnr: 556338-7900
Sånekullavägen 37
21774 Malmö
Telefon: 040-979935
Reg.datum: 1988-12-02
Kommun: Malmö
Län: Skåne län

BOKSLUTSSAMMANFATTNING
Bokslutsperiod: 200801-200812 200701-200712 200601-200612 200507-200512
Antal anställda: 9 9 9 9
Omsättning (tkr): 8570 8141 8412 4156
Omsättningsför. (%): 5.27 -3.22 1.20 27.56
Res. e. fin.netto (tkr): 301 -398 297 346
Summa tillgångar(tkr): 1489 1648 1747 1797
Soliditet (%): 61.85 37.62 58.27 40.12

VERKSAMHET
56100 Restaurangverksamhet

STYRELSE & ANDRA BEFATTNINGAR
Styrelse och andra övervakande befattningar
Björn Anders Stenbeck (f. 1950), Ordinarie ledamot
Eva Birgitta Stenbeck (f. 1951), Suppleant

Tillsynsbefattningar
Carl Krister Sundberg (f. 1959), Revisor

TIDIGARE NAMN
Gröna Björnen Vegetarisk Restaurang Aktiebolag, Registreringsdatum: 1988-12-02

FIRMATECKNARE
Firman tecknas av styrelsen.

BOLAGSORDNING
Bolaget skall driva restaurangrörelse, import och försäljning av restaurangvaror samt handel med aktier och värdepapper och därmed förenlig verksamhet.
Appendix A2
Replik AB
Orgnr: 556614-4381
Köpenhamnvägen 48 A
21771 MALMÖ
Telefon: 040-984208
Reg.datum: 2001-08-16
Kommun: Malmö
Län: Skåne län

BOKSLUTSSAMMANFATTNING
Bokslutsperiod: 200709-200808 200609-200708 200509-200608 200409-200508
Antal anställda: 1 2 2 2
Omsättning (tkr): 1506 1309 852 754
Omsättningsför. (%): 15.05 53.64 13.00 -17.23
Res. e. fin.netto (tkr): 865 35 62 45
Summa tillgångar(tkr): 1244 677 540 364
Soliditet (%): 76.59 48.74 56.48 71.70

VERKSAMHET
70220 Konsultverksamhet avseende företags organisation

STYLESE & ANDRA BEFATTNINGAR
Exekutiva befattningar
Jan Gunnar Oscar Miörner (f. 1953), VD

Styrelse och andra övervakande befattningar
Jan Gunnar Oscar Miörner (f. 1953), Ordinarie ledamot
Jan Gunnar Oscar Miörner (f. 1953), Styrelseordförande
Lena Signe E Wenckert Miörner (f. 1954), Suppleant

Tillsynsbefattningar
Mats Fredrik Persson (f. 1966), Revisor

FIRMATECKNARE
Firman tecknas av styrelsen.

BOLAGSORDNING
Bolaget skall bedriva utbildning och konsultverksamhet inom områdena miljö, arbetsmiljö och organisationsutveckling.

Appendix A3
Ernehag Consulting AB
Orgnr: 556720-2527
Kolonigatan 6
26253 ÄNGELHOLM
Telefon: 0431-15015
Reg.datum: 2007-01-12
Kommun: Ängelholm
Län: Skåne län
BOKSLUTSSAMMANFATTNING

Bokslutsperiod: 200701-200806
Antal anställda: -
Omsättning (tkr): 121
Omsättningsför. (%): -
Res. e. fin.netto (tkr): 20
Summa tillgångar(tkr): 163
Soliditet (%): 70.13

VERKSAMHET
70220 Konsultverksamhet avseende företags organisation

STYRELSE & ANDRA BEFATTNINGAR

Styrelse och andra övervakande befattningar
Karin Birgitta Elisabeth Ernehag (f. 1962), Ordinarie ledamot
Karl Håkan Nervall (f. 1969), Suppleant

Tillsynsbefattningar
Jan Ingvar Sture Janne Nilsson Duhs (f. 1965), Revisor

TIDIGARE NAMN
Startplattan 651443 Aktiebolag, Registreringsdatum: 2007-01-12

FIRMATECKNARE
Firman tecknas av styrelsen

BOLAGSORDNING
Bolaget skall bedriva konsultverksamhet med inriktning på
företags- och organisationsutveckling samt därmed förenlig
verksamhet.

