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- A corporate perspective on urban farming

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Organizing for value creation – A corporate perspective on urban farming

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Tack

Jag vill ge ett stort tack till min handledare Cecilia Mark-Herbet för all den vägledning och inspiration hon gett mig. Jag vill också tacka Owe Pettersson och Hans Hassle på Plantagon för att de tagit sig tid att svara på alla mina frågor och för att de delgivit mig material på ett väldigt generöst sätt. Slutligen vill jag tacka min fina familj och mina goda vänner som under de senaste månaderna har fått höra (allt för?) mycket om stadsodling och hybrida affärsmodeller. Tack för att ni stöttat mig och hejat på under arbetets gång!

Väl mött,

Sofie Engberg

Summary

In the year 1800, about 5 % of the world population lived in cities (World Wide Fund for Nature, 2012, 3). Today that number is about 70 % in Europe and North America, and in 2050 it is expected to be 86 % in the developed world and 67 % in the developing world (www, UN, 2009). In addition, the global population is expected to increase with 2.2 billion people until 2050. As a result of the population increase more food has to be produced which requires more transport from the countryside to the cities. However, this flow of resources faces some difficulties. There are various issues in the current agricultural production system that gives rise to environmental problems. Moreover, climate change will put stress on food production as a whole and the increasing price of fossil fuels might also hamper the current global supply system for food. These challenges points to a need to investigate options for alternative agricultural production and market systems to supplement the existing systems.

There is a call for new sustainable solutions for city development and urban food supply. Urban farming is traditionally used to improve food security but has recently been acknowledged for its inherent sustainability features. Thus, it has recently gained status as a strategic tool for sustainable city development.

The focus of this study concerns urban farming from a corporate perspective with the aim to describe factors that enable value creation. The associated research questions deals with values created and how they are created and perceived. They are addressed by a literature review and a case study where the unit of analysis is an urban farming corporation that uses green houses for their production. The research was conducted with a qualitative approach where document analysis and interviews were the main methods for primary data collection. The theoretical conceptual framework is based on stakeholder theory, theory of the triple bottom line and hybrid organisation theory.

The main conclusions are that urban farming can generate economical, environmental and social values simultaneously and that value creation is facilitated by multiple factors. Enabling factors identified are beneficial resource availability and active stakeholder dialogues. Cultivation in green houses allows for minimal use of pesticides and fertilizers and can also upscale benefits of urban farming. When it comes to how values are created, a number of organizational aspects are essential. First, economic value creation is a corporate pre-requisite for environmental and social value creation. Further, a company must have clear social and environmental targets truly integrated to their core activities in order to succeed. This study shows that the hybrid business model allows for this in a beneficial way. Identified key success factors for corporate urban farming are access to patient capital and well developed networks.

Sammanfattning

Människans sätt att bo och leva har förändrats mycket under de senaste seklen. År 1800 levde ungefär 5 % av jordens befolkning i städer (World Wide Fund for Nature, 2012). Sedan dess har den globala populationen ökat och inflyttningen till städer har varit stor. Idag bor cirka 70 % av alla människor i Europa och USA i städer, och den utvecklingen väntas fortsätta enligt FN (www, UN, 2009). De närmaste åren kommer urbaniseringen att ske snabbast i utvecklingsländer (www, Rauf, 2012).

Den globala populationsökningen, (en ökning med 2.2 miljarder människor till år 2050) och urbaniseringen innebär att städerna växer och att mer mat behöver produceras och transporteras från landet in till städerna (Steel, 2008). Samtidigt finns det problem med att utöka det produktionsystem som finns idag. Dagens lantbruk ger upphov till ett antal miljöproblem, bland annat övergödning och utsläpp av klimatgaser (Hedlund, 2012; Queiroz, 2009). Andra faktorer som försvårar är det stigande priset på fossila bränslen samt de stundande klimatförändringarna som kan medföra extremare väder vilket i sin tur komplicerar matproduktionen (Björklund *et al.*, 2008).

Sammantaget innebär dessa förändringar att större mängder mat måste produceras på ett mer hållbart sätt i framtiden (www, WWF, 2012). Således är det viktigt att undersöka nya metoder för hållbar stadsutveckling och nya matförsörjningssystem. Komplexa problem kräver ofta breda lösningar, men en nygammal metod som uppmärksammas för dess potential att bidra till hållbar stadsutveckling är stadsodling.

Traditionellt har stadsodling bedrivits för att säkra tillgången på mat i städer, men tekniken uppmärksammas nu också för dess förmåga att gynna biologisk mångfald, minska klimatpåverkan och skapa hälsosamma stadsmiljöer genom att skapa grönska och sociala värden (www, Movitum, 2012; www, Hallbarastäder, 2012; www, WWF, 2012; www, FAO, 2012; www, Rauf, 2012). Den här studien undersöker stadsodling från ett företagsperspektiv och syftet är att beskriva vilka faktorer som möjliggör att olika värden skapas genom odlingen. Forskningsfrågorna beskriver vilka värden som skapas och hur de skapas.

För att undersöka detta gjordes en litteraturgenomgång av tidigare genomförd forskning samt en empirisk studie av det världsledande stadsodlingsföretaget Plantagon. Resultaten analyseras mot utvald teori och jämförs med tidigare forskning i en diskussion.

Slutsatsen är att stadsodling kan generera både ekonomiska, miljömässiga och sociala värden och att värdeskapande möjliggörs av flera faktorer. Bland annat kan resurser som redan finns i städerna, men inte utnyttjas, komma till användning i odlingsprocessen. Dialoger med intressenter skapar möjligheter och bättre samordning med övriga intressen i städerna. Stadsodling i växthus kan ge fördelar genom att den skyddade miljön varken kräver gödning eller bekämpningsmedel. Svaret på frågan om hur värden skapas visar att ett antal företagsorganisatoriska aspekter är betydande. Ekonomiska värden möjliggör skapandet av miljömässiga och sociala värden. För att kunna generera en bättre stadsmiljö måste företaget ha tydliga sociala och miljömässiga mål som integreras i deras kärnverksamhet. Studien visar att hybrid organisationsform tillåter detta. Viktiga förutsättningar är också tillgång till långsiktigt kapital och välutvecklade nätverk.

Abbreviations

CR	Corporate responsibility
CSR	Corporate social responsibility
IDRC	International Development Research Centre
NGO	Non-governmental organization
RAUF	Resource Centres on Urban Agriculture and Food Security
SIDA	Swedish International Development Cooperation Agency
UA	Urban agriculture
UPA	Urban and peri-urban agriculture
WWF	World Wide Fund for Nature

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1 Introduction

This chapter provides an introduction to the subject of urban farming and the problem that constitutes the foundation for the study. The aim and delimitations are presented followed by the outline and definitions of key terms. This chapter gives the reader an overview of what the study contains as a whole.

1.1 Problem background

The urban environment in Sweden has been subject for significant change since the early twentieth-century. The industrialization was the starting point for urbanization, and during the First World War Stockholm's population reached just over 400 000 inhabitants (Svenonius, 5, 2005). During the war the government prioritized food security and encouraged the urban population to grow their own crops by lending them land (Queiroz, 2009). Public parks and flowerbeds were partly converted to vegetable cultivation. One example is the beds at Karlaplan in central Stockholm which held borecole instead of flowers in 1917 (Israelsson, 2002). Sweden held on to the thought of self-sufficiency within food production after the First World War by creating the "Blue Star" organisation. The organisation held a body of agricultural educated people who could help out at farms in case of emergencies (www, Svenskablattjarnan, 2012). The Swedish Board of Agriculture also made efforts by holding a large stock of different seeds. As time passed and Sweden's political environment continued to be stable, the level of precaution through self-sufficiency declined and more or less disappeared when Sweden joined the European Union in 1994 (Queiroz, 2009). Through trade and the EU membership Sweden has a safe food supply without being self-sufficient today. Two other phenomena that effected the relation between food and cities during the twenties-century were globalization and the global population growth (Steel, 2008).

A process of globalization has gradually made international perspectives important for food production (Viljonen, 2006). Complex supply systems have been developed and long-distance transportation was made possible due to inexpensive fuels (Steel, 2008). This has contributed to the current norm of constantly supplied supermarkets and decreasing levels of self-sufficiency. This supply system creates a valuable service for urban life styles and populations, but it also creates a disconnection between rural food producers and urban citizens. The urban population does not need to have knowledge about food production to provide for themselves, they only need money to spend on grocery shopping. Since the food manufacturing process is largely unknown to urban consumers it is difficult for them to know to what extent the prices reflect sound cultivation practices or animal welfare. The global perspective indicates reasons for adjusting both international food supply chains and local food production in order to ensure sustainable development and future food production capacity.

The UN expects the world population to increase with about 2.2 billion until 2050 (www, UN, 2009). At that time, almost 67 % of the population in the developing world and close to 86 % of the population in the developed world will live in cities. This means that more people will have to be fed and more transportation will be necessary to bring food from rural areas into cities (Steel, 2008). Furthermore, the current systems for food production are partly unsustainable, climate change will put more stress on food-production and fossil fuels are becoming more expensive (Hedlund, 2012; Queiroz, 2009). This means that more has to be produced with less in the future, which calls for development of new sustainable production

methods. Urban farming can be one such method, both in Sweden and elsewhere (Steel, 2008; Queiroz, 2009).

1.2 Problem

Urban farming has recently gained status as an important strategic tool for sustainable city development (www, Movitum, 2012; www, Hallbarastader, 2012; www, WWF, 2012; www, FAO, 2012; www, Rauf, 2012). The phenomenon as such has traditionally been associated with food safety, but in the developed part of the world it has now gained importance as a mean for achieving better human health, biodiversity and climate mitigation (Steel, 2008). According to the World Wide Fund for Nature, 15 % of the world's total food supply comes from urban farming, which in 2005 accounted for food supply to about 700 million people (World Wide Fund for nature, 2012, 8).

Food is a basic need and in a city environment that need is interconnected with other needs and ecosystem services. Urban farming can be integrated with the urban infrastructure and resource flows which make it go hand in hand existing urban activities. Urban farming can help to better link resource flows together, and thereby reduce wasted resources. For example, the farming can make use of access heat, manage composting and make use of grey water. (www, WWF, 2012).

Despite the fact that many see great potential in urban farming, the development of new initiatives are often associated with difficulties such as the competition of space in cities, hygiene issues and lack of knowledge about the market for urbanely grown crops (Steel, 2008). Another common problem is to keep the balance between green areas and new buildings when cities become larger and denser.

Considering these conflicting needs and interests, the following questions arise: What values can urban farming generate and how can companies organize in order to achieve these values?

1.3 Aim and delimitations

The aim of this study is to describe enabling factors for value creation within urban farming. This research project is founded on a literature review and a case study of a corporate urban farming initiative. The research questions in focus for the study are:

1. From a corporate perspective, what are the perceived values created in urban farming?
2. How are these values created?

Since regional pre-requisitions for urban farming vary in accordance to politics, climate and wealth, the case study presented in this paper will focus on one company based in Sweden. However, the company pursue business on an international level which allows for an international outlook and perspective on the research. The company is called Plantagon and is world leading in large-scale urban farming, and it is organised through a unique type of hybrid business model (Plantagon, 2012). Mougeot (1999) has called for further research on large-scale urban farming and Boyd *et al.*, (2009) has identified a research gap of private environmental hybrids, which Plantagon represents. This further motivates the choice of Plantagon as the unit of analysis for the case study. The case is also well suited to the research questions corporate perspective.

Besides Plantagon there are a number of different urban farming initiatives active in Sweden. They all perform urban farming on a small-scale hobby level and do therefore they do not match the purpose of this study. Balcony farming performed by private persons is not included either since it does not match the corporate perspective of this study.

In social science, it is known that theory building and testing is difficult due to “the imprecise nature of the theoretical concepts, inadequate tools to measure them, and the presence of many unaccounted factors that can also influence the phenomenon of interest” (Bhattacharjee, 2012, 7). This study does not aim at generating generalizable results for theory building or testing, but will endeavour to describe the complex phenomena of enabling factors for, and derived values from, urban farming.

In order to investigate the full spectra of values created in urban farming, this study builds upon the well recognized theoretical framework of the triple bottom line. This environmental economic theory gives a business perspective on sustainability and identifies value creation in economical, environmental and social terms. There are inherent difficulties in measuring social and environmental values. However, the triple bottom line is used to identify and visualize values rather than measuring them, thus that problematical issue is avoided in this study. Social values will relate to empowerment and well being whilst environmental values will relate to mitigation of pollution in various forms as well as creation of new beneficial values.

Bhattacharjee (2012) explains that a multi-faced phenomenon is potentially better researched with a multi-method approach. To gain more perspectives on corporate value creation through urban farming different approaches of stakeholder theory will be used. That way, it is possible to see for which stakeholders value is created. Even so, only perceived and communicated values will be included. Silent stakeholders such as future generations and the nature will not be included due to the uncertainties and complexity associated with estimation of these stakeholder values.

Furthermore, numerous factors will influence value creation from urban farming initiatives, whereas this study will focus on organisational aspects in particular. Since the aim includes to describe how values are created from a corporate perspective, the organisational aspects are essential. The aim combined with the use of well recognized theories contributes to mitigation of unaccounted factors in this study.

The majority of literature and data used in this study dates from the year 2000 and onwards. The reason for not including older sources to a larger extent is that the young nature of this research field limits the time span for relevant publications. The lack of historical context constitutes an empirical delimitation. All theoretical and methodological choices that were made are specific to this study and case, and the results can therefore not be de-contextualised or generalised.

1.4 Outline

In order to provide the reader with a clear overview of this study the outline is illustrated in Figure 2. The first chapter introduces the reader to the subject of urban farming and gives a problem background in order to create understanding for the research aim. It also holds some definitions of key terms in order to support the continuous reading. The second chapter

describes the method used for conducting this study. Next, chapter 3 contains a literature review that describes what previous research on the subject has showed.

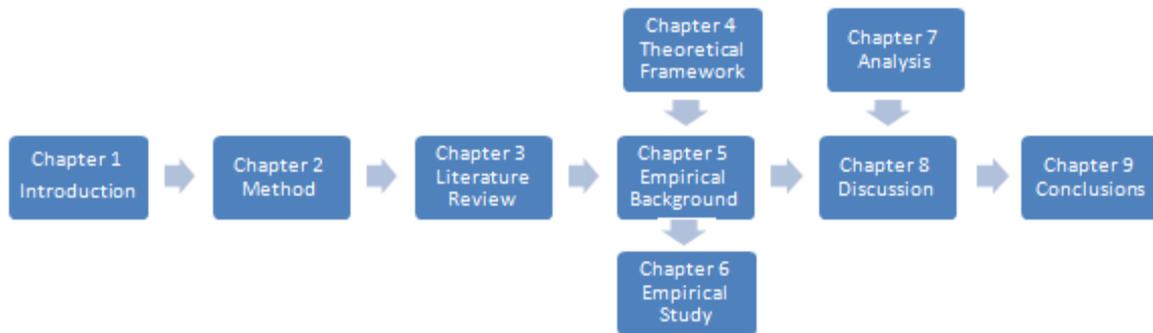


Figure 1. Illustration of this paper's outline.

