



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Department of Economics

Circulating food products

- a solution to the problem of food waste?

Anna Larsson
Emma Lindahl

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*Anna Larsson
Emma Lindahl*

Supervisor: Per-Anders Langendahl, Swedish University of Agricultural Sciences, Department of Economics

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We would like to finish off with a reminder to ourselves in the future:

*“If you realized how powerful your thoughts are,
you would never think a negative thought”*

- Peace Pilgrim

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Anna Larsson

Emma Lindahl

Abstract

The problems related to food waste is gaining increased international attention, raising issues of environmental, economic and social character related to global food security and sustainable development. The European Union has recently increased its focus on food waste by adopting the Circular Economy Package where the reduction of food waste is identified as a key area. Similarly, the Swedish Government aims to reduce food waste in the entire food supply chain, stating that collaboration between different actors is necessary to succeed. Previous research on circular economy has primarily enabled macro level analysis, by focusing on policies rather than micro level initiatives that promote circular economy. Further, research on food waste has focused on reasons for the occurrence of waste at different stages in the food supply chain. However, less research has been conducted on research on food waste in the interface between suppliers and retailers. Therefore, the phenomenon of interest in this thesis is market initiatives developed by intermediary actors with the purpose of reducing food waste. This phenomenon is studied with a particular focus on the organisation as the unit of analysis. The intermediary organisations in this study are Matsmart, Food2change and Matcentralen, all operating in the Swedish food supply chain. Thus, the aim of the thesis is to identify and explicate market initiatives promoting a circular economy, developed by intermediary actors addressing issues of food waste in the interface between suppliers and retailers.

This thesis follows a qualitative research design with an inductive approach to data and literature collection. It consists of a multiple case study on Matsmart, Food2change and Matcentralen. The primary source of data is semi-structured interviews with two representatives from each case, whereas the secondary sources of data is collected from the intermediary actors' websites. The analysis of the empirical data is carried out by using the conceptual framework of social entrepreneurs, which also involves the selected theories on circular economy, the triple bottom line, creating shared value, social entrepreneurs and descriptive stakeholder perspective. The conceptual framework identifies three characteristics of social entrepreneurship; motivation originating from social and economic values, stakeholder value creation and business models as catalysts for societal change.

This thesis identifies Matsmart, Food2change and Matcentralen as social entrepreneurs, where all three cases share a common motive of reducing food waste in the Swedish food supply chain. Matsmart is further motivated to gain a profit from its business, while Food2change and Matcentralen are motivated to improve the socioeconomic situation for their members. Similarly, all three cases create values of environmental character for their suppliers in terms of reduced food waste. In addition, Matsmart creates economic values for their suppliers. Food2change and Matcentralen focus on creating social and economic values for their members by involving them in the operations and by reducing their cost of food. Moreover, Matsmart, Food2change and Matcentralen have created business models that show characteristics and principles of circular economy. These results indicate that circular economy has the potential to operate on a micro level when initiated by social entrepreneurs, addressing issues of food waste.

Sammanfattning

Problem relaterade till matsvinn har fått ett ökat globalt intresse genom att lyfta frågor av miljömässig, ekonomisk och social karaktär som relaterar till global livsmedelssäkerhet och hållbar utveckling. Europeiska Unionen har nyligen ökat sitt fokus på matsvinn genom att anta en plan för en cirkulär ekonomi, inom vilket matsvinn identifierats som ett huvudområde. Den svenska regeringen ämnar minska matsvinnet i hela den svenska livsmedelskedjan och poängterar att samarbete mellan olika aktörer är väsentligt för att lyckas med detta.

Tidigare forskning om cirkulär ekonomi har framförallt behandlat ämnet på makronivå samt fokuserat på policys och inte analyserat initiativ som främjar en cirkulär ekonomi på mikronivå. Vidare har tidigare forskning kring matsvinn främst fokuserat på varför matsvinn uppstår i olika led i livsmedelskedjan. Däremot har begränsad forskning utförts gällande matsvinn som uppstår mellan leverantörer och dagligvaruhandel. Därför är författarna till denna uppsats intresserade av att studera fenomenet kring marknadsinitiativ med målet att minska matsvinn som uppstår mellan leverantörer och dagligvaruhandel. Fenomenet studeras genom den utvalda enheten för analys; Matsmart, Food2change och Matcentralen, vilka är mellanhänder som arbetar för att minska matsvinnet i den svenska livsmedelskedjan. Syftet med denna uppsats är därför att identifiera och förklara marknadsinitiativ, utvecklade av aktörer mellan leverantörer och detaljhandeln, som främjar en cirkulär ekonomi med fokus på problematiken kring matsvinn.