Appendix A4
A Design Lab Malmö Ekonomisk förening
Orgnr: 769618-7272
c/o: PETRA LILJA
Repslagaregatan 9 A
21121 MALMÖ
Telefon: 0736-580190
Reg.datum: 2008-04-25
Kommun: Malmö
Län: Skåne län

VERKSAMHET
74102 Grafisk designverksamhet
20420 Tillverkning av parfymer och toalettartiklar
85600 Stödverksamhet för utbildningsväsendet

STYRELSE & ANDRA BEFATTNINGAR

Styrelse och andra övervakande befattningar
Petra Boeld Lilja (f. 1973), Ordinarie ledamot
Anna Jenny Nordberg (f. 1978), Ordinarie ledamot
Elisabeth Ann-Charlotte Nordberg (f. 1953), Ordinarie ledamot

FIRMATECKNARE
Appendix B1

Interview Impressions Björn Stenbeck, Salt&Brygga:

Interview date: Friday 17th of April, start: ca. 13:45 until ca. 14:30
I arrived about 20 min. early, and the restaurant was still half-full with customers who had lunch. 
Björn Stenbeck was at the bar. 
Even though there was quite some business going on in the background he did not seem stressed or nervous. Quite the opposite, he was calm, but very aware and awake. 
Björn chose a quiet spot in the back of the restaurant where the interview could take place undisturbed. 
Björn seemed to have a lot of routine in giving interviews, and not only had well thought through answers to my questions, but he also anticipated some of them, so I didn’t have to interrupt him and he could just keep going. 
The atmosphere was friendly, Björn was very open to my questions and he seemed to make an honest effort to give exhaustive answers. 
Björn was notified by me about the recording, the respondent validation and the nature of my questions before the interview. 
The interview took almost exactly 45 min. and there was no rush, and I felt that all my questions were answered. 

I was very passive during the interview, but that was mostly because i didn’t want to disturb the flow, and because relevant subjects were being brought up by Björn often without my intervention. Only at some instants did I have to nudge the conversation towards my area of interest.

Appendix B2

Interview impressions Jan Miörner, Replik AB

Interview date: fri. 17th 04 2009, start ca. 16:00, length ca. 70 min. 
The interview took place at the private office of Jan Miörner, which is situated in an apartment building, in a residential area of malmö. 
Jan expected me and had freed more than enough time in his schedule to accommodate the interview. 
The atmosphere was relaxed and friendly, his two dogs were around too, and the interview took place in a quiet setting, to ensure good quality recording. 
I informed Jan about my research, what the interview was going to be about, the fact that I was recording, and about the respondent validation procedure. 
Jan was very open, but he also wanted to give precise and relevant answers. Therefore asking questions that would incite him to answers that covered my research interests was a little more of a challenge. However when the question was formulated clearly, Jan gave long answers, explained jargon and introduced concepts, and also gave a lot of examples. 
This led to that the interview was about 65 min. instead of forty-five. 
Jan was very welcoming, and he enjoyed the fact that I made him think about his own business in different ways. He had no reservations, and I felt privileged that he shared some of his huge theoretical knowledge (he kept referring to books which I had never heard of, although I thought of myself as being rather well-read in the area of environment and sustainability) and his rich experience of almost 20 years as a consultant. 
I noticed quickly that there was no need to use simplified terminology, and that Jan was well versed
in the lingo of business and sustainability. Therefore I could ask him more directly about the concepts I was interested in.

**Appendix B3**

**Interview impressions Elisabeth Ernehag**

Interview date: sat. 18th april, length: ca. 50 min.
The respondent was informed about the respondent validation procedure of all interview material I apply and agreed to recording of the interview.
Elisabeth was very open about all aspects of her business, and showed a genuine effort to completely answer all of my questions.
The interview took place in Ängelholm, on the terrace of a cafe, so there is some background nose. We had to relocate several times during the interview because of the cold that ensued sunset.
Elisabeth was both very accurate and precise and wanted to make sure she understood my questions correctly, but when encouraged by my follow up questions she also went on to give longer and sometimes explanatory answers and examples.
The interview took place under some time constraint as Elisabeth had scheduled an appointment about one and a half hours after the interview start. This time constraint was however not biting, because it still allowed for about 20 min. more than the interview length I suggested.
It also helped in my interview that I had already interviewed an environmental consultant the day before and was therefore familiarized with her line of work. Because of this familiarity, I could ask more precise questions and come to the relevant points faster than on the interview the day before. This familiarity also contributed to easing the time constraint.
I conclude that I had a very deep and good conversation with Elisabeth Ernehag, which explored all the subjects of my scientific interest.
Elisabeth also happily offered me that I could contact her if follow up questions should arise.