Chapter 4 presents the theoretical framework that is used to analyse the empirics. The next chapter (5) gives a background to the empirical study by providing an international outlook and a description of the largest urban farming activities in Sweden. Chapter 6 holds the case study of Plantagon. In chapter 7 and 8 the analysis and discussion is presented and lastly, chapter 9 presents this study's findings and conclusions and presents suggestions for future research.

1.5 Key terms and definitions

This section presents the interpretation of key terms and definitions that are used throughout this paper. It is important in all research to provide explanations of what key terms entails in specific contexts (Rienecker & Stray Jørgensen, 2000). Important key terms (Urban farming, urban agriculture and sustainability) are presented and defined below in order to give the readers a clear understanding of this study.

1.5.1 Urban farming and urban agriculture

Urban farming and urban agriculture are synonyms and it is therefore a matter of taste when choosing between the two concepts. The terminology will be used synonymously, but urban farming will be dominant term used in this paper. The quotation below from Mougeot (1999) will function as an introduction to the concept of urban farming. "Urban agriculture is different from, and complementary to, rural agriculture in local food systems: urban agriculture is integrated into the urban economic and ecological system" (Mougeot, 1999, 1).

The concept of urban farming traditionally holds both intra and peri- urban farming (Mougeot, 1999). This means that the term includes both farming located in the city centre and at the fringe of a city. The term urban farming has been widely adopted, this in turn makes the need for specifying and defining the use of the concept important.

There are many different definitions of urban farming available, and the most commonly used ones are typically based on a fixed set of determinants (Mougeot, 1999). The determinants are location, type of area, scale, type of products, product destination (which describes whether the production is meant for trade or self-consumption) and economic activities. There is one definition that entails all these determinants in a clear way (Mougeot, 1999, 10):

"Urban Agriculture is an industry located within (intra-urban) or on the fringe (peri-urban) of a town, an urban centre, a city or metropolis, which grows or raises, processes and distributes a diversity of food and non-food products, reusing mainly human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area".

This definition also captures how urban farming is integrated into the urban systems of ecology and economy, and therefore it was chosen as the working definition for this study.

1.5.2 Sustainable development

Sustainable development was first introduced as a concept in the Brundtland Report "Our Common Future" from 1987. The definition that was made in the report is still valid today and reads: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (www, UN, 2012). Further, the report describes a strategy for sustainable development that aims at creating harmony between "human beings and between humanity and nature" (*ibid.*). The Brundtland definition is widely used and accepted and is therefore used as the definition in this study.

The concept of harmony between economical, social and environmental aspects as a strategy for sustainable development is also the base for the theoretical framework in the "triple bottom line" (Elkington, 1994). The theory builds on the notion that companies has a wider purpose than maximizing monetary return to shareholders. Instead the focus is to take a broader set of stakeholders into consideration and to create values for them on a broader scale. This theory will be further presented in chapter 4.

2 Method

In this chapter the research design and the different methods that were used to decide on the execution of the literature review, theoretical framework and empirical study is presented.

2.1 Methodological introduction

A qualitative research approach is preferred in this study given the aim and the research questions that it answers to. Bhattacharjee (2012) defines qualitative research as “a systematic mode of inquiry into complex social structures, interactions, or processes by employing observational, interpretive, and naturalistic approaches” (*ibid*, 104). The subjective nature of qualitative data collection and its interpretation makes qualitative research more susceptible to human bias than quantitative research (Bhattacharjee, 2012). It can also be difficult at times to know “what the researcher actually did and how he or she arrived at the study’s conclusion” (Bryman, 2008, 392). In order to deal with this critique this chapter will provide a transparent description of the choices made and the methods used during the research process.

2.2 Literature review

Literature reviews have a three-folded purpose; they should study the present-day state of knowledge, identify key articles and authors and identify possible knowledge gaps in the research area (Bhattacharjee, 2012). This purpose has together with the aim of this paper guided the collection of literature in this study. This literature review is mainly based on articles published in academic management journals and publications from international research institutes and organisations such as Movitum, IDRC, FAO, RAUF and SIDA. In order to find all substantial literature that is currently available, a systematic method of identification and review was applied. The peer reviewed articles was collected through a systematic approach consisting of three phases:

Phase one:

The first step was to read literature that I got recommended from my supervisor. The literature provided me with multiple perspectives of the topic and gave me a brief introduction to the current state of the art. The recommended literature functioned as a starting point for a continuous literature search in the way that I could extract key authors and academic journals from the texts. Further, I got familiar with the research terms and their possible synonyms which enabled me to choose search terms on a solid basis. By using key words and synonyms in the literature search the risk of missing relevant texts is mitigated. Table 1 shows the included search terms.

Table 1. Search terms

TX ALL Text	AND	TX ALL Text	AND	TX ALL Text
Urban farming		Sustainabilit*		Corporation*
Urban agriculture		Sustainable Development		Compan*
Urban- and peri-urban agriculture		Corporate social responsibility*		Organisation*
City farming		Corporate responsibility* + CSR + CR		Business*
		Environmental management		Hybrid*

The literature found described urban farming from various thematic perspectives, but most commonly in terms of sustainable development and environmental management. Depending on the geographical location of the research sites different focuses were presented. Food safety was more in focus in developing countries and social aspects in developed countries. Chapter 3 presents all selected literature.

Phase two:

In the second phase, five databases were used to search for literature, namely Primo, EconLit, Elsevier, Jstore and Emerald. According to the university librarians these databases would be most relevant to use in order to access articles on the chosen topic. The accumulated search results included 443 peer-reviewed articles. However, all of these articles were not relevant to the topic and aim of this paper and some were therefore not included.

Phase three:

The third phase included to examine the reference lists of the literature that were selected through the search process. This way the risk of missing relevant literature was dealt with. It was also useful to trace information in order to study original sources and gain a historical perspective.

This field of research is young and a substantial part of the research available has been conducted by international research organisations or institutions whose main focus is to use urban farming as means to mitigate poverty in the developing part of the world. This includes SIDA, FAO and RAUF, but these organisations also publish some general research on urban farming. In order to sort out the publications that are relevant to this study a systematic and thorough investigation of published material on the subject were done.

The chosen material was also found to be referred to in other scientific material. Movitum is a Swedish research network, and IDRC is the Canadian governments research body, and both institutions has published documents that is based on their research but framed to adhere to a broader public than articles that are published in academic journals. Consequently, the material is not peer-reviewed, but other means of quality assurance apply. For instance, Movitum consists of researchers from the Swedish University of Agricultural Sciences, and the network is appointed by the Swedish government to coordinate and communicate knowledge in the field of sustainable cities and urban farming (www, Movitum, 2012). The IDRC reports to the Canadian Parliament. They account for quality in their work by performing evaluation activities, internal audit practices and annual reports.

2.3 Theoretical framework

“Theories must be carefully selected based on their fit with the target problem and extent to which their assumptions are consistent with that of the target problem” (Bhattacharjee, 2012, 23). The theoretical framework in this study was carefully selected with consideration to the target problem; to investigate what factors that enable value creation in terms of urban farming.

It is difficult to measure values in social sciences since the tools to measure other than hard (financial) values are less precise (Bhattacharjee, 2012). Moreover, there is no “currency” for environmental or social values which also complicates the measurement. Today, environmental and social values are usually transformed to monetary terms which is hard to do in an exact way. One theory that aims to measure value in more ways than economical is

John Elkington's "triple bottom line" (Mark-Herbert *et al.*, 2010). This theory is widely recognized and builds upon the sustainability objectives in the Brundtland Report and is therefore suitable for this study (Ottman, 2011).

To further analyze the target problem of value creation the triple bottom line is complemented by a stakeholder theory. Stakeholder theory clarifies for who value is created and got its global acceptance through Freeman's publication in 1984. The stakeholder definition that coined his work reads "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, 46 in Henriques & Sadorsky, 1999, 89) This definition will be used in this paper, and the stakeholders will be grouped as internal or external stakeholders following the model of Deetz (1995) and Kotler (2000). With the purpose of relating the stakeholder theory to corporate responsibility, the model "Corporate Social Responsibility Landscape", by McElhaney, (2008, 22) is also used.

In order to address the second research question of how values are created from urban farming a suitable organization theory is needed. Urban farming is in itself a "green" field which accordingly attracts CR-driven companies (Boyd *et al.*, 2009). Since traditional business models only incorporate monetary values a more modern theoretical concept is needed in order to capture the organisation in urban farming corporations that tend to be both mission- and profit driven. A modern theoretical framework that allows research of CR mission-driven companies is hybrid organization theory (Boyd *et al.*, 2009). Since urban farming for sustainability purposes is a young phenomenon it matches well with this modern hybrid theory.

2.4 Empirical study

This section explains what methods were chosen for the empirical study and why. It also describes the strength and weaknesses combined with the choices and how the weaknesses were dealt with.

2.4.1 A case study

According to Eisenhardt (1989), the case study research is mainly appropriate when investigating a young research field which makes it fit the research field addressed in this study. Case studies can include both qualitative data such as interviews and quantitative data such as statistics (Yin, 1981). In this study interviews are used as the main tool for empirical data collection. It is suitable since the qualitative method entails an inherent strategy of selecting the units of analysis. In this case it means that a suitable case study was selected in regard to the research aim and target problem.

Case studies make it possible to understand a complex phenomenon in a specific context. Bhattacharjee (2012) describes qualitative methods as "well-suited for exploring hidden reasons behind complex, interrelated, or multifaceted social processes ... they are also appropriate for studying context-specific, unique or idiosyncratic events or processes" (Bhattacharjee, 2012, 106).

Mintzberg (1979) describes qualitative data as soft data that can be useful to understand different rationales. He phrases it as follows: "We uncover all kinds of relationships in our hard data, but it is only through the use of this soft data that we are able to explain them" (Mintzberg, 1979, 587).

2.4.2 Empirical data collection

Interviews allow for a more personalized data collection than for instance questionnaires (Bhattacharjee, 2012). The most common form is face-to-face interviews and it is also the form chosen for this study. A face-to-face interview lets the interviewer use follow-up questions and/or probing questions and it also gives the opportunity to clarify any issues raised by the interviewee. However, interviews as such are biased to the interviewee's memory and the interviewer's skills.

The interviews in this study consisted of open-ended questions which could be adopted during the interview. This enables flexibility (Robson, 2002). The questions are available in the Appendix 1. Previous to the interviews, secondary data were collected in order to validate and clarify information acquired from both existing data and interviews. In addition to the secondary data collection other media and documents such as newspapers, annual reports and articles was used to compare with the information given by the interviewees and thereby triangulate the information.

Interviews were selected as the primary data collection method for the case study since it has the potential of capturing new information in this relatively young field. It also provides an opportunity to gain unique insights of the interviewees' appreciation of the corporate organisation and value creation. According to Bhattacharjee (2012) interviews can be time consuming since they demand thorough preparation and professionalism to avoid the interviewer to become bias towards any responses. This issue was dealt with through careful preparation of interview questions and clear communication with the interviewees.

The interviewees were selected on the grounds of position and responsibilities in the case study organisation. Both of them are to be considered as key persons. Furthermore, the interviews lasted for about two hours each and were conducted at the interviewees' workplace. The table below presents these key persons, their position and organisation as well as the interview date, date of validation request and date of received validation.

Table 2. The interview process

Organisation	Interviewee	Position	Interview date	Validation requested	Validation received
Plantagon	Hans Hassle	CEO	4/4/2012	6/8/2012	22/8/2012
Plantagon	Owe Pettersson	CCO	27/4/2012	6/8/2012	22/8/2012

The interviews were conducted in April 2012, the validation request was sent and received in August 2012.

One limitation of this study is that the interviews were conducted with one person at the time during a time period of two months which can generate a momentary view of value creation. A larger number of interviews with more persons from more levels of the company could have shown a development over time. On the other hand, the selected case company can be classified as a small company according to the European Commission's definition (www, European Commission, 2012). This in turn makes it believable that these key persons do have enough knowledge and information in order to fully answer the interview questions.

2.4.3 Analysis of empirical data

Yin (2003) describes an analytical strategy in his book “Case Study Research: Design and Methods” that involves “relying on theoretical propositions, setting up a framework based on rival explanations, and developing case descriptions” (*ibid*, 2003, 109). A similar strategy is provided by Leedy and Ormond (2005) in which they state that data analysis can be performed in three major steps, namely description, analysis and interpretation. These strategies resemble the data analysis made in this study.

First, secondary data about the case study was collected in order to create a solid understanding of the company and to prepare for the interviews. Secondly, the interview data were divided into findings about value creation and background information. These data were interpreted and further analysed by using the theoretical framework. Through this process careful attention has been given to not generalize beyond the scope of this study.

2.5 Case study related choices

This section describes the wider choices made in relation to the case study design such as the choice of problem area, country and company.

2.5.1 Choice of problem area, country and company

Urban farming is a current subject (UN, 2012; www, Ingenjörssamfundet, 2012; www, WWF, 2012; www, Dagens Nyheter, 2012, www, Svenska Dagbladet, 2012; *Ekologiska odlingar på Manhattan*, 2012; *Cities – Surviving the urban jungle*, 2012). Furthermore a need for studies that investigates the link between urban farming and sustainable development is identified by Mougeot (1999). Since research in the area of urban farming is commonly focused on developing countries, the Swedish perspective has the potential to generate new knowledge. The differences in climate and politics explain needs for geographical limitations. Lastly, the choice of case study organisation came out of its unique character and well suited match the research aim and target problem of this study.

2.6 Ethical aspects of the research process

According to Kvale (1997) there are three main guidelines that ensure profound ethical management of a research process, namely informed approval, confidentiality and consequences. The informed approval has been addressed by giving the interviewees proper information about the purpose of this research, why it is performed and how it is conducted. Further, the measures of confidentiality and consequences are addressed by communicating that the interviewees are participating on a voluntary basis and have the right to end their participation at any time. The persons that have been interviewed have had the opportunity to go through the material in this paper and comment on any mistakes or misconceptions made. The company and the interviewees in the case study are presented with their real names and titles. Due to their voluntary participation and them being the primary sources of information the case study is not considered to cause any harm to the company or interviewees in the present, nor in the future.

3 Literature review

This literature review will summarize the state of the art by reviewing peer-reviewed articles and field specific publications. The aim is to create an overview that can function as a strong foundation for this study. After reading through the literature the analysis was conducted on the main topics of value creation and corporate organisation within urban farming.