Uppsatsen följer en kvalitativ forskningsdesign och har en induktiv ansats gentemot datainsamling och litteraturgenomgång. Vidare är uppsatsen baserad på en multipel fallstudie på fallföretagen Matsmart, Food2change och Matcentralen. Den primära datakällan är semi-strukturerade intervjuer med två representanter från varje fallföretag medan de sekundära källorna för datainsamling är information från fallföretagens hemsidor. Den empiriska datan är analyserad genom ett av författarna utvecklat ramverk för socialt entreprenörskap, vilket grundas i de utvalda teorierna om cirkulär ekonomi, triple bottom line, creating shared value, social entrepreneurs och det deskriptiva intressentperspektivet. Ramverket identifierar tre kännetecken för socialt entreprenörskap; motivation som grundas i sociala och ekonomiska värden, värdeskapande för intressenter och affärsmodeller som agerar som katalysatorer för samhällsförändringar.

Uppsatsen identifierar Matsmart, Food2change och Matcentralen som sociala entreprenörer, som delar det gemensamma motivet att minska matsvinn i den svenska livsmedelskedjan. Matsmart motiveras också av ett vinstintresse, medan Food2changes och Matcentralens motiveras av att förbättra den socioekonomiska situationen för sina medlemmar. Alla tre fall skapar miljömässiga värden för sina leverantörer genom att minska deras matsvinn. Dessutom skapar Matsmart ekonomiska värden för sina leverantörer. Food2change och Matcentralen skapar sociala och ekonomiska värden för sina medlemmar genom att involvera dem i respektive verksamhet samt minska deras kostnader för mat. Vidare har Matsmart, Food2change och Matcentralen skapat affärsmodeller med kännetecken och principer som återfinns i en cirkulär ekonomi. Resultaten indikerar att en cirkulär ekonomi som initieras av sociala entreprenörer med målet att minska matsvinn har potential att fungera på mikronivå.

Abbreviations

B2B	Business to business
CSR	Corporate social responsibility
CSV	Creating shared value
EC	European Commission
EMF	Ellen MacArthur Foundation
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FFVs	Fresh fruit and vegetables
FSC	Food supply chain
IOF	Investor owned firms
NGO	Non-governmental organisation
SaMMA	Samverkansgruppen för minskat matavfall
SLU	Swedish University of Agricultural Sciences
TBL	Triple bottom line
UN	United Nations

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1 Introduction

In the following chapter the background to the problem of food waste will be introduced prior to formulating the specific problem addressed in this thesis; food waste in the interface at supplier/retailer level in the Swedish food supply chain. Further, the aim, the research questions and the unit of analysis are presented, as well as the delimitations of the thesis. Moreover, an outline for this thesis is described and illustrated at the end of this chapter.

1.1 Problem background

Today, about one third of edible food produced globally for human consumption is lost or wasted, meaning approximately 1.3 billion tons each year throughout the entire global supply chain (FAO, 2011; Vandermeersch *et al.*, 2014). Globally, about 400 million tons of food are lost or wasted within agriculture, 600 million tons are lost or wasted post-harvest until the point of sale and 280 million tons are lost or wasted at consumer level (WRAP, 2015). Increasingly, the problems of food loss and food waste are gaining international recognition, raising issues concerning environmental, economic as well as societal aspects associated with global food security and a sustainable development (FAO, 2011; Halloran *et al.*, 2014; Lundqvist *et al.*, 2008; OECD/FAO, 2013; Parfitt *et al.*, 2010; WRAP, 2015).

The issue of food security is commonly related to the growing global population (OECD/FAO, 2013). It is estimated that by 2050 agricultural production needs to increase by 60 percent, if compared to the 2005-2007 global production levels, in order to meet the demands of a growing population. Moreover, processes of reducing food loss and food waste to increase the efficiency throughout the food supply chain (FSC) are of great importance in feeding a growing population in the future (*ibid.*). Lundqvist *et al.* (2008) means that food waste has significant environmental implications as food loss and food waste directly result in the wastage of land, water and energy resources in the production of food. Similarly, there are economic benefits from reducing food waste as it indicates that input resources, such as capital, labour and natural resources, throughout the supply chain are not efficiently used and can become more productive (WRAP, 2015). In addition, food waste is closely connected to the uneven global distribution of food, as some parts of the world starve whereas others have surpluses of food (Lundqvist *et al.*, 2008). Hence, processes and measures of reducing food waste are beneficial for the economy, for the climate and for food security (WRAP, 2015).