**Appendix B4**

**Interview Impressions Jenny Nordberg**

Interview date sat. 19th april 2009, interview duration ca. 55 min.
Jenny and I were both a little bit tired, we took our time to get started. I met Jenny at her apartment in Malmö, she was kind enough to invite me although we had never met each other before.
We small-talked, and introduced ourselves a little bit, Jenny made coffee for us, and we then proceeded to the living room table, where the interview subsequently took place. The atmosphere was relaxed, and there was no background noise to disturb the record. I reminded Jenny of the fact that I was recording the interview before I started the recorder, after having already stated so in our e-mail correspondence. I also informed her of the respondent validation procedure I was using for the transcripts of the interviews. Jenny was a gold-mine as an interview partner. She understood my questions in the right sense immediately, and gave the kind of answers I was hoping for, about her business. It was also observable, that she both has a huge knowledge and an agile mind, which produced very good answers.
Jenny was open, and did not try to duck any questions rather she made an effort to answer carefully and accurately.
There was no time constraint, and I comfortably managed to ask everything I wanted within 55 min. (I had estimated that the interview would take between 45 and 60 min.) This being the fifth interview, I had grown more accustomed to my role as an interviewer, and I did tolerate silence better, which gave Jenny the chance to contemplate on her answers.
After the interview Jenny promised she would answer any questions that may arise during my analysis of the findings, but that she may need some time to answer them.
Hej David,


Bästa hälsningar

Björn

-----Ursprungligt meddelande-----

Från: David Kainrath [mailto:david.kainrath@gmail.com]

Skickat: 2009-05-03 11:21

Till: Björn Stenbeck

Ämne: Intervju transkribering

Hej Björn,

Tack för att du ställde upp! Jag tror att en bra del av läsarna kommer att bli nyfikna på Salt&Brygga när de läser mitt arbete.

Jag är färdig nu med att transkribera intervjun, och precis som lovat så skickar jag ut transkriptionen till dig.

Om du har lite tid över kan du läsa igenom den.
Finns det någon del i transkriberingen som inte akkurat representerar det du ville säga? Hör av dig då till mig så ska jag genast ändra det.

Precis som väntat så kom det upp några frågor när jag analyserade intervjun. Det skulle hjälpa mig mycket om du kunde svara på tilläggsfrågorn som jag har här.

1.) Du nämnde i intervjun att det var ekonomiskt svårt för Salt&Brygga under den första tiden. Ungefär när började det vända, och vad tror du var orsakerna för att det vände?

Det var för två år sedan det vände och jag tror att det tar några år att sätta en krog på "kartan", vi är kända i många länder och folk som kommer till Malmö vill då besöka Salt & brygga. Men även debatten om amten och ekologi gör oss en stor tjänst.

2.) Precis i början när du startade S&B, hur såg efterfrågan från gästernas sida efter en ekologisk restaurang ut? Hur trodde du att den skulle utvecklas i framtiden?

Vad tog du för steg för att få reda på om det fanns en efterfråga?

Det var nog min intuition och tro på en bättre miljö som gjorde att jag vågade satsa på S & b.

3.) Hur har gästernas attityd/inställning till ekologiska produkter i allmänhet och S&B i synnerhet förändrats under den tiden du hade restaurangen? Vilka faktorer tror du ligger bakom förändringen?

Jag behöver inte annonsera - det räcker så bra med att tidningarna skriver om ekologiskt - miljö - utfiskning - gifter och tillsatser i maten - dom vet att jag inte sysslar med sådant, dom känner sig trygga på salt & brygga.