3.1 A growing environmental awareness

Businesses have always been active members of society regardless of size and industry (Mark-Herbert *et al.*, 2010). They perform their operations in accordance to regulations and their visions are context bound and tied to their social realities. The role of businesses has evolved during the past decades, and the traditional view was coined by Milton Friedman in 1970. He argued that the sole responsibility of a business is to maximize its profit. By doing so, other social values would be created such as job opportunities, wealth among the employees, customer satisfaction and paid taxes that would contribute to societal good. Even so, businesses have to adapt to changes in society and in the markets. Karpensjö (1992) illustrates important events that influenced the collective awareness and the market in regard to environmental issues during the last decades. The model describes the collective awareness in Sweden and it is presented in Figure 2 below.

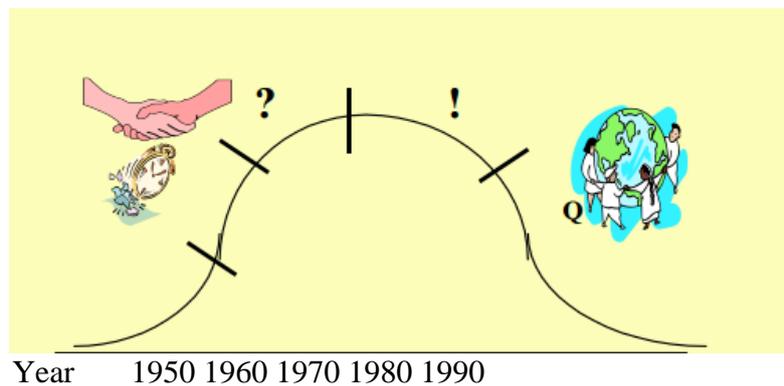


Figure 2. Environmental issues as a process of collective awareness (Karpensjö, 1992, 18).

According to Karpensjö (1992) the years 1950-1960 functioned as a wake-up call for environmental awareness and occurrences such as the London fog and the issue of Rachel Carson’s book “Silent Spring” caught the attention of many. During the 1970’s rules and laws that had environmental protection purposes were created and in the 1980’s the organisation form NGO was founded. In the late 1980’s the Brundtland Report introduced sustainable development as a concept. As these changes in the collective awareness enrolled, the role of companies changed. The new knowledge and expectations contributed to extend the role of businesses from active members of society to also being responsible for their actions towards the society (Mark-Herbert *et al.*, 2010). This has in turn made sustainability operations common among corporations and can nowadays be said to be more mainstream in the developed part of the world (Ottman, 2011).

As the sustainability focus has grown stronger many ways of organizing for sustainability operations has emerged. Urban farming is one field where sustainability has gained in importance relative its traditional purpose of food security (Steel, 2008). This has also

resulted in the origination of new organisation structures for corporate urban farming initiatives. This literature review focuses on values that are created through corporate urban farming and how these initiatives are organized. A summary of the selected articles and their thematic area is presented under the next heading (3.2).

3.2 Contextual analysis of the literature

The amount of literature written on this subject increases in recent years. This can be a sign of increasing interest for sustainability focused urban farming. According to Boyd *et al.*, (2009) and Mougeot (1999) the lack of rich historical data is due to the young nature of this research field. In total 30 academic publications were analyzed and they are grouped after thematic area and year of publication. Here follows a summary of the selected literature.

Table 3 Selected literature

Summary of selected literature		
Results	Years	Thematic area
1985-1989	1	
1990-1995	1	
1996-2000	4	
2001-2005	9	
2006-2010	6	
2011-2012	10	
CSR		2
Stakeholder theory		4
Sustainable development		4
Sustainable city development		5
Food Security		2
Environmental management		7
Organisation theory		6

The articles and publications handle value creation and organisation within urban farming from different angles and are categorized after their thematic area. The literature that focuses on sustainability has a western focus and the literature that focuses on food safety has been conducted with the developing world in mind. Case studies are the most common method for data collection within the thematic area of sustainable development whilst literature reviews are more common when it comes to environmental management.

3.3 Values created from a corporate perspective

According to Drucker (1994) all companies has a “theory of the business”. This theory consists of the company’s vision, mission and operations that together sum up what the company believes in and stands for. This identity sets the goals and direction of a company and is therefore dependent on the ever changing market. Since the collective awareness of environmental issues has matured, the market has changed and corporate urban farming initiatives have extended their theory to include sustainability measures (Karpensjö, 1992; Drucker, 1994). Sustainable development embraces social and environmental values as well as economical ones (Mark-Herbert *et al.*, 2010). The selected literature illustrates these different kinds of value creation and is presented in more detail below.

3.3.1 Sustainable development

Companies are expected to take responsibility for their actions today (Ottman, 2011). According to Steurer *et al.*, (2005) taking sustainability measures are difficult since sustainable development as such is “widely acknowledged to be a normative societal construct” (Steurer *et al.*, 2005, 237). Further, the authors emphasise the difficulties associated with the understanding of the concept of sustainable development which can “easily be interpreted as including almost everyone and everything” (Steurer *et al.*, 2005, 274). These uncertainties derive from the origination of the concept of sustainable development which is created outside the business world. One way of translating sustainable development to the corporate world is to apply corporate responsibility, (CR) but Steurer *et al.*, (2005) does not accept CR as a perfectly suitable tool for creation of social and environmental values. They state that further research is needed to find a suitable measurement.

Other authors recognize CR and its interlinked model of value measurement, the “triple bottom line”, as a contemporary and functional measurement in environmental economic theory (Mark-Herbert *et al.*, 2010; McElhaney, 2008). Both Mark-Herbert *et al.*, (2010) and McElhaney (2008) see CR as a framework that identifies companies as responsible for their aggregated actions. This includes going beyond the traditional bottom line, to maximize return to shareholders, to a wider perspective where economical, environmental and social values are created with a wider set of stakeholders in mind. However, it is true for both for-profit companies and non-profit organizations that it is impossible to act responsibly without financial means (Boyd *et al.*, 2009).

Even if different opinions exist regarding the corporate usefulness of the concept sustainable development there is a widely recognized understanding of the inclusion of social, economical and environmental values (Boyd *et al.*, 2009). The selected literature in this review refers to these three value dimensions as parts of sustainability. The economical values created through urban farming do not only relate to sales but is interrelated to other sustainability measures as well. These are described under the next heading (3.3.2).

3.3.2 Economic

In theory, CR is found to be profitable but within research empirics the results are mixed (Salzmann *et al.*, 2005). There are numerous reasons for why CR can fail to generate profit such as green wash (intended or unintended), lack of knowledge, its complex nature and lack of communication (Ottman, 2011). The economical values that can be created in urban farming are closely linked to effective resource use and well developed stakeholder dialogues. By growing crops in urban areas there are several opportunities that can constitute economical benefits (de Zeeuw & Dubbeling, 2012).

Larsson *et al.*, (2009) describes how the CR focus can help manage risk and save costs as well as improve the relationships with stakeholders. Similarly, Waddock & Graves (1997) find that CR focus has a positive relation to future finance through improvements of stakeholder relations. If the stakeholder relations are better managed the business will get a better understanding of how they can sell their products. According to McWilliams & Siegel (2001) CR does not create much financial profit. They describe it as an added value that only should be produced to the extent that customers are willing to pay for. In the research of Waddock (2004) a positive connection between corporate responsibility and financial performance is described. CR can lead to a more efficient resource use and thereby also save costs.

Preston & O'Bannon (1997) on the other hand argue that there is a negative relation between CR and financial performance. They explain it mainly through lack of incentives for the managers to spend money on CR. They regard CR as an "extra" spending that do not generate income. Detre & Gunderson (2011) find that shareholders within agribusiness can expect lower returns in the short term when a company commits to CR. Hassle (2012) stresses the fact that the necessary components for urban farming are present in cities and goes to waste if they are not properly managed. For example, they see available resources in CO₂, grey water, nutrients and excess heat from buildings. Steel (2008) sees economical values in mitigation of transports and unsustainable farming. She considers these two posts as cost creators and recognizes a financial win in reducing them.

In 2007 Wennberg published a paper on urban farming in which he recognizes the importance of life cycle analysis in order to calculate financial values of urban farming. He highlights that crops produced in a city can make use of available resources and reduce the need for transportation, but he also recognizes that for example the need for heating in green houses has to come from financially and environmentally sound sources in order to outperform crops that are grown in warmer climate and then transported. He argues that the financial values have to be closely monitored since it is easy to make false assumptions of locally grown crops always being a better option.

3.3.3 Environmental

Different kinds of environmental values are produced through urban farming. Apart from transport mitigation the urban cultivation can have positive effects on the city environment. The World Wide Fund for Nature, WWF, (2012) states that urban farming can have favourable effects on biodiversity and ecosystem services. By creating a greener city it is possible to create "bridges" for insects to spread from the urban fringes into the centre. This is called creation of habitat networks.

WWF describes the phenomenon in their publication "Urban solutions for a living planet" and they state that "Habitat fragmentation is one of the main negative pressures on biodiversity and healthy ecosystems. Multifunctional habitat networks are focused on reconnecting habitats with high importance areas for nature conservation" (WWF, 2012, 9). This can have positive effects like increased pollination. Further, the WWF recognizes that urban farming can make use of the excess CO₂ and function as water and waste management through handling grey water and compost. Locally, it can provide climate regulation and give better air quality. On a global level they see climate change as a huge risk to food and water security in cities and therefore see urban farming and the environmental and social values it can create as positive risk mitigation as well as a type of food production (WWF, 2012, 15). The thoughts of local climate adaptation, biodiversity stimulation and water- and waste management are also reflected by de Zeeuw & Dubbeling (2012).

Deelstra & Girardet (2012) frame urban farming as an important part of future sustainability in cities. They look at the entire logistic system surrounding food production, processing and transportation in terms of energy use and therefore they argue that urban farming will mitigate CO₂ and other pollution. They think that urban farming is an activity that together with other measures can create sustainable cities. They refer to the UN City Summit in Istanbul in 1996 where 180 countries signed the "Habitat Agenda" where city planning, respect for the ecosystems carrying capacity, nature preservation, science and technology are described as necessary sustainability principles.

Tilman *et al.*, (2011) also stress the need for new technology in order to intensify food production whilst holding the environmental impacts of agricultural expansion under control. Their starting point is the growing global population and urbanization which cannot develop in a sustainable way by continuing to extend the current system. This makes urban farming and other initiatives necessary.

Van Veenhuizen (2007) gives a holistic view of urban farming and stresses the fact that even if it can contribute to sustainability it must also be performed in a sustainable way. This includes to build suitable policies surrounding production. He illustrates this policy dimensions together with the main types of urban farming in his paper “Profitability and Sustainability of urban agriculture”, see Figure 3 below.

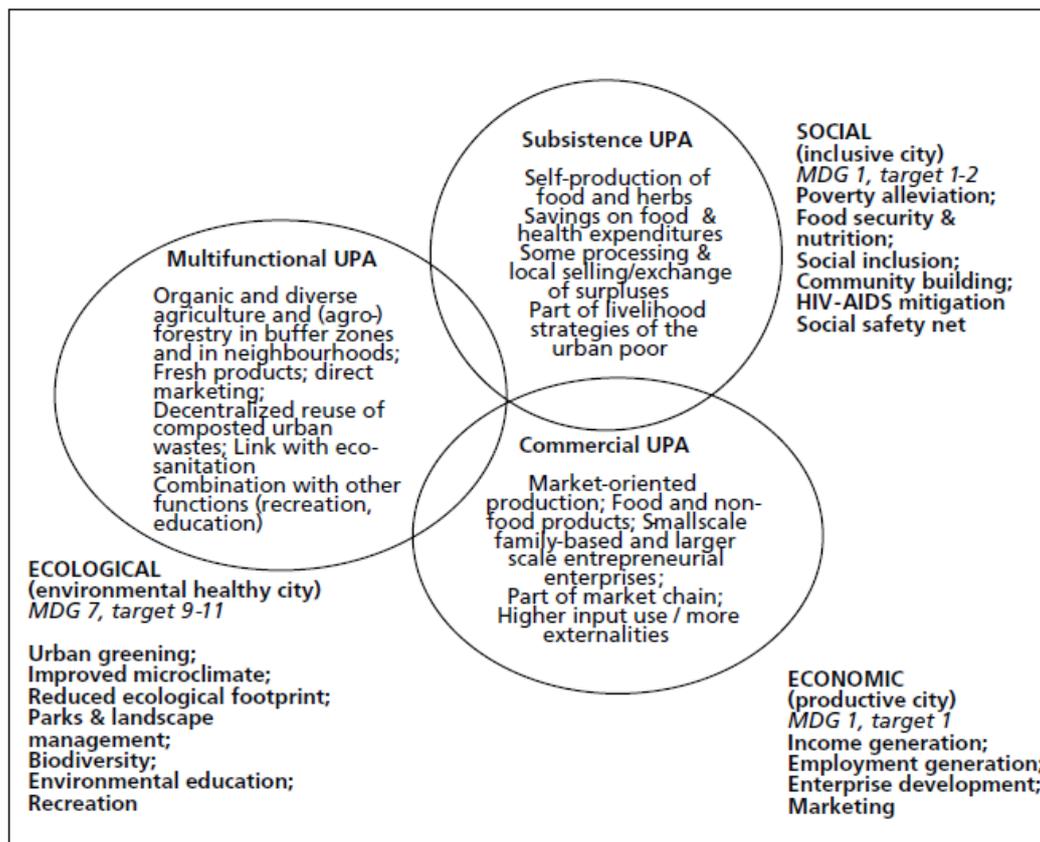


Figure 3. Policy dimensions and main types of urban farming (Van Veenhuizen, 2007, 24)

In Figure 3 UPA stand for urban and peri-urban agriculture. The figure also illustrates values that are created through urban cultivation. According to Van Veenhuizen (2007) most social and cultural values come from subsistence urban agriculture, most economic values from commercial agriculture and environmental values from multifunctional urban cultivation.

Another author that presents a holistic view on urban farming is Mougeot (1999). He argues that urban farming only can reach its full sustainability potential if it is integrated in the urban eco-system. This requires city planners, policy makers, public health management and environmental management actors to come together. He also states that work has to be done on a national level to help local communities to capitalize on their cultivation and to properly integrate urban farming in the city planning and management. If this is not done there is a risk

that urban farming can contribute to “visual untidiness, soil erosion, destruction of vegetation, siltation, depletion of water bodies and pollution of resources” (Mougeot, 1999, 25). There is also a risk that urban farming can be experienced as artificial by the public (Davídsdóttir, 2001). One well known case is the Delta Park in Rotterdam, The Netherlands, which had to close due to the negative public reactions. The urban farm was experienced as a factory that held both animals and crops and this conflicted with the romantic view urban citizens in Rotterdam had.

3.3.4 Social

The social values that come from urban farming are described mainly in terms of food security in the studies that focus on the developing part of the world and provision of a social context in the developed part. According to de Zeeuw & Dubbeling (2012) urban farming can reduce societal vulnerability in terms of strengthening the community through diversifying food sources, income opportunities and also by being a source of innovation and learning. Both Bruinsma (2003) and Brown & Carter (2003) emphasis food security, community strengthening and learning as the main social values derived from urban farming .