The European Union (EU) has increased its focus on food waste over the recent years (Stenmarck *et al.*, 2016). The EU has estimated that 88 million tons of wasted food was generated among the EU-28 countries in 2012, where the largest sources contributing to food waste were the processing and the household sector (Stenmarck *et al.*, 2016). Regarding food waste, the UN Sustainable Development Goals state that member countries of the EU need to halve their food waste per capita by 2030 (European Commission, 2017). In December 2015, the European Commission (EC) adopted the Circular Economy Package including an Action Plan how to implement a more circular economy throughout the EU (European Commission, 2017). The Action Plan identifies food waste as a key area within circular economy, and an EU Platform on Food Losses and Food Waste has been set up as a discussion forum in order to support member countries to reduce food waste (European Commission, 2017).

The EC (2017) regards a transformation of the European economy to a circular economy as an important factor when heading towards a more sustainable direction. The circular economy is

a theoretical framework that aims to replace the linear economy, which is based on a take, make, use and dispose-thinking (Stahel, 2016; EMF, 2015a). The circular economy wants to close loops where resources are circulated longer within the economy (Ghisellini *et al.*, 2016). Hence, research argues that waste in the circular economy does not exist (EMF, 2015a; Ghisellini *et al.*, 2016).

In Sweden, approximately 1.3 million tons of food waste was measured in 2012, meaning that 134 kg food per person was wasted (Elander, 2016). Although not having implemented a national strategic plan for food waste reduction, the Swedish Government has set up goals for decreasing food waste that are formulated in the Swedish Waste Management Plan 2012 - 2017, the Swedish Waste Management Programme and the Swedish Environmental Policy (Elander *et al.*, 2016). Both the Swedish Waste Management Plan and the Swedish Management Programme state that food waste must decrease (*ibid.*). Second, by 2018, 50 percent of the Swedish food waste originating from households, restaurants, shops and canteens should be collected separately and treated biologically by composting and retting to obtain plant nutriment done by composting and retting. In 2014, the biological treatment of food waste in Sweden had indeed increased, however, without meeting the set goals (Elander *et al.*, 2016.). Further, the Swedish Environmental Policy states that food waste should be reduced by at least 20 percent in the entire FSC, the primary production excluded, by 2020 compared to the food waste levels in 2010 (*ibid.*).

The underlying reasons for food waste in medium-and high income countries, Sweden being one of them, are a complex combination of a lack of coordination between actors in the supply chain and consumer behaviour (FAO, 2011). Parfitt *et al.* (2010) argue that changing consumer behaviour might reduce food waste in medium-and high income countries, while changes in business behaviour and legislations are considered necessary in order to reduce food waste (*ibid.*). The EU has declared that the possibility of reducing food waste in the FSC in medium- and high income countries is too complex for one single actor to manage (European Union, 2017). Also, the potential to reduce food waste before reaching the consumer level is limited without the collaboration between different stakeholders, including actors outside the initial FSC, such as food banks and non-governmental organisations (NGO) (*ibid.*). Food banks and food donations reduce food waste by redistributing it for human consumption, which contributes to an improved efficiency in the FSC (Naturvårdsverket, 2014b). Further, Halloran *et al.* (2014) mean that the collaboration between different actors in the food supply chain, including retailers, consumers and authorities is needed to create sustainable solutions that are in line with circular economy.

1.2 Problem

Ghisellini *et al.* (2016) state that the theoretical framework of the circular economy emphasises industrial ecology, technological innovation and focuses more on recycling rather than reuse. Moreover, it is used as a guide to a more sustainable development (*ibid.*). The EC recognises that the transition towards a circular economy requires innovations on a technical, social and organisational level, linking production and consumption throughout the value chain (European Commission, 2014). The EC says that in order to achieve such innovations, helpful components including financial instruments and multi-stakeholder involvement must be encouraged (Witjes & Lozano, 2016). Moreover, business models and innovations driven by entrepreneurs are important in the transition towards a circular economy (European Commission, 2014). The EC states that attention should be given to entrepreneurs to help them enter new markets, indicating that entrepreneurial actors could function as an essential

part in the transition towards a more circular economy (*ibid.*). However, little is known about developments of market initiatives at micro level, i.e. business level, that can assist in the transition to a more circular economy and how entrepreneurial actors at the micro level proceed with such initiatives. Therefore, further research is needed to cover the theoretical gap of market initiatives at a micro level within the framework of circular economy.