---

Appendix C1

Hej David,


Bästa hälsningar

Björn

-----Ursprungligt meddelande-----

Från: David Kainrath

Skickat: 2009-05-03 11:21

Till: Björn Stenbeck

Ämne: Intervju transkribering

Hej Björn,

Tack för att du ställde upp! Jag tror att en bra del av läsarna kommer att bli nyfikna på Salt&Brygga när de läser mitt arbete.

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Om du har lite tid över kan du läsa igenom den.
Finns det någon del i transkriberingen som inte akkurat representerar det du ville säga? Hör av dig då till mig så ska jag genast ändra det.

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Det var för två år sedan det vände och jag tror att det tar några år att sätta en krog på "kartan", vi är kända i många länder och folk som kommer till Malmö vill då besöka Salt & brygga. Men även debatten om amten och ekologi gör oss en stor tjänst.

2.) Precis i början när du startade S&B, hur såg efterfrågan från gästernas sida efter en ekologisk restaurang ut? Hur trodde du att den skulle utvecklas i framtiden?

Vad tog du för steg för att få reda på om det fanns en efterfråga?

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3.) Hur har gästernas attityd/inställning till ekologiska produkter i allmänhet och S&B i synnerhet förändrats under den tiden du hade restaurangen? Vilka faktorer tror du ligger bakom förändringen?

Jag behöver inte annonsera - det räcker så bra med att tidningarna skriver om ekologiskt - miljö - utfiskning - gifter och tillsatser i maten - dom vet att jag inte sysslar med sådant, dom känner sig trygga på salt & brygga.
Det har ju helt enkelt blivit "inne" att gå på en miljöanpassad krog och för företagen är det "status" att ha representation på en EKO-krog.

4) Finns det delar i S&B:s verksamhet som skulle kunna förbättras? Både med avseende till miljön, men också andra delar av verksamheten? Vilka?
Självklart finns det mycket kvar att göra, att få ner elförsörjningen är en viktig del, att få diskmaskinsproducenterna att få fram mer miljöanpassade maskiner är viktigt, att få gästerna att äta mindre andel kött och större andel böner etc. är en del av arbetet. Jag skulle även vilja ha mer samarbete med några hotell. Just nu kommer jag inte på så mycket mer.

Jag ser fram emot att höra/läsa av dig!

Med vänlig hälsning,

David

**Appendix C2**

Hej David,

Att starta eget hade länge funnits som en idé och önskan. Efter några år som anställd konsult blev det ekonomiskt och praktiskt möjligt. Det är inte lätt att alltid veta vad som driver den egna utvecklingen åt ett visst håll men att arbeta i eget företag tror jag handlar mycket om frihet och möjlighet till egen styrning (kontroll).

Hälsningar/Jan

**Från:** David Kainrath [mailto:david.kainrath@gmail.com]  **Skickat:** den 9 maj 2009 11:30  **Till:** Jan Miörner  **Ämne:** Transkribering färdig

Hej Jan,


Jag har också en fråga om någonting som inte riktig kom fram i intervjun:

När var det du slutade jobba på ditt första konsultjobb och startade eget med Sten-Olov, och mycket mer intressant: varför? Vad var iden med att starta eget?

Jag kanske återkommer med fler frågor efter helgen.

Skulle du vara intresserad av att få en kopia av mitt arbete när det är färdigt?

Ha en trevlig helg!

David
Appendix C3

Interview guide ENGLISH

Introductory questions
Please tell me a little bit about yourself, who are you (function in the company), and what is your background?
How did it all start? Where did you get the idea for your business from and why did you start it?

Eco-Innovation
1. What is your business about? Tell me about your business idea?

2. Please tell me more about the eco-friendly products/services of yours!
   1. How do the products/services of your company reduce environmental impact, or create a positive impact?
   2. HOW MUCH LESS DAMAGING THAN A “NORMAL” PRODUCT/SERVICE DO YOU ESTIMATE YOURS TO BE?
   3. DO YOU ALSO REDUCE ENVIRONMENTAL IMPACT OTHER THAN IN YOUR PRODUCT/SERVICE? WHERE? WHAT OTHER POINTS?
   4. WHAT DISTINGUISHES THEM FROM OTHER PRODUCTS/SERVICES IN THE MARKET? IS YOUR ENTIRE PRODUCT RANGE/ SERVICE RANGE/GROUP OF COMPANIES ENVIRONMENTALLY FRIENDLY? WHY? WHY NOT?
   5. HOW IMPORTANT IS THE ENVIRONMENTALLY FRIENDLY ACTIVITY IN TERMS OF REVENUES/GROSS PROFITS IN RELATION TO OTHER COMPANY ACTIVITY?
   6. HOW DO YOU SEE THE FUTURE POTENTIAL OF THE ENV. FRIENDLY PRODUCT?
   8. WHO DEVELOPED/CREATED THE ECO-FRIENDLY PRODUCT OR SERVICE