Fraser *et al.* (2006) discuss the prerequisites for creation of social values and they state that the key to success is to engage the community members and put them in contact with experts. They look at productive and well functioning urban farming initiatives as a bottom up process. Delshammar (2011) describes urban farming as a set of different strategies that have different potential to contribute to sustainable development. He says that the potential depends on the cultivation techniques used, the location in the city, the purpose of the cultivation and other prerequisites. He believes that urban farming can contribute to various social values, for example recreation for stressed out people, knowledge distribution, provide leisure-time activities, strengthen the local communities' togetherness and make areas more beautiful. His publication includes case studies made in Malmö, Sweden, where he has studied the social outcomes of urban farming initiatives in troubled areas with high crime rates. He recognizes that the creation of meeting points allowed for people to get to know each other which in turn created a more deepened social understanding and sense of belonging.

Karlsson (2011) has also looked into the social effects of urban farming in Malmö. The part of Malmö that is her unit of analysis is Seved, which is an area where the crime rate is high. She argues that this is an area in which it is especially interesting to investigate social outcomes of urban farming since the local inhabitants feel more unsafe here than in any other urban district in Malmö. Karlsson (2011) found that the urban farming contributed to strengthening of the community and well being of the inhabitants. The cultivation made people get to know each other and resulted in that more grown-ups were outdoors in the evenings. The meeting point also had a positive effect on the understanding among different cultures and provided a meaningful leisure-time activity.

3.4 How values are created

The values created through urban farming are dependent on the type of cultivation and the actual means and grounds for the cultivation Delshammar (2011). The most common types of urban farming are commercial, personal or collective farming. Commercial farming is pursued with the aim to sell the products to customers and make a profit. Personal farming is carried out in order to secure the personal food supply and collective farming involves a community and therefore also focuses on the creation of a social meeting point. There are many different motives for urban agriculture, Delshammar (2011) describes six main ones including:

- Increase local food supply
- Mitigate the need for transports
- Strengthen a community
- Create leisure-time activities
- Make an area more beautiful
- Spread knowledge

These motivations contribute to different types of value creation on different levels, but they can all be related to social, economical and/or environmental values. In sum, the methods and purpose of urban farming decides what values are created. When it comes to how values are created, corporate organisation is a key issue. Under the next heading (3.4.1) previous research on organisational forms applicable on urban farming initiatives is presented.

3.4.1 Corporate organisation

Depending on the purpose of the urban farming initiatives they can be placed into a “hybrid spectrum” which illustrates where they are positioned along a profit and cause driven spectrum (Boyd *et al.*, 2009). This is illustrated in figure 4 below.

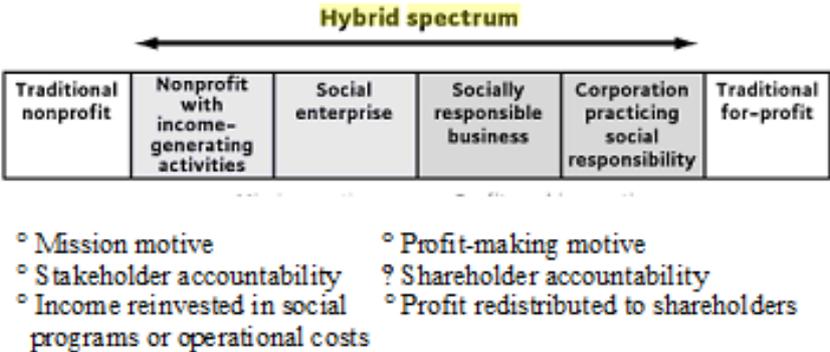


Figure 4. Hybrid spectrum (Boyd *et al.*, 2009, 8)

This figure (4) shows how an urban farming initiative can be more structured after profit or mission focus. However, Boyd *et al.*, (2009) argues that green corporate initiatives can be both profit focused and mission focused at the same time, which makes the hybrid spectrum illustrative but with the delimitation of being one dimensional.

Ottman (2011) argues that the level of green and social value creation in a company correlates to consumer demand. The more consumers prioritize social and environmental values the

more organisations will have to adjust their operations and missions in that direction. At a low level the organisations just have to mitigate negative environmental impacts and improve social conditions, but as consumers get more aware organisations must do more to please the consumers and that is when they start to go from mitigation of negative impacts to innovation of green and social values. This requires organizational change in terms of adjusting strategy and operations to embrace CR.

Drucker (1994) describes a classical strategic management issue in his article “The theory of the business”. He describes how a company’s identity in form of vision, mission and operations are dependent on the company’s assumptions about reality and the match between the perceived and the actual reality. The identity will in turn determine how a company organizes for value creation. The environment in which the company acts, the mission it has and the core competences it possesses are pointed out as critical organization aspects and is altered in relation to how mission driven and profit driven a company is.

Robbins (2001) argues that strong, charismatic leaders and full integration of environmental and social concerns into the core business are organizational success factors for green value creation. He also identifies acquisitions as a threat to successful green companies and uses Ben & Jerry’s and The Body Shop as companies that has proven his hypothesis. These ideas are also highlighted in Boyd *et al.*, (2009), who also see strong leadership and full integration to the core business and its management as organizational success factors for creation of CR values.

Kotler *et al.*, (1999) discusses the role of ethical behavior and how companies should organize in order to produce CR values successfully. Foremost, full integration of ethical behavior is needed and it can only be done with a dedicated top management which also sets an example by personal conduct. Ethical business behavior must be done a tradition that runs through generations in all levels in the company. Incentives have to be clear, meaning that ethical behavior should be rewarded and anything less totally unacceptable.

Some of the thoughts that Kotler *et al.*, (1999) present are reflected in the more recent article by Porter & Kramer (2011). They agree that integration is the key to successful ethical business practices but they also take it one step further. They state that integration to the core business is more likely to create shared value for a company and its stakeholders than a philanthropic business approach would do. But, they argue for integration not only by creating traditions but by developing new business models for corporate responsibility.

The review of selected literature in this chapter provided a broad overview of the research area. The next chapter presents the theoretical framework that will be used to analyze the empirical findings.

4 A conceptual framework for the study

In this chapter the theoretical framework that was chosen to best fulfil the research aim is presented. First, a stakeholder theory by Kotler is presented, followed by one by McElhaney which provides additional dimensions. Thereafter the triple bottom line by Elkington is described and lastly the hybrid business theory by Boyd *et al.*, (2009).

4.1 Stakeholder theory

Since Freeman published his book “Strategic management: A stakeholder approach” in 1984 the concept of stakeholders has been a part of management scholarship (Mitchell *et al.*, 1997, 853). The definition that Freeman presented reads “any group or individual who can affect or is affected by the achievement of the organization’s objective” (Freeman, 1984, 46 in Mitchell *et al.*, 1997). This definition is wide and numerous of other definitions has been coined after this one (Mitchell *et al.*, 1997). One definition of stakeholders that is more narrow and recent is “any individual or group that is directly or indirectly affected by the products, programs, processes, and/or systems, but does not directly benefit as an economic participant such as a customer or supplier” (Rainey, 2006, 711).

According to Kotler (2002) businesses has traditionally focused most on their shareholders and their monetary return but has increasingly discovered that this monetary flow is dependent on nurturing of other stakeholders as well. A brief list of other stakeholders could be suppliers, distributors, competitors, investors, media, local community, general society, employees, shareholders and management (Deetz, 1995, 50; Kotler, 2000, 40). These are all groups that have some kind of interest in the company. These stakeholders can be divided into internal stakeholders that influence the company from within and external stakeholders that influence or are influenced by the company outside of the corporate body. This is illustrated in figure 6 below which shows stakeholders in relation to the company, the dark circle holds internal stakeholders and the white circle holds external stakeholders.

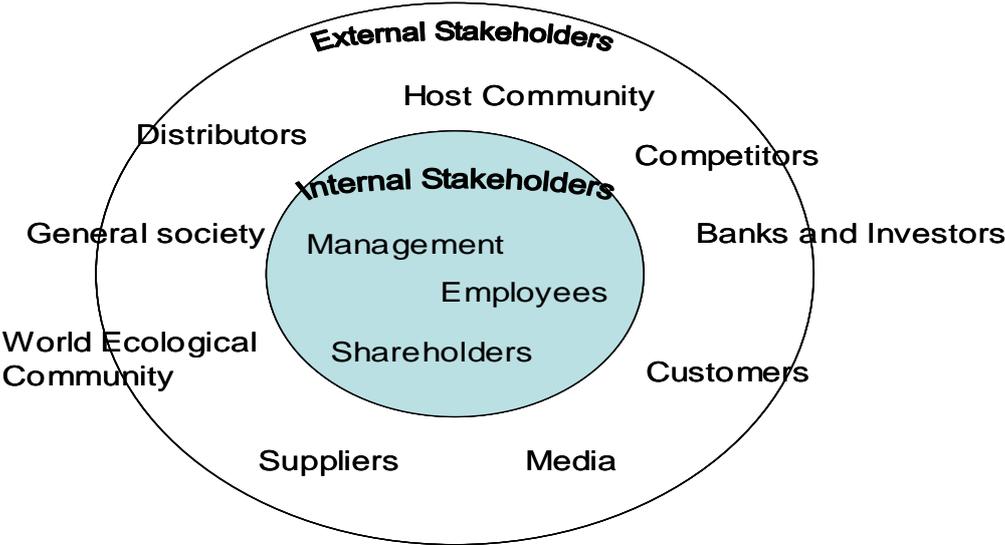


Figure 6. Illustration of a company’s internal and external stakeholders (inspired by Deetz 1995, 50; Kotler 2000, 40).

When it comes to the triple bottom line the stakeholder division gets a bit blurred. This is explained by the larger number of stakeholders that are taken into account when social and environmental interests are considered alongside economical ones. According to Kotler *et al.*, (1999) all companies that strive to meet the needs of different stakeholder groups at the same time will encounter difficulties since the demands and expectations of the stakeholders are varying. This broad spectrum also complicates the strategic choices that a company must make in regard to sustainable business practices (Larsson *et al.*, 2012). It needs to balance the social and environmental value creation with the economic bottom line.

According to McElhaney (2008) companies can choose to perform corporate responsibility at different geographical levels. Which level that is the right one for a company is decided by the top management. The levels are described as company level, community level, industry level and world level. These are ordered in a scheme called the “Corporate Social Responsibility Landscape” illustrated in figure 7 below.

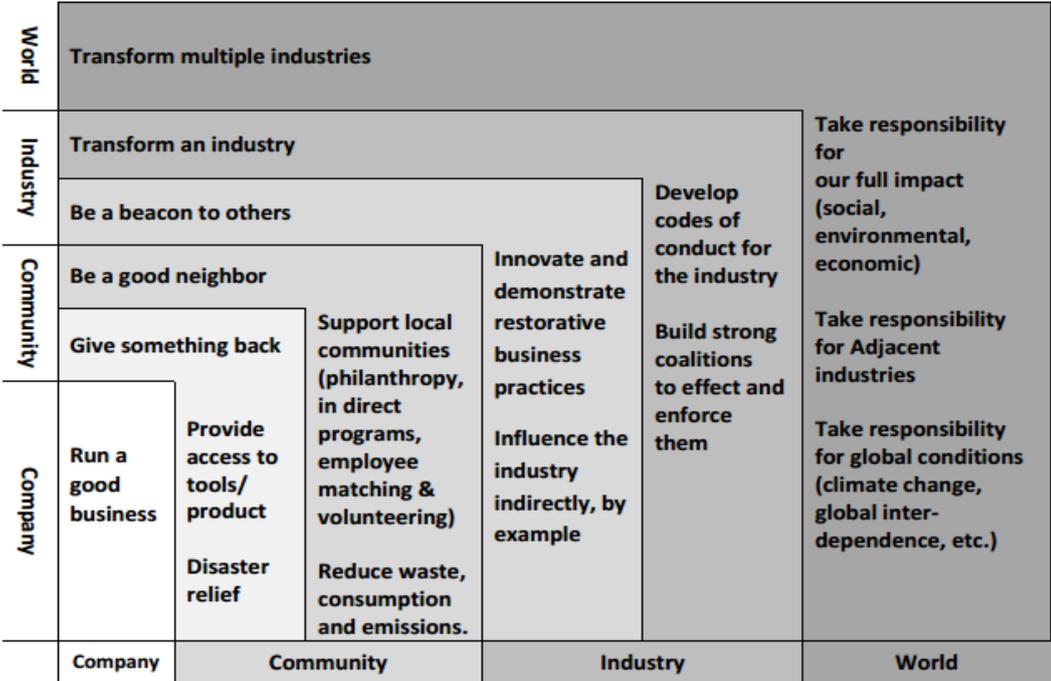


Figure 7. The Corporate Social Responsibility Landscape (McElhaney, 2008, 22)

The company level includes companies that focus on running their own business in a good way by following laws, create good value for customers, take care of their employees and by providing return on the shareholders invested capital. The second level, community, is where most companies are, and it refers to being a good neighbour by having a philanthropic approach, use resources in a careful way and mitigate waste. At an industry level a company actively approaches and influences other businesses in the same sector by acting as a role model. They can also innovate new industry solutions or create partnerships. At a world level companies are generally large and have power to negotiate with other parties to push through responsible conducts. Companies in this position often have international supply chains which enables them to provide a practical understanding of shared values in different cultural contexts.

4.2 The triple bottom line

The theory of the triple bottom line was founded by the British entrepreneur John Elkington in 1994 (Elkington, 1998). He wanted to add dimensions to the traditional bottom line that only describes monetary value creation. He used the definition of sustainable development given in the Brundtland Report, which focuses on economical, environmental and social values, and translated that to environmental economic theory. That way he created a framework that measures corporate value creation in the fields of environmental, social and economical values, and only when a company contributes to all these values sustainability is created. This can be illustrated in many ways and have been so since the theory was introduced. In figure 8 three common illustrations are presented.



Figure 8. Illustrations of the triple bottom line (Mark-Herbert *et al.*, 2010, 1)

As the illustrations in figure 8 shows, the triple bottom line can be interpreted and illustrated in different ways (Mark-Herbert *et al.*, 2010). More importance can be given to one value ground or they can be given equal priority. Regardless of how it is illustrated the concept of long term value creation and sustainability is central. The notion of corporate responsibility implicates continuous dialogues with stakeholders and acceptance of the perception that a company is responsible for all its actions.

4.3 Corporate organization

Porter & Kramer (2011) described how corporate responsibility can be achieved in practice by creating new business models that rests upon a sustainability focused foundation. Integration into the business model provides a more solid base for CR than CSR activities preformed as separate initiatives. One model that allows a business to be both mission and profit driven is the hybrid business model (Boyd *et al.*, 2009). Profit and mission are often seen as independent motives for businesses but this model challenges the notion of a trade off between these two motives. Figure 9 illustrates how hybrid organisations are organised and how they blur the boundaries between traditional for profit and not for profit organisations.