3. How did you acquire the skills and the knowledge necessary to create your product? (business field? Research? General knowledge) Where?
   • DO YOU KNOW OF MANY PEOPLE WHO HAVE THE SAME SKILLS/KNOWLEDGE?
   • Did you need to hire someone, to help you out with something you couldn’t create? Did you get help to innovate from outside? If yes how did you get help? With what?

Eco-Opportunities
4. Who needs/wants your product?
   • Is there a demand for the environmentally friendly side of your product or is this just something extra the customer gets?
5. ---- connect why the entrepreneur started it--- Why and how did you come up with your product?
   • Was there a specific need?
   • A problem to be solved?
   • Where did the need arise? Environment? Customers? Within the company?

6. Where does the demand for the eco friendliness originate?
   1. Triggers? The customer? Regulation requirements?
   2. If there is no specific demand for the environmental characteristics of the product, what are the obstacles to that demand?
   3. How could these obstacles be overcome?

7. Do you see the environmentally friendly characteristics of your product as a competitive advantage? Disadvantage? Neutral?
8. How does the competitive situation look like?
   1) Are there many competitors? None? Lack of information?

Eco-Commitment
9. What do you think is a company’s role in reducing environmental harm? What is the best a
company could do to reduce env. impact?

10. Is there a certification (like KRAV) or legal requirements for the environmental friendliness of your product?

   2) Where do these rules come from? Voluntary or mandatory?
      • Are they important/sufficient/too stringent?
      • Can more be done than the rules require?

11. Are you exceeding what is demanded by the rules/regulation?

      • Why? Why not?
      • Should more be done? Why should your company do/not do more?
      • What could be achieved by that?

12. Is it desirable to be more environmentally friendly? Why or why not?

13. Do you see potential for the company to become more environmentally friendly than it already is? (also opportunity)

   14. How could the company be more environmentally friendly?
      • What conditions would have to be met for the company to become more environmentally friendly?

15. Is there anything you would like to add to the things you told me?

**Appendix C4**

**Interview guide SWEDISH**

**Introduction Questions**

Kan du berätta lite om dig själv? Din bakgrund, din funktion i företaget?

Var tog din affärsverksamhet sin början? Varifrån fick du din affärsidé?

**Eco-Innovation**


2. Vilka ekologiska/Miljövänliga produkter/tjänster producerar ni?

   • På vilket sätt är dina produkter/tjänster miljövänliga/minskar miljöpåverkan

   • hur stor är miljöpåverkan av dina produkter/tjänster i jämförelse med konkurrenters icke-miljövänliga produkter?

   • Tar ditt företag också hänsyn till miljön på andra sätt än genom sina produkter/tjänster? Vilka?

   • vad skiljer ditt företags produkter/tjänster från andra på marknaden? är hela produktsortimentet/tjänsteutbudet miljövänlig?

   • Hur stor betydelse har miljövänliga produkter/tjänster som inkomstskälla för företaget i förhållande till andra inkomstskällor?

   • hur ser du den framtida potentialen av ditt företags miljövänliga produkt/tjänst?

   • vilka aspekter av just ditt produkt är nya eller annorlunda?
• vem uppfann eller utvecklade den miljövänliga produkten/tjänsten du säljer?

• Vet du om det finns många andra som har samma slags kunskap/färdigheter?

Eco-Opportunities
4. Vem/Vilka efterfrågar dina produkter/tjänster?
• Tror du att det finns en specifik efterfrågan efter just de miljövänliga aspekter I din produkt/tjänst, eller är det någonting extra som kunden får på köpet?
5. --- anknyta till inledningsfrågorna-- Hur och varför har du tagit fram din produkt/tjänst?
• Fanns det ett specifikt behov?
• Fanns det ett problem att lösa?
• Var uppstod behovet? I den naturliga miljön? Bland kunder/konsumenter? I företaget?