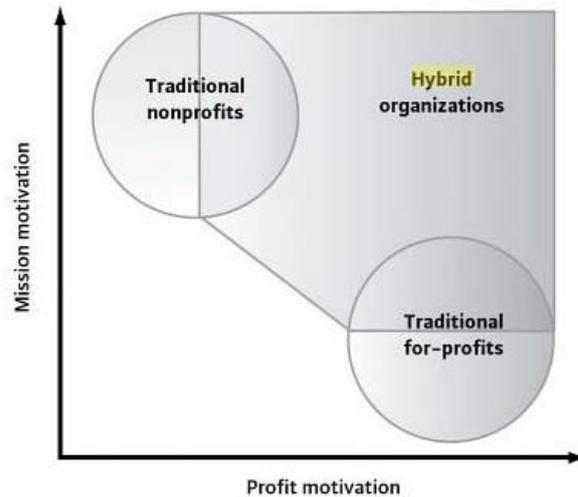


Figure 9. Mission and profit dimensions of business models (Boyd et al., 2009, 9)

The illustration above (figure 9) shows a dark field in which hybrid organisations can exist (Boyd et al., 2009). Hybrids are to some extent traditional non profit organisations and to some extent traditional for profit organisations. A company can position itself anywhere in the dark field and thus combine different levels of mission and profit motivation. Further, there are five main organisational characteristics that the majority of hybrid organisations seem to adhere to. These are ordered into a table which shows organisational characteristics and observed patterns for hybrid organisations. Boyd et al., (2009) illustrates it as below (table 2).

Table 2. Hybrid trends (inspired by Boyd et al., 2009, 26)

Organizational characteristic	Observed pattern for hybrid organizations
Business model and strategy	<ol style="list-style-type: none"> Hybrids believe they do something completely different from competitors Innovative product and environmental features are sources of competitive advantage
Finance	<ol style="list-style-type: none"> Hybrids have both positive and negative profit margins Significant portions of hybrid funding comes from patient capital Financing for hybrids can be both an advantage and disadvantage
Organization	<ol style="list-style-type: none"> Hybrids are led by transformational or participative leaders Hybrids believe they have "fully integrated environmental sustainability"
Processes and metrics	<ol style="list-style-type: none"> Some hybrids track environmental metrics
Innovation	<ol style="list-style-type: none"> Hybrids have "notable innovations" relating to product or service

In sum, hybrid organisations are said to “play a new game in a new market or play a new game in an established market” (Boyd *et al.*, 2009, 25). They have access to patient capital which means that their investors allow longer time periods for receiving monetary return on investment. They also have participative leaders. About 50 % track the environmental performance of their suppliers (Boyd *et al.*, 2009, 34). Lastly, hybrids tend to have notable innovations relating to services or products. Adding to these five main characteristics are also five common practices for successful hybrid organisations. These practices are presented in table 3 below.

Table 3. Hybrid common practices (inspired by Boyd *et al.*, 2009, 146)

Five common practices for successful hybrid organisations
1. Implementing the mission in action
2. Uncommonly close, personal relationships
3. Patience
4. Limits to growth rate
5. Market premium products; rarely compete on price

The first practice relates to the explicit environmental and/or social mission being embedded in the business model (Boyd *et al.*, 2009). Further, the mission is continuously reinforced by engrained learning or creative practices in order to infuse actions that are aligned with the mission. The second practice states that senior management, particularly in smaller hybrids have uncommonly close relationships with actors in their supply chain such as customers, suppliers and producers. This improves the hybrids prerequisites to meet their mission.

Next, the practice of patience means that hybrid organisations often have a longer time-frame when doing business and evaluating results (Boyd *et al.*, 2009). It is common that companies have generational or multi-generational time-frames which in turn require that all stakeholders must have greater patience. Limits to growth rate refer to limits of the *rate* of growth not the total amount of growth. This is due to the dilemma of being true to the mission while obtaining financial values that hybrids might encounter when they try to achieve growth. The last practice states that hybrids mostly choose to approach novel product categories or market segments as opposed to compete directly with established products or markets. This new game strategy gives that the hybrids rarely compete with price but use premium product offerings.

5 Empirical background

This chapter gives an empirical background to the case study by providing an international outlook as well as an overview of the Swedish market. This case study's unit of analysis, Plantagon, is also introduced.

5.1 An International outlook

In a historical perspective the urbanisation is new (World Wide Fund for nature, 2012). In the year 1800 not even 5 % of the global population lived in cities. In 2012 more than 70 % of the populations in North America and Europe live in cities (World Wide Fund for nature, 2012, 1). Adding to this, the fastest urbanisation is currently taking place in Asia and Africa, and jointly it shows that this is a global phenomenon. This also represents a fundamental change in the human relationship to the environment.

Cities have an indirect impact on the environment (World Wide Fund for nature, 2012). The accumulated demand for energy, food and materials are determined by a city's population size, level of consumption and use of technology. Adding to this, people who live in cities generally have a larger ecological footprint than people that live on the country side since they tend to be wealthier which gives that they consume more. Even so, there are great opportunities for cities to make eco-efficiency gains through for example, urban farming. About 15 % of the world's total food supply is produced in cities and there are examples of urban farming initiatives from all over the world.

Hyderabad in India holds large areas of urban agriculture and both rice, vegetables, dairy products and green fodder are produced (World Wide Fund for nature, 2012). It serves many purposes, besides food security the cultivation and dairy production creates job opportunities, nutrient recycling and biodiverse agriculture. As in many cities in India there is a shortage of water which in turn makes the use of grey water for urban farming extensive. This irrigation can secure the water supply but also causes hygiene problems as it is poorly cleansed.

Havana, Cuba, is an example of a city that has a very high local food supply (Viljonen, 2005). After the Cuban revolution in 1959 the state established diplomatic ties to the Soviet Union and over time they became dependent of Soviet's markets and aid. When Soviet finally dissolved in 1991 Cuba was left without the resources they were used to get and entered a crisis. This created a great need for people to provide for themselves by growing their own crops, and this forced an acceleration in urban farming. Today considerable amounts of vegetables are produced in the city which has boosted food security and biodiversity.

Jordan's capital Amman holds about 6 million people (www, RAUF 2, 2012). Urban farming is common both in the city centre and at the urban fringe. In 2006 the city of Amman together with a number of NGO's initiated a large scale project with the goal to educate woman in urban farming as a mean of empowerment. In addition, the food security of the low-income population was meant to be strengthened by introducing nutritious vegetables and medical herbs. The project is called "Production of medicinal and cactus plants for the development of home gardens in low-income areas of Amman" and has proven to be successful.

"Farming the City" is the name of an urban farming initiative in Copenhagen, Denmark (www, farmingthecity, 2012). This project is a public-private partnership and has primarily a

social purpose. The aim is to educate children through engaging them in school projects and adults through community gardening in order to create a social platform and teach traditional farming techniques.

The Brooklyn Grange is an organic and commercial urban farming initiative that is spread out over a number of roof tops in New York City (www, brooklyngrangefarm, 2012). The organisation wants to bring city people closer to farming and food production to improve the understanding of what they eat. Anyone can join and learn how to cultivate and the goal is to expand their business and continue to sell their products to local people and restaurants as well as to increase knowledge about farming and improve the quality of life for people living in New York.

A quite recent urban farming project is the one that started in Grahamstown, South Africa, in 2011(www, SWEDESD, 2012). The farming takes place both on community land and in home gardens and the intention is to eventually be able to capitalize on the farming by creating a new business model that allows for both mission and profit. The purpose of the farming is threefold; to provide livelihood, food security and income generation.

5.2 Urban farming in Sweden

The Swedish market for urban farming contains a number of initiatives with different kinds of focus and different sizes. The market is flourishing and that is mirrored in the media. Two of the largest news papers in Sweden, Svenska Dagbladet and Dagens Nyheter, have both given urban farming attention lately. Svenska Dagbladet has published seven articles on the topic during June 2012 and Dagens Nyheter has published the same amount during the spring of 2012 (www, SvD, 2012; www, DN, 2012). Here follows an introduction to some of the initiatives that has been storied in the media in 2012.

Stadsjord is an urban farming project located in Gothenburg (www, stadsjord, 2012). The project performs both cultivation and animal keeping in city areas. The aim is to create a social meeting point for city people as well as to create a more sustainable society. The project has spread out and it is now active in several urban districts. The organization's goal is to grow and establish their activities throughout Sweden. A success factor has been their many collaboration partners which have helped out with knowledge and access to land. They are for example schools, real estate- and architect agencies, universities and municipalities.

Bee Urban is located in Stockholm and they outsource bee keeping to companies that have their office buildings in the city (www, bee urban, 2012). They arrange so that companies can rent bee hives and put on top of their office buildings. Bee Urban takes care of all maintenance and when it is time to harvest the honey the companies can get it caned in bottles with their own logo on. The idea of renting out bee hives came as a reaction to the last decade of declining bee populations throughout the world. The goal is to support the ecosystem services that bee's produce by nurturing hives.

There are several different urban farming initiatives active in the urban district Södermalm in Stockholm, but the largest ones is called 100 Houses (www, 100 Houses, 2012). The organisation runs several parallel projects in order to give their district a greener environment and the aim is to inform city people of how they can reduce their ecological footprint. The largest project so far is the construction of a green conference center which has been built using clean tech solutions such as solar panels, and green materials. Further they arrange

cultivation in the garden to the conference building to teach about farming and to sell and make a profit.

Matparken in Uppsala is an urban farming initiative that is largely focused on social activities (www, matparken, 2012). The land that is used is located between two suburbs; one of them holds mainly low-income population and the other one mainly high-income population. The project started out as an integration initiative between the two suburbs, but has grown to involve education of school children and adults. It is organized as a public private partnership.

The urban farming initiative Odlå i stan is active throughout Malmö city (www, Odlå i stan, 2012). They have cultivation spots in different urban districts and their goal is to spread knowledge about farming and to create social meeting points. They have a large network of partners that allow them to access land, knowledge and resources. These partners are universities, the municipality of Malmö, real estate agencies and other local gardening and farming associations.

In sum, many urban farming initiatives are active throughout the world and in Sweden. As these examples show, it is common that urban farming is performed outdoors and that the aim is to provide for people on a local level (www, RAUF 3, 2012). Thus, benefits are created on a local level. However, there is a Swedish based company called Plantagon that is world leading when it comes to up-scaling urban farming and its benefits (www, Plantagon 1, 2012). By using innovative design of green houses they can provide large scale solutions for urban farming, and moreover they are pioneering an in-house designed business model. The head office is located in Stockholm, but business is made all over the world. A closer presentation of this company is presented in the next chapter.

6 Empirical study

This chapter offers a closer presentation of Plantagon. First, a general introduction of the corporation is provided and thereafter the empirical data is presented under the two main headings; value creation and corporate organisation.

6.1 The company

In order to provide a full understanding of the company, its partners and business activities an introduction to Plantagon is provided under this heading.

6.1.1 History

Plantagon is a joint project by Hans Hassle and the Indian tribe Onondaga nation (www, Plantagon 2, 2012). Hans Hassle is an entrepreneur that is engaged in communication and CSR. In the 1980's he founded a communication agency in which he gave priority to business related CSR. As the CEO of the agency he developed a number of management tools within CSR and was thereafter invited to consult on CSR matters conducted by the UN. In the early 2000's he gave a series of lectures on business related CSR on events administered by the UN. This was when he first encountered Oren R. Lyons from Onondaga nation. Oren R. Lyons gave lectures on business ethics on the same events.

Oren R. Lyons is a professor in American studies at the state university of New York (www, Plantagon 3, 2012). He is also a central person among Indian elders in the USA and Canada and he is an international spokesperson for native peoples. He is a senior within the tribe Onondaga nation and his title in the tribe is "Faithkeeper" (www, Onondaga nation, 2012; www, Plantagon 3, 2012). Native American tribes are given beneficial conditions to run casinos, gas stations and tobacco sales by the North American government (pers. med. CEO Hassle, 2012; Guppy, 2012). However, Oren R. Lyons wanted to invest in more sustainable business and therefore got in contact with Hans Hassle during the UN events they both participated in (www, Plantagon 2, 2012).

The business idea for Plantagon came from various inputs that Hans Hassle received during 1980's and 1990's. First, he was alerted about the inefficiency of heating in traditional green houses by professional gardener Åke Olsson (pers. med. CEO Hassle, 2012). Adding to this, he listened to the debate about the growing world population and urbanisation and the potential effects this would have in terms of increasing food transports and scarcity of space in cities (*ibid*). This led to the idea of vertical large scale farming. Oren R. Lyons liked the idea and wanted to invest in Hans Hassle's business on behalf of Onondaga nation. Hans Hassle could then go ahead and develop Plantagon (www, Plantagon 2, 2012). Oren R. Lyons is the chairman of the board of Plantagon International AB and Hans Hassle is the CEO (www, Plantagon 3, 2012).

6.1.2 Mission and vision

Plantagon's mission is expressed as "value change for survival" and their vision is to create "a market with a human face" (www, Plantagon 4, 2012). These statements are supposed to mirror the environmental and social sustainability commitment that is at the very core of the company. "Value change for survival" means that companies cannot continue to perform business only according to the traditional bottom line, but have to see value creation through social and environmental aspects as well in order to survive on the market, and in order for

the planet's ecosystems to be healthy. "A market with a human face" implicates to respect human rights and business ethics. Both the mission and vision is summed up in the slogan "Business as usual is over" which is used on Plantagon's homepage and also functions as the title of a recently published book by Hans Hassle.

6.1.3 Plantagon's networks

Plantagon has constructed extensive internal and external networks (www, Plantagon 5, 2012; www, Plantagon 6, 2012). The internal one is called the "Plantagon Urban Agriculture Network", PUAN, and is made out of professionals connected to the sustainable development of urban areas and urban farming (www, Plantagon 5, 2012). The aim is to attract leaders and change makers within the area in order to exchange knowledge and inspiration. Anyone that wants to can join the network and take part in its activities.

The external network is made out of Plantagon's professional partners (www, Plantagon 6, 2012). SWECO is an international consulting company that consults on the green houses engineering, architecture and technology (*ibid*; www, SWECO, 2012). Vector-Foiltec has developed the special glass used in the green houses (www, Vector-Foiltec, 2012). Saab has traditionally been active in the field of military defense and civil security but has diversified to offer its technology knowledge in other areas as well (www, Plantagon 6, 2012; www, Saabgroup, 2012). They too provide technology consulting on Plantagon's green house constructions.

Tekniska verken is a regional Swedish company which provides waste management, biogas, electricity, water and heating in their geographical area called Östergötland (www, Teknisk verken, 2012; www, Plantagon 6, 2012). They have partnered with Plantagon to provide the first vertical green house in Linköping, Sweden with sustainable input of electricity, heating and water as well as waste management through bio gas production. Both Combitech and ÅF are international technical consulting companies that are connected to the construction of Plantagon's green houses (www, Plantagon 6, 2012; www, Combitech, 2012; www, ÅF, 2012). Sustainovation AS is owned by Åke Olsson, who once initiated the idea of modernizing green house design. His role is to use his professional gardening knowledge to consult on green house efficiency.

Plantagon performs research and development but have during 2011 and 2012 initiated a number of alliances with universities in order to establish R&D institutes for urban farming. The goal is to set up different institutes in different climate zones. The company has therefore commenced relationships with Tongji University in Shanghai (the South Temperate Zone), the Nanyang Technological University in Singapore (the Tropical Zone) and Linköping University in Sweden (the North Temperate Zone). In-house, they collaborate with researchers from the Swedish University of Agricultural Sciences.

Lastly, Plantagon is a member of a national Swedish network called Symbiocity (www, Plantagon 6, 2012). The network is founded by the Swedish government and Swedish Industry and administrated by the Swedish trade council (www, Symbiocity, 2012). It is open for Swedish organisations and companies that provide products or services that promotes sustainable and holistic urban development.

6.1.4 Products and services

Plantagon provides both technologies and systems for urban farming (www, Plantagon 7, 2012). Their green houses are designed to minimize the use of ground area and to be fully integrated to the site (www, Plantagon 8, 2012). Moreover, they are designed to perform resource efficient production, making use of the resources already available in the urban environment.

The green houses are equipped with a “helix” system, which is a type of conveyer band that rotates the vegetables from the bottom to the top of the building automatically (www, Plantagon 8, 2012). The crops are planted in pots filled with nutrient solution and are then organized on trays which are put on the helix. The transportation allows for the plants to gain more sunlight as they grow and they do not need any nurturing between being planted and harvested.

Plantagon offers three types of green houses, one that stands alone and two types of façade solutions (www, Plantagon 9, 2012). One is meant to be attached to the façade of existing buildings and one is meant to be developed for new double purpose buildings. These buildings combine for instance office space with a green house façade. Recently Plantagon started to look into the possibilities of building green houses on top of buildings as well (pers. med. CEO Hassle, 2012). One idea is to build green houses on top of supermarkets, and that way the vegetables could be carried from the roof top in to the store and more or less no transport by vehicle would be needed. The vegetables could also be directly integrated into the normal distribution in the store which would make it easily accessible for the customers. Plantagon also provides consultancy services that are linked to their concept.

Since the green house solutions are high tech and require expert knowledge to erect and run, Plantagon offers consultancy services to accompany their buildings (www, Plantagon 7, 2012). Within the field of design and development they offer construction drawings, choice and design of materials and technology, business model development, configuration and profitability studies and lastly, horticulture consulting. Within the area of manufacturing and construction they offer procurement, budget and cost management, construction management, education and commissioning, manufacturing of components and proprietary systems as well as post construction advice. The pictures in figure 10 show what Plantagon’s different green houses can look like.



Figure 10. Vision pictures of what Plantagon’s different green house solutions can look like (www, Plantagon 9, 2012)

From the left, the first picture shows a green house façade attached to an already existing building. The picture in the middle shows a new production of a house that combines office space and a green house façade. The picture to the far right shows a standalone green house with the helix system visible. The green houses are suitable in a city environment since it is possible to make use of otherwise wasted resources and thereby close resource loops (pers. med. CEO Hassle, 2012). With careful planning, excess heat from office buildings and CO₂ from city traffic can be used in the cultivation process. By growing the crops in nutrition solution instead of soil transportation of soil is distinguished.

The first vertical green house that Plantagon sold is currently being built in Linköping, Sweden (www, Ingenjörssamfundet 1, 2012). Together with Plantagon's partner Tekniska verken, a new 51 meters tall office building is built with Plantagon's green house façade (www, Linköping, 2012). The project is expected to be ready in 2013 and it contains integrated solutions for energy provision, use of excess heat, organic waste, CO₂ and water. Under the next heading it is described how value is created from Plantagon's purpose and structure, networks and offerings.

6.2 Value creation

In this section the values that are created through Plantagon's urban farming activities is described. The company's strong focus on sustainability enables value creation in terms of economic, environmental and social value.

6.2.1 Economic values

Plantagon was valued to 1.6 billion SEK in 2011 by PricewaterhouseCoopers, Pwc (pers. med. CEO Hassle, 2012). Pwc makes the assessment based on the estimated demand of the company's products and services. However, this valuation somewhat contrasts the current monetary flow within Plantagon. The company was founded in 2008 and 2012 is believed to be the first year of break even for the company's green house business. Until now they have managed their economy by using the investors' money and by providing environmental management consultancy.

The main investor is the Onondaga nation and they provide patient capital which is positive for Plantagon since they are bound to consider environmental and social aspects in their decision making that in turn can slow down financial growth (pers. med. COO Pettersson, 2012). Onondaga nation has a tradition of valuing business decisions based on how they will affect future generations. If a decision were to benefit the tribe only in the short run it is not a sufficient reason for investment. According to their tradition a seven generation perspective is used, which makes up about 560 years. According to Plantagon's COO Owe Pettersson this allows Plantagon to make decisions that are sustainable in the long term.

The economic values created through Plantagon's activities can be described in terms of profit for the company and salary to the employees (pers. med. COO Pettersson, 2012). Moreover, Plantagon has, inspired by Onondaga nation's generational perspective, created a type of generational value paper. The papers are called Closure right documents and they are distributed among members and staff. Plantagon has a not-for profit association within the corporate body that holds members and staff, and a for profit part that holds staff only. This will all be described in further detail under the heading 6.3. Having a Closure right document however, gives the holders descendants the right to a share any profit made in the event of a future sale of Plantagon. This way the monetary benefit is moved into the future and is meant

to give members and staff incitement to influence Plantagon in a sustainable direction that is profitable in the long run.

6.2.2 Environmental values

Plantagon's business idea is based on capitalization of environmentally sound activities (www, Plantagon 10, 2012). Their concept and organisation supports environmental values and there are therefore a number of different green values produced (www, Plantagon 11, 2012; www, Plantagon 12, 2012). When vegetables are produced in a city there is less or no transportation necessary for the product to reach the consumers. This mitigates the pollution and CO² emissions caused by petrol driven vehicles. In turn, this also mitigates traffic noise and creates better air quality. Further, the vegetables are grown in buckets that holds pumice-stone and a type of nutrition solution that gives good quality crops. This also extinguishes the need to transport soil into the city.

The green houses are designed to produce the maximal amount of crops while being recourse effective (www, Plantagon 11, 2012; www, Plantagon 12, 2012). Part of the effectiveness comes from design and part comes from integration of the green house to the city environment. Flows of water, energy, waste and heat can be adjusted so that output becomes input in another system. For example, the organic waste from the green house production can be used as input to bio energy in Linköping. Since the green houses are custom-made to suit the location, adjustments can be made to make the building compatible to the existing infrastructure.

6.2.3 Social values

Social values are found among the staff, end-consumers and clients but there are also social values inherent in the business model. Plantagon has 13 people working at their head office and the organisational structure is flat (www, Plantagon 13, 2012). The workforce and a conscious strategy of openness and participation have created personal relationships between the employees and between the company and its suppliers (www, Plantagon 13, 2012; pers. med. COO Pettersson, 2012). The flat organisation has not left any intervening levels in the professional hierarchical order. Further, social value is created for the staff and the customers by giving them the feeling that they support a good cause. Consumers that buy the vegetables from the green houses know that they have purchased a locally grown product and what environmental benefits that creates (pers. med. CEO Hassle, 2012). Knowing that they have made an environmentally smart choice can create feelings of satisfaction.

The clients that buy Plantagon's green houses are investing in new sustainable technology which also can create a feeling of satisfaction. Paul Lindvall is the chairman of Linköping municipality and he commented the investment by saying that he felt proud and happy that Linköping was in the forefront of trying out new sustainable technology (www, Linköping, 2012). He also believed that it would contribute to a positive reputation for the city. Another aspect of social value created for clients is the consultancy service that Plantagon offers. This service provides education, and the knowledge transfer can give the client a feeling of empowerment.

The ethical framework that is the foundation for Plantagon's business is made concrete by their choice of business model. They use a type of hybrid business model which they have modified to suit their vision. The company is made out of two parts, one profit-driven and one non-profit driven part. A closer presentation of the business model is presented under the next heading (6.3).

6.3 Corporate organization

Traditionally there are a number of CR-tools that companies can adopt to generate sustainable profit, but they are all based on voluntary measures (Boyd *et. al.*, 2009). A modern and stricter way of creating sustainable profit is to integrate CSR directions into the business model. These types of businesses are called Hybrid organisations and they blur the line between traditional for profit organisations and traditional not-for profit organisations. What exact combination of CSR regulations and profit oriented regulations that are active in a hybrid is decided by the company's article of association. This document states the purpose of a company and its activities and it has to be followed. If it were to be violated by any staff it can result in warnings or in worst case termination of the employee (pers. med. COO Pettersson, 2012). Plantagon is a hybrid organisation and they have designed their own business model which they call the "Companization". This model is further introduced under the next heading (6.3.1).

6.3.1 The Companization

Plantagon is organized in two parts that are linked to each other. One part is a profit driven commercial organisation and is called Plantagon International AB. The second part is a non-profit organisation that is called Plantagon Non-profit association. They are interlinked and as one unit they are called just Plantagon. The business model for the whole unit is called the Companization.

The article of association and founding documents from which the business model is sprung is guided by the Earth Charter initiative and the UN Global Compact (www, Plantagon 10, 2012; www, Plantagon 14, 2012). Hans Hassle has contributed to the development of the Earth Charter initiative. It was first initiated and operated by the UN, but it has recently transformed into an independent organisation (pers. med. COO Pettersson, 2012; www, Earth Charter in Action 1, 2012).

Any organisation or individual can join the Earth Charter, and by doing so they commit to employ its values and principles (www, Earth Charter in Action 1, 2012). The members should perform their activities in accordance with the action guide lines and principles which are created to promote justice, peace and sustainability. The members can engage in the Earth Charters networks and access their educational material (www, Earth Charter in Action 2, 2012). The Earth Charter is linked to the UN Global Compact, the two organisations has joined forces to engage businesses in sustainability.

The UN Global Compact is a voluntary CSR-initiative for businesses. Members have to align their business strategies and operations with ten principles that concerns anti-corruption, human rights, labor rights and the environment. The members receive access to networks and can attend events and seminars that are arranged all over the world.

Both the Earth Charter and the UN Global Compact are integrated in Plantagon International AB and Plantagon Non-profit association (pers. med. COO Pettersson, 2012). Both parts have managers and board members and they are all personally responsible for respecting the Earth Charter and the UN Global Compact and they are not allowed to violate the regulations.

6.3.2 Plantagon International AB

Plantagon International AB consists of shareholders, board members, management and employees (www, Plantagon 14, 2012). Being a limited company they have to obey Swedish laws and regulations regarding corporate form (pers. med. COO Pettersson, 2012). Among other things, these regulations call for all limited companies to prioritize profit generation in order to maximize monetarily return to shareholders. However, according to the Companization, Plantagon International AB also has to give 10 % of its profits to the Plantagon Non-profit association.

Plantagon International AB has its head quarters in Stockholm but it is a multinational corporation with operations in China, India and North America (www, Plantagon 15, 2012). Making business in different countries such as China or India demands understanding and negotiations (pers. med. COO Pettersson, 2012). Cultural differences and different market standards can produce different mind sets and positions on how business is supposed to be done. In these cases the UN Global Compact document with guidelines concerning anti-corruption and labor rights is used.

6.3.3 Plantagon Non-profit association

The association consists of a board, management and members (www, Plantagon 14, 2012). Anyone that supports Plantagon's mission and vision can become a member of the Plantagon Non-profit association (www, Plantagon 4, 2012). The association elects 50 % of the board members of Plantagon International AB. The idea is that anyone that is socially engaged in the company's mission can have the chance to influence the company from the inside without having to be a manager, employee or investor. Memberships can be bought for one year up to ten years at the time. To provide further incitements for the association members to make long term sustainable decisions they receive Closure right document after 10 years membership (see 6.2.1). The employees' of both Plantagon International AB and Plantagon Non-profit association are recruited based on competence, but also on the criteria that they share the company's mission (pers. med. COO Pettersson, 2012).

Giving this much focus to CSR within the company calls for transparency in order to build trust and ensure that the business is sincere and do not use green washing (pers. med. CEO Hassle, 2012). Plantagon handles this issue by allowing anyone to become a member of the Plantagon Non-profit association and to openly display the company's activities. To further demonstrate the Companization and how the for-profit and not for-profit part is interlinked it is illustrated in figure 10 below.

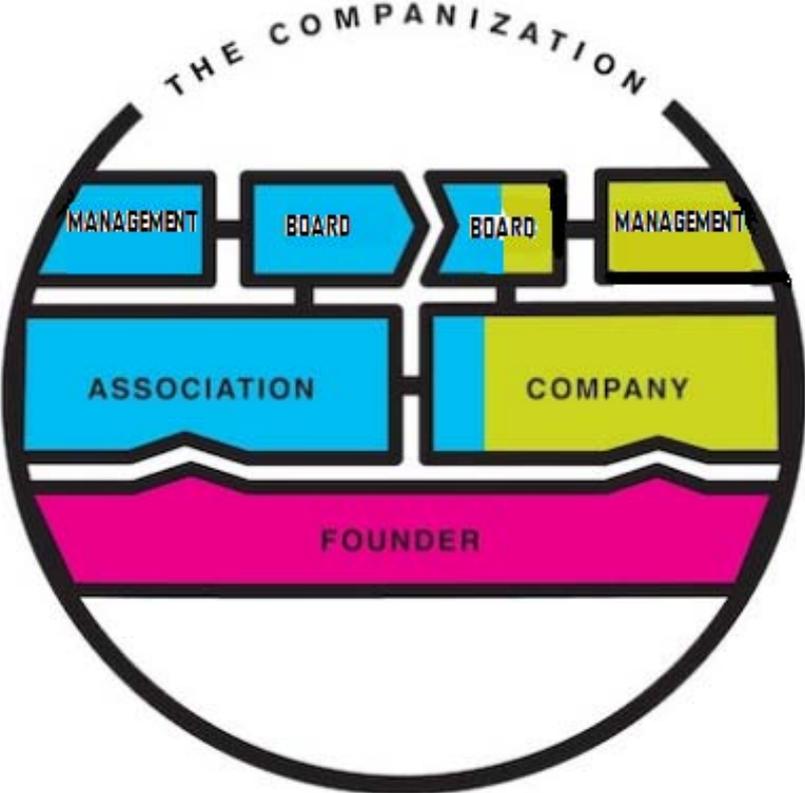


Figure 10. The Companization (inspired by www, Plantagon 14, 2012)

7 Analysis

In this chapter the empirical data in chapter 6 is analysed with the theoretical framework from chapter 4. The analysis starts by identifying all stakeholders involved in Plantagon's urban farming activities by using Kotler's external and internal stakeholder model and McElhaney's CSR Landscape. Then the values created are analyzed by using Elkington's triple bottom line. Lastly, the hybrid business theory is used to explore how Plantagon organize to create its values.