6. Varifrån kommer efterfrågan efter dina miljövänliga produkter/tjänster?
5. Vilka hinder/barriärer finns det för en (större) efterfrågan efter dina miljövänliga tjänster/produkter?
6. Hur skulle man kunna röja undan/ta bort dessa hinder?
8. Hur ser konkurrens situationen på din respektive din marknader ut?
3) Finns det många andra som lanserar samma miljövänliga produkter? Brist på information om konkurrenssituationen?

Eco-Commitment
9. Vilken bidrag kan företag, i allmänhet, göra för att minska den negativa miljöpåverkan?
• Vad är det yttersta enligt din åsikt ett företag kan göra för att minska miljöpåverkan?
10. Finns det certifiering, frivilliga regler eller lagkrav på hur miljövänligt dina produkter/tjänster måste vara?
4) Är de regler frivilliga eller tvingande?
• Är dessa regler bra/ tillräcklig/ för sträng?
• Skulle man kunna göra mer än det som reglerna kräver?
12. Görd ditt företag mer för miljön en vad reglerna/lagar kräver?
• Varför? Varför inte?
• Borde det göras mer? Varför borde ditt företag göra mer/inte göra mer?
• Vad skulle kunna åstadkommas genom en miljöengagemang utöver det som krävs enligt lag/regler?
13. Är det eftersträvansvärt för ditt företag att bli mera miljövänlig? Varför? Varför inte?
14. Ser du utvecklingspotential, där ditt företag skulle kunna bli mera miljövänligt än vad det är idag?
• Hur skulle det kunna ske?
• Vilka förutsättningar skulle behöva vara uppfyllda för att ditt företag skulle kunna bli (ännu) mera miljövänligt?

15. Finns det någonting som du gärna skulle vilja lägga till till det som du har sagt I intervjun, som du tycker är viktigt att jag ska få med I min undersökning?
Appendix C5

A FRAMEWORK FOR ECOPRENEURSHIP: LEADING BIONEERS AND ENVIRONMENTAL MANAGERS TO ECOPRENEURSHIP

Priority as business goal

Environmental performance goals are core to the business.

Environmental goals are supplementary to core business goals.

Environmental protection is regarded as a trustee duty.

Market effect of business

Alternative actors | Bioneers | Ecopreneurs
---|---|---
Environmental management
Environmental administration

Appendix C6

KRAVs marknadsrapport 09
Försäljningsvärden per kategori 2006 o 2007

<table>
<thead>
<tr>
<th>Kategori</th>
<th>2006</th>
<th>2007</th>
<th>Förändring %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kött och skark</td>
<td>124 727 304</td>
<td>150 334 582</td>
<td>21%</td>
</tr>
<tr>
<td>Djupfryst</td>
<td>75 654 446</td>
<td>84 632 574</td>
<td>12%</td>
</tr>
<tr>
<td>Ågg</td>
<td>120 634 169</td>
<td>130 145 180</td>
<td>8%</td>
</tr>
<tr>
<td>Grönsaker, svamp</td>
<td>633 861 577</td>
<td>62 817 927</td>
<td>-1%</td>
</tr>
<tr>
<td>Fruktdjur</td>
<td>89 967 446</td>
<td>85 525 839</td>
<td>-5%</td>
</tr>
<tr>
<td>Kolonial</td>
<td>157 443 034</td>
<td>180 439 667</td>
<td>15%</td>
</tr>
<tr>
<td>Drycker</td>
<td>92 012 163</td>
<td>137 311 948</td>
<td>36%</td>
</tr>
<tr>
<td>Kaffe, te, kakao</td>
<td>147 219 460</td>
<td>232 927 140</td>
<td>58%</td>
</tr>
<tr>
<td>Frukt</td>
<td>711 607 266</td>
<td>809 011 225</td>
<td>14%</td>
</tr>
<tr>
<td>Övrigt</td>
<td>462 105 529</td>
<td>457 950 783</td>
<td>-1%</td>
</tr>
<tr>
<td>SUMMA</td>
<td>7 044 714 729 sek</td>
<td>7 371 076 874 sek</td>
<td>14%</td>
</tr>
</tbody>
</table>