7.1 The company

Plantagon's activities involve many actors, both within and outside the company. In order to visualise which actors that influence the company and which ones that are influenced by the company, an internal and external stakeholder analysis is performed. Following this, McElhaney's CSR-landscape is used to identify Plantagon's geographical CSR-level.

7.1.1 Internal and external stakeholders

In order to see for whom value is created through Plantagon's activities, the internal-external stakeholder theory can be used. Internal stakeholders are those that influence the company from the inside. In Plantagon, this group consists of the respective board, management and employees of Plantagon International AB and Plantagon Non-profit association. Adding to this, the shareholders own shares and can therefore vote on Plantagon's annual meetings and influence the company that way. The members of Plantagon Non-profit association can influence the election of half of Plantagon International AB's board and is therefore also an internal stakeholder group. Traditionally, investors are placed in the external stakeholder group, but since Oren R. Lyons is Chief at the main investor Onondaga nation and chairman of Plantagon's corporate board, this positions them as both internal and external stakeholders.

Other stakeholders that can be seen as part internal and part external is the professional partners that Plantagon have. In a sense, Plantagon has the ideas and the engineering consultancy firms have the operational expertise, and together they offer the green house products under the name Plantagon. Looking at it from this perspective, the partners can be seen as international stakeholders. On the other hand, the consulting firms can be seen as suppliers and that way they belong to the external stakeholder group. Plantagon's own network PUAN is a forum for knowledge exchange, discussion and collaboration. Plantagon is the head organizer of this network and can therefore have power to decide over what events and discussions are held. The members can affect the outcome of these gatherings but Plantagon still have the strongest position to influence and the PUAN members are therefore external stakeholders.

By collaborating with different universities, Plantagon hopes to encourage research and development within urban farming. There can be a mutual knowledge exchange between the universities and Plantagon, but Plantagon has an agenda in that they want to strengthen this research field. Plantagon thereby influences the universities which make them external stakeholders.

Media communication and public relations that Plantagon communicates is an internal activity, but what other journalists write or communicate about them is an external doing. External media can influence the company from the outside and is therefore an external

stakeholder. Customers are traditionally grouped as external stakeholders. Plantagon's green houses needs to be custom made and generally complemented by consultancy services. The product is adjusted to suit the customer's requirements, and the customers can influence the company from the outside that way.

Plantagon is active in a niche market and they do not face much direct competition, but more competition from supplements such as other types of urban farming measures. They are world leading and have the largest market share in their specific business field which makes them a strong actor on the market. The market is not static, but at the moment Plantagon does not experience much pressure from competitors. Even so, competitors can be influenced by Plantagon or influence Plantagon from the outside, and they are therefore external stakeholders.

The general society and host community are external stakeholders. They influence Plantagon by rules and regulations, laws and common practices that the company has to adjust to. Regarding the world ecological community, it can affect Plantagon from the outside. But Plantagon can also be seen as an active member of this community. McElhaney's CSR-landscape describes this further.

7.1.2 The CSR Landscape

The CSR Landscape shows at what geographical level a company is active. The first level is called the company level and it is about adhering to rules and regulations by fulfilling minimum standards and to run a good business by taking care of staff, customers and shareholders by creating good value for them. These requirements are fulfilled by Plantagon and they also do more than that.

The second level is called community level and includes to have a philanthropic approach and to be a good neighbour in the local community. This is for instance done by mitigation of waste and careful use of resources. Plantagon has designed its products in a resource efficient way and has a philanthropic approach through its business model and can therefore be said to fulfil the requirements of the second level as well.

The third level is the industry level and it is about influencing the industry in which the company operates. This can be done by creation of new industry solutions or by partnering up with other actors to involve them in the business. It can also be done by setting a good example and thereby function as a role model. Since Plantagon is world leading in their field and their green house design is new they have accomplished the first two goals. Regarding partnerships, Plantagon has initiated both relationships with professional partners that help them to create their products and partnerships within R & D and their own network PUAN. This way they can be seen as a beacon to others.

The fourth and last level is called the world level and it includes to take full responsibility for the social, environmental and economic impacts that is created due to company activities as well as taking responsibility for global conditions such as climate change. Further, a company who acts on a world level also tries to influence adjacent industries. They recognize that they have a certain responsibility for these neighbouring industries as well as its own. Plantagon takes full responsibility for its social, environmental and economic impacts through its business model. By adopting the Earth Charter and the UN Global Compact and integrate them to the business fundament they also recognize responsibility for global conditions and

adjacent industries. For instance, these documents hold regulations regarding human rights and anti-corruption.

7.2 Value creation

The triple bottom line describes how companies can contribute to sustainable development through value creation. To clarify what values that Plantagon create through its urban farming activities and how these are related to sustainability, their business is analyzed in accordance with the triple bottom line theory.

According to the triple bottom line theory a company contributes to sustainable development if it produces environmental, social and monetary value. To have the incitements to do so they have to recognize themselves as responsible for all performed actions. The company can focus more on one or two of the value fields, and the focus can change over time. The only constant is that value has to be generated in all three fields in order for a company to contribute to sustainability.

Plantagon's urban farming activities centres around green value production. The main business idea is to create a supply of fresh vegetables in cities by using production methods that creates less stress on the environment than the conventional production and transportation chain. Due to the business model's division of commercial and philanthropic activities, both environmental and social value creation is perspicuous.

The economical value creation is ensured by Plantagons commercial part, Plantagon International AB. Since this part is a limited company its main goal is, by law, to maximize profit generation. This guarantees that the company tries to achieve monetary return to its shareholders, employees, management, board and members.

The social value creation mainly comes from the activities performed by the Plantagon Non-profit association. Since the Earth Charter and the UN Global Compact is integrated to the articles of association and founding documents social responsibility towards business partners and adjacent businesses and industries is made mandatory. Since Plantagon's main business idea is to produce environmentally superior urban farming solutions it is politically correct and can provide both internal and external stakeholders with a feeling of satisfaction since they contribute to the creation of green values. Further, social values are created inside the organisation due to the conscious decision of forming close relationships between the staff and having a flat organization. The consultancy services and network activities allow for education and knowledge exchange which empowers the participants.

7.3 Corporate organization

This section analyses how Plantagon organises in order to create value. To illustrate, the empirical study is analysed against the theory of hybrid characteristics and hybrid common practices presented in chapter 4.

7.3.1 Hybrid characteristics

Plantagon is a hybrid organisation which means that it is both mission and profit driven. According to Boyd *et al.*, (2009) there are five main organizational characteristics/trends that hybrids employ. The first one describes hybrid's strategies and use of business model, stating that they create competitive advantages by offering innovative products with environmental

features and that the companies themselves believe that their business is very different from their competitors. This characteristic corresponds well with Plantagon's business. Their green houses are innovative in their design and their urban farming purpose captures the environmental features. They are world leading in their field and does not currently have any direct competitors that offers the same type of product as they do. The sense of being unique was reflected in the empirical study and therefore this too corresponds well with the theory.

The second characteristic regards finance, and states that hybrids tend to have patient capital, and sometimes experience limits to growth rate and competitiveness due to the environmental mission. The latter due to low profitability. Plantagon has access to patient capital from Onondaga nation and has had a start-up period of four years before they could reach break-even. They are not allowed to do business in any way that violates their mission and can therefore experience limits to growth rate. It is also possible that the long start-up period is due to them supplying a new market with exclusive products. Adding to this, non-hybrid start-ups can also experience low profitability and competitiveness initially due to their newness on the market. The phenomenon of slowly becoming profitable is not unique for hybrid organisations.

Next, the third characteristic concerns organisational aspects. Hybrids are often led by participative or transformational leaders, and hybrids believe that they have full integration of environmental sustainability in their business. Plantagon's CEO, Hans Hassle, has an active role in the company with responsibilities stretching through both Plantagon's commercial part and its association. He is transformational in the sense that he was a pioneer for CSR in the 1980's and that he has kept a firm belief in the necessity of environmental and social value creation alongside economic. He designed the "Companization" and has recently communicated his story through his book "Business as usual is over". Hans Hassle is an innovative and active leader that tells his story in many forums. Plantagon also communicates that they have fully integrated environmental and social value creation through their association and therefore also fulfils the latter part of this characteristic.

Following this, the next characteristic describes that some 50 % of all hybrids track environmental metrics, meaning that they control for instance their suppliers and their environmental foot print before they do business with them. Plantagon does not track any environmental metrics, but they have discussions internally where they evaluate potential suppliers and partners (pers. med. COO Pettersson, 2012). This also includes their environmental and social status.

The last characteristic states that hybrids often have notable innovations regarding their products or services. This statement relates well to Plantagon's green houses which can be called notable innovations. Plantagon matches all five hybrid trends that Boyd *et al.*, (2009) presents. Adding to these trends, the authors also recognized five common practices that successful hybrid organisations employ. These are described in further detail under the next heading (7.3.2).

7.3.2 Hybrid common practices

The hybrid common practices that Boyd *et al.*, (2009) identified as part of successful hybrid organisations include both internal and external practices. The first practice regards implementation of the mission in action. This is done in Plantagon since they have embedded their mission in the foundation of their business model. And by having the Closure rights, collaborations with universities and network activities they reinforce the mission by actions.

Another success factor identified is uncommonly close and personal relationships among staff. Plantagon's head office does not hold more than 13 people, and they are recruited on the basis of competence and shared visions regarding environmental issues. This creates a small group that have shared values. Moreover, the organisation is flat and the atmosphere is aimed at being open and friendly. This creates closer relationships among staff than larger anonymous settings.

Next, prosperous hybrids tend to have longer time-frames for business than other companies. It is not uncommon that they have multi-generational time frames according to Boyd *et al.*, (2009), and this is also true for Plantagon. They have patient capital from Onondaga nation and have adopted their multi-generational view of investments by introducing the Closure rights.

Limits to growth rate refer to the growth restrictions that hybrids can experience due to their mission. This practice is somewhat linked to financing and patient capital. If the hybrid has access to patient capital and therefore is able to grow in a pace that allows full respect for the mission it is easier to stay true to the mission than if the economical value creation is stressed. Plantagon has had the opportunity to grow slow and has managed to cherish their mission. Plantagon has experienced some limits to growth rate according to Pettersson (pers. med., *ibid*, 2012). However, these limits have not caused any significant problems for the company.

Lastly, flourishing hybrid organisations often use new game strategies, meaning that they approach novel markets or product categories instead of established ones. That way they avoid direct competition and can use premium product offerings as a strategy rather than to compete on price. Plantagon does act in a novel market with premium products and therefore fulfil this practice fully.

8 Discussion

This section discusses the findings from the empirical study, both in relation to the research questions in this paper and to previously conducted research. Firstly, the actual value creation derived from urban farming will be discussed and thereafter how these values are created. Thus, the headline 8.1 adhere to research question number one and 8.2 to research question number two.

8.1 Value creation

The macro level context creates varying prerequisites for urban farming through, for example, different politics, cultural aspects and environmental pre-requisitions. The macro level setting also influences the purpose and need of urban cultivation. The empirical background holds examples of urban farming initiatives throughout Sweden and the world. These examples show that urban farming conducted in developing countries often give priority to the purpose of food security and knowledge enhancement in order to empower the participants. The examples from the developed world showed that the foremost purpose of urban agriculture in this setting is to create social meeting points and to provide the participants with a better understanding of the cyclic system of food production. In some cases creation of a greener and more pleasant city environment is also mentioned. These findings correspond well with the previous research presented in the literature review. Similar findings have been presented by de Zeeuw & Dubbeling (2012), Bruinsma (2003) and Brown & Carter (2003).

Even though the macro level environment affects the value creation derived from urban farming, the initiatives presented in this study seem to have one common factor; they all produce multiple values. The values can be grouped into economical, environmental and social values. The findings from the case study will be discussed according to these groups under the next heading (8.1.1).

8.1.1 Economical values

According to previous research, such as Wennberg (2007), urban farming holds great potential of economic value creation. But, the potential is affected by resource use and stakeholder dialogues. Urban farming must be properly integrated into the active urban infrastructure and make use of existing resource flows in order to create economical values in a successful way. The integration is interlinked with well developed stakeholder dialogues. According to de Zeeuw & Dubbeling, (2012), Larsson *et al.*, (2009) and Waddock & Graves (1997), the involvement of multiple actors calls for dialogue in order to create successful coordination of business activities.

Plantagon has embraced integration and stakeholder dialogues and made them a part of their business concept. The green houses are designed to suit different urban settings and to benefit from the resource flows that are available in the urban infrastructure. They have also a broad set of activities that allows for dialogues with different stakeholders. The suppliers are closely tied to the organisation, and they are titled professional partners which underlines the importance Plantagon attach to them. Their PUAN network allows for an active dialogue with business leaders and public organisations involved in sustainable city development and the R&D stakeholders are addressed through collaborations with leading universities. Remaining stakeholders are invited to participate in dialogues through the non-profit association in which

anyone can become a member. The different forums created to reach out to different stakeholders show an awareness of the business being interdependent.

Another aspect of economical value creation is the use of life cycle analysis. In order to evaluate if urban farming creates better economical values than traditional farming, resource flows have to be examined. According to research by Wennberg (2007) it is important to have the life cycle perspective since it is easy to believe that locally grown crops always is the best option.

Plantagon used life cycle analysis to look at their production and found that it is not sustainable to transport soil from the country side to the urban green houses. If they were to grow the crops in soil, the soil would stick to the vegetable and end up in the home of the end consumers who would throw it away. This would result in a loop of new soil being constantly added. These results lead Plantagon to the use of nutrient solution instead of soil.

8.1.2 Environmental values

Urban farming is seen as a tool for sustainable city development by researchers such as Deelstra & Girardet (2012) and de Zeeuw & Dubbeling (2012). The World Wide Fund for Nature, WWF, (2012) has also described urban farming as such a tool in their recent publication “Urban solutions for a living planet”. This research mainly describes benefits that derive from urban outdoor cultivation. These benefits include biodiversity gains and support to ecosystem services such as pollination, local climate regulation and better air quality. Other research, such as Van Veenhuizen (2007) and Mougeot (1999) describes that urban agriculture is not automatically sustainable but needs to be performed in a sustainable way. It is possible that urban farming can lead to undesired outcomes such as soil erosion, visual untidiness, siltation, destruction of vegetation, pollution of resources and depletion of water bodies.

Since Plantagon performs its urban farming in green houses they can avoid many of the possible negative outcomes that Mougeot (1999) and Van Veenhuizen (2007) describes. Performing urban cultivation in a closed and controlled environment such as in green houses has both pros and cons. The positive effects that the WWF, Deelstra & Girardet (2012) and de Zeeuw & Dubbeling (2012) refer to as ecosystem services and increased biodiversity cannot be subscribed to Plantagons practices since their cultivation takes place in a closed environment. However, this closed environment creates benefits. No pesticides or herbicides are needed since no pests gets into the green houses, this also reduces the risk of polluting water bodies with leaking substances. Further, the production is protected from weather-related destruction and since the crops are grown in nutrient solution there is no need for fertilizers. Further, Plantagon has the possibility of producing more vegetables than urban outdoor cultivation since they use vertical green houses.

Comparing Plantagon’s green house cultivation to traditional farming, it is possible that the green house production gives the end-consumers a feeling of artificiality. This was the case in the Netherlands when end-consumers experienced the large scale urban farming initiative Delta Park in Rotterdam as a “food factory” that used unnatural means to produce food. The risk for Plantagon to receive this kind of response is probably smaller than in the Delta Park case since it also had animal production and therefore a debate on animal welfare was raised too. Since animals are living creatures, consumers are likely to be more emotionally affected by how they are treated than how vegetables are handled.

8.1.3 Social values

The social values created from urban farming can be summed up as empowerment through food security and social context creation (de Zeeuw & Dubbeling (2012); Bruinsma (2003); Brown & Carter (2003); Delshammar (2011); Karlsson, (2011)). According to Fraser *et al.* (2006), the social context is created when community members are put in contact with experts. The urban farming can then take on different kinds of social focus, it can strengthen local togetherness, make places more beautiful, have educational purposes, function as recreational activities for stressed people or simply function as a leisure-time activity. This is all true for outdoor urban farming that is aiming at involving the local community. Even though Plantagon uses green houses, some of these social values are found in their production as well.

Plantagon's urban farming business provides knowledge transfer concerning green houses and cultivation through their consultancy services and through their professional networks. Their business also contributes to restore common knowledge of the cyclic system of food production and its related necessities. The future generation perspective that Plantagon employs through their Closure rights creates incentives for sustainability which also can be seen as carrying an inherent social value.

Lastly, Plantagon's activities contribute to a feeling of satisfaction and contentedness for various stakeholders. Internally, the employees feel that their work has a greater purpose in contributing to a more sustainable world. External stakeholders such as the buyers of the green houses and the end-consumers may feel that they too are contributing to sustainability by purchasing Plantagon's products. One example is Paul Lindvall who managed the purchase in Linköping. He expressed that he felt happy and proud over the green house purchase.

Plantagon is also actively trying to communicate that it is impossible to distance people from the resources they need and the waste they create and that it is absolutely necessary to pay attention to environmental sustainability. This is done both by publications, their web site and Hans Hassle's book "Business as usual is over". All in all it can be said to have an educational purpose towards the public as well as being a way of communicating the company's position.

8.1.4 A growing market

From a corporate perspective, it can be said that urban farming creates value in economical, environmental and social pools. It can also be said that urban farming initiatives, independent of macro level environment, creates values that adheres to more than one value pool. Plantagon is active in both Sweden, China and India and manages to be successful in different settings. Further, their market seems to be growing. Forecasts from the UN and the EU show that urbanisation is a continuing trend and the global population growth too. Cities hold a continuous supply of resources that can be used in green food production, for example CO₂, systems for waste handling and waste water treatment, water flows, nutrients and energy in heating. These factors can positively influence future value creation in terms of urban farming. In sum, this multiple value creation and growing market gives bases to believe that urban farming can contribute to sustainable city development and be a business area where for-profit interests and mission-driven organisational activities can meet.

8.2 Corporate organization

According to Boyd *et al.*, (2009) critics say that hybrid organisations risk to become hampered by their dual mission. On one hand they are bound to address environmental and social issues, but on the other hand they depend on sufficient profitability in order to maintain existence and to serve their missions. Even so, Plantagon has been successful and managed not to be hampered by their hybrid organisation form. This might be due to their management that corresponds well with the success factors and common practices that Boyd *et al.*, (2009) identified.

Regarding leadership, Boyd *et al.*, (2009) stated that successful hybrids are led by strong and participative leaders. Plantagon's CEO Hans Hassle has a collaborative management style and has documented leadership skills; he has for instance won the "Sweden's CEO of the year 2012" title from Magazine European CEO. His previous experience from the UN and public relations has made him well connected and skilled in corporate communication. For instance, he manages to perform storytelling through his book and to engage both internal and external stakeholders in the company's mission.

In research conducted by Kotler *et al.*, (1999) and Porter & Kramer (2011), the key to successful ethical business practices is dependent on whether the ethical values are fully integrated in the top management. Further, the top management have to walk their talk and set a good example to the rest of the organisation. Plantagon can be said to live up to these key practices. Their staff are partly recruited on the basis of agreement with the company mission and their business model does not allow the employees to violate the CR rules.

Plantagon has access to patient capital through Onondaga nation which is another success factor according to Boyd *et al.*, (2009). Despite the flexibility that comes with patient capital the organisation does not have to give up much control to the investor. Many other business angels or investors want to own a percentage of the company or control strategic decisions within the company in exchange for their money. It is natural in the sense that they want to ensure that their money is used well so they can get a monetary return on their investment. Onondaga nation has control through Oren R. Lyons position as the chairman of Plantagon International AB's board but since Onondaga nation values a generational perspective on investment they do not demand fast monetary return on their investment in Plantagon.

Implementing mission in action is another important factor for success (Boyd *et al.*, 2009). It is common that businesses have inspiring mission statements including goals that are related to deliver common good. However, the daily corporate decisions might not reflect the philanthropic mission. Hybrid organisations such as Plantagon distinguish themselves in the sense that their explicit environmental mission is entrenched in the business model. This makes the mission central to every business decision. Despite the full integration of the mission, Plantagon does not track any environmental metrics. This can make it difficult for them to keep track of environmental improvements or pitfalls.

The rate of growth can be slower for hybrid organisations than for other types of businesses (Boyd *et al.*, 2009). Due to the business model Plantagon cannot make decisions solely on possible monetary return which at times can hamper the growth rate. But there are many reasons for keeping the hybrid business model. As Karpensjö stated already in 1992, the collective awareness and the market has developed during the last decades to embrace

sustainability and corporate philanthropy, and it has, according to Ottman (2011) led to CR becoming mainstream.

The changing corporate role calls for new emphasis on social and environmental value creation. This can be difficult for companies that adhere to the bottom line to adequately address. Hybrid organisations might grow slower than other types of businesses but they can, according to the research done by Boyd *et al.*, (2009), be more effective in addressing sustainability and at the same time be more self-sustaining than traditional NGO's or for-profit organisations. Hybrid organisations are not different from other types of businesses in terms of business practices, but it is the combination of practices that allows hybrids to reach both financial and mission-related goals. This also seems to be the case for Plantagon, even though it is worth to keep in mind that any start up can take some time to become profitable.

Next success factor is the innovation and marketing of premium products (Boyd *et al.*, (2009). Plantagon offers innovative premium products to a novel market and thereby avoids direct competition. One risk with this strategy is that Plantagon could meet fast followers, businesses that have learnt from Plantagon and decides to enter their business segment. Fast followers learn from watching Plantagon and thereby avoid potential pitfalls and save money. However, Plantagon has such a unique system of operational and strategic elements that their products might be possible to copy, but their entire business including partners and networks would be difficult to copy. Another potential threat to Plantagon and other businesses that has managed to create a desirable sustainability image is acquisition. Both The Body Shop and Ben & Jerry's are examples of this. Plantagon does not seem to be unaware of this possibility since the Closure right documents are to be redeemed in case of a future sale of the company. Plantagon's concept is commonly accepted and associated with a good cause and that could make the company attractive to potential buyers.

According to the UN millennium development goals, the most challenging problems in the world today are environmental degradation, poverty, disease, gender and income inequality. These issues are translated into CSR-objectives for businesses through the UN Global Compact. This document state that the most important issues for businesses to address is human rights, labor rights, environmental issues and matters of anti-corruption. Many approaches have been made by governments, NGO's and business adhering to CSR standards to solve these problems. No one business is expected to solve world problems alone, and many for-profit and non-profit organisations has made valuable contributions. However, current approaches has have often proven ineffective in creation of large scale change. Porter & Kramer (2011) has also recognized the difficulties that traditional companies and organisations have in addressing these issues. They argue that a new business model that fully embraces corporate responsibility could better create sustaining value and address world problems. Hybrid organizations could be such a model.

Other research such as Bovaird (2004) has also given attention to the limits of sustainable performance that derives from the traditional business model. He describes how it can be hard for companies or organisations to achieve sustainable value creation if they are bound to traditional roles where they are obliged to maximize only one value pool, such as monetary return or social values.

For-profit organisations are becoming more and more willing to take responsibility for their actions and integrate social and environmental value creation alongside their economical (Bovaird, 2004; Ottman, 2011; Boyd *et al.*, 2009). It remains to be seen to what extent and

past this development will continue but as traditional for-profit organisations are moving towards NGO territory, the boundaries between the two organizational forms becomes blurred. The development of hybrid organisations burrs these boundaries even more. The development and future popularity of hybrids are yet to be seen, but all in all, the increased CR focus within the corporate world might change corporate roles even further in the future.

9 Conclusions

This paper aims to describe factors that enable value creation within urban farming. This was done by performing a literature review and a case study. Boyd *et al.*, (2009) identified a research gap of privately owned hybrid organisations with environmental sustainability focus which in turn motivated the choice of Plantagon as the unit of analysis for this paper's case study.

There are several factors that enable value creation from urban farming, and one is the beneficial availability of resources. The production can make use of already existing resources in cities, and on top of that make use of resources that would have been wasted otherwise. Properly integrated urban farming can close resource loops and this effective use of resources can produce both economical and environmental values. Further, the social values are embedded since urban farming is commonly accepted and can contribute to social value creation through restoring common knowledge of the cultivation cyclic system and its necessities. It also provides employees and consumers with a feeling of satisfaction for contributing to environmental benefits.

Active stakeholder dialogues enable Plantagon to better understand and serve their customers. Since they do it through multiple networks that addresses different stakeholders, they also get the chance to become an active part of the global urban farming community.

The effective design of Plantagon's green houses makes the urban production more or less free from transportation, fertilizers and pesticides. The environmental and economical benefits are up-scaled since the green houses allows for the production to be more extensive than urban outdoor cultivation due to scarcity of space in cities. Future value creation is enabled by continuous urbanisation and population growth throughout the globe which allows for a growing market. The monetary value creation is fundamental since it in turn enables economical and social value creation.

Drawing on the results from the literature review and case study, several organisational aspects are identified to enable value creation. Plantagon's use of the hybrid business model has proven to create financial and environmental values in a successful way, much due to the fundamental integration of the mission into the business model. Moreover, their access to patient capital allows them to manage a potentially slower rate of growth than traditional for-profits. This enables them to fully respect their mission. Plantagon's market premium strategy and well connected CEO has made the company shy of competitors and resulted in a world leading market position.

The positive correspondence between Plantagon and the triple bottom line and the growing potential market gives basis to believe that urban farming can be a functional tool for sustainable city development. However, there is need for further research in this area. Life cycle analysis of urban food production could reveal further possibilities for improvement. Boyd *et al.*, (2009) provides solid quantitative results for generalization about hybrid's performance, but as the area of hybrid businesses and urban farming seems to be gaining in popularity another suggestion for future research area would be to build on their results. From a marketing perspective it would be interesting to research how hybrid organisations communicate and how their organisation shape their brand and image. Since the concept of hybrid organisations still is a rather novel business model, it would also be interesting to further research growth rate and scale in which hybrids can grow. As hybrid organisations

blur the boundaries between for-profit organisations and non-profit organisations and the interest among companies to adhere to the triple bottom line seems to be increasing, it would be interesting to research the future role of businesses. Lastly, future research can investigate to what extent hybrids manage to create large scale change in accordance with pressuring world problems, as these is an area where businesses adhering to the traditional business model is challenged.

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Personal messages

Hans Hassle
CEO, Plantagon
Personal meeting, 4/4/2012

Owe Pettersson
CCO, Plantagon
Personal meeting, 27/4/2012

Appendix 1: Original interview questions

The interviews were conducted in Swedish, and these are the original questions:

- Hur hänger not for profit och for profit delen ihop? – Stödjer for profit delen den andra ekonomiskt?
- Hur mäter ni output i NGO delen? Gör ni det för att det känns rätt eller gör ni det som en investering i er image eller mäter ni det på något annat sätt?
- Hur ser ert ägardirektiv ut? – alltså vilka mål har ni, hur gör ni för att nå dit?
- Vilka är de viktigaste intressenterna enligt dig för att nå era mål?
- Vad ställer ni för krav på leverantörer? Måste de också arbeta med CR?
- Berätta mer om medlemmarna i er NGO-del, hur kollar ni att de stödjer era organisationsmål? (det var kravet för att vara med) Vilka mål är det?
- Hur/varför valde ni ut just Global Compact och Earth Charter att arbeta med?
- Hur arbetar ni med de programmen?
- Det står på er hemsida att era styrelsemedlemmar tar personligt ansvar för att följa Global Compact och Earth Charter. Hur fungerar det? Har ni också ett gemensamt arbete?
- Vad anser du att ni tjänar på hybridmodellen? Tjänar ni ekonomiskt på den?
- På hemsidan skriver ni att det finns en risk i att kommunicera sina miljövärden så tydligt som ni gör. Hur upplever du den risken?
- trovärdighet är centralt när man arbetar med miljöfrågor, hur arbetar ni med det?
- Hur fungerar det med Closure Right Documents? Vad kan man få ekonomisk belöning för? Hur avgör ni vad som belönas och med hur mycket pengar? Kan du berätta mer om generationsperspektivet?
- Vilka sociala, miljömässiga och ekonomiska värden är specifikt sammankopplade med hybridmodellen enligt dig?
- Får jag se er hållbarhetsredovisning och årsredovisning?

Appendix 2: Translated interview questions

These are the original interview questions translated into English:

- How are the not-for profit part and the for-profit part connected? Does the for-profit part support the not-for profit part economically?
- How do you measure output in the NGO part? How do you motivate your actions in the NGO part of the organisation- Image? Philanthropy? Other things?
- What does your founding documents and article of association look like? What are your main goals and what strategies do you apply to reach them?
- What do you demand from actors in your supply chain? Do they have to work with CR?
- Tell me more about the members of the association, how do you know if they support your mission or not? What is it exactly that they have to support to be a part of your association?
- How/why did you choose to work with the Global Compact and the Earth Charter? How do you work with these programs?
- According to your home page, the board members are personally responsible for respecting these programs, can you tell me more about that? In what way are they responsible in practice?
- What do you perceive as the main advantages of using a hybrid business model? Is it economically sound?
- How do you perceive the risk involved in environmental communication?
- How do you work with trustworthiness and transparency regarding your environmental commitment?
- How do the Closure Right Documents function? What actions are rewarded? How do you decide on what actions to reward and with how much they will be rewarded? Can you tell me more about the generational perspective?
- What environmental, social and economical values are specifically linked to the hybrid business model?
- Can I see your sustainability report and your annual report?