Previous research on food waste revolves around waste generated at different stages and from different actors in the FSC (Mena *et al.*, 2011). It has further focused on how much food that is thrown away and the underlying reasons to why food waste occurs (Göbel *et al.*, 2015). However, less research has been conducted on the waste occurring at interfaces between different stages in the FSC (Mena *et al.*, 2011). Göbel *et al.* (2015) argue that studying the interfaces in any supply chain is of significance when trying to understand the use of resources within that system as well as their impact on the environment. Food waste in the interface between suppliers and retailers has a substantial impact, since food products at this stage have gone through the majority of the activities that add value to the product in accumulating costs and embedded energy (Mena *et al.*, 2011). Further, Mena *et al.* (2011) argue that a close collaboration between suppliers and retailers is stated as essential to deal with food waste (*ibid.*). Nevertheless, there is limited research studying these collaborations, how they are initiated and by whom. Similarly, Sonnino (2014) argues that existing research on food security overlook the influence of intermediary actors. Thus, further research is required regarding motives behind market initiatives with the goal to reduce food waste in the supplier/retailer interface.

Having identified the above gaps, this thesis draws on ideas of circular economy to study the development of new business models at the supplier/retailer interface with the purpose to resolve issues of food waste. This thesis means to scrutinize the phenomenon of market initiatives in Sweden driven by intermediary actors in the supplier/retailer interface, with the purpose of reducing food waste. Further, this thesis intends to understand how these initiatives promote a more circular economy on a micro level.

1.3 Aim and research questions

The aim of this thesis is to identify and explicate market initiatives, developed by intermediary actors promoting a circular economy, that address issues of food waste in the supplier/retailer interface.

To achieve this aim, the following research questions have been formulated:

- What characterises intermediary actors working to resolve issues of food waste?
- What motivates intermediary actors to develop business practices to resolve issues of food waste in the Swedish food market?
- What values do intermediary actors, addressing issues of food waste, generate for their stakeholders?
- What is the potential of these intermediary actors to promote circular economy on a micro level?

1.4 Unit of analysis

The phenomenon of interest in this thesis is market initiatives in Sweden driven by intermediary actors with the purpose of reducing food waste. The unit of analysis is described

as the main element of the study which is related to the phenomenon of interest in the study (Yin, 2006). Thus, the unit of analysis is the component that is identified, described and analysed in the study (*ibid.*). In order to study the phenomenon of interest in this thesis, the unit of analysis is three Swedish organisations in the supplier/retailer interface working to reduce food waste. These organisations are Matsmart, Food2change and Matcentralen. Since all three organisations have developed organisational models that are centred around reducing food waste in the supplier retailer/interface, knowledge is retrieved about their experience regarding the phenomenon of interest of this thesis. Further, Matsmart, Food2change and Matcentralen have approached and integrated the problem of food waste in different ways, which hopefully gives a rich insight into the phenomenon of interest.

1.5 Delimitations

The area of interest in this thesis is food waste. The thesis will focus on problems regarding food waste at supplier and retailer levels within the Swedish food sector in. However, it is important to point out that the thesis will not study food waste in the context of either suppliers or retailers, but in the context of intermediary actors taking care of surplus food from these levels. Thus, the thesis will emphasise the experience and knowledge on food waste gained by intermediary actors when working with issues related to the problem. In this thesis, intermediary actors are perceived as actors purchasing or receiving food surplus from various suppliers and retailers then delivering or selling these products to consumers. Further, the thesis will not discuss food waste generated at household level. Since this thesis is carried out as a multiple case study, the thesis is further limited to the three organisations; Matsmart, Food2change and Matcentralen in Sweden working with food waste as their primary area of interest.

1.6 Outline

Chapter one introduces the problem background as well as describes the problem, the aim and the research questions of this thesis. Chapter two contains the method used when conducting this thesis; a qualitative research design with an inductive approach. Moreover, the method chapter argues for the chosen method and its implications. The theoretical framework is presented in chapter three, where a literature review is also included. The empirical study is placed in chapter four, where the empirical data from the three cases is presented. In chapter five the theoretical framework is analysed with regards to the empirical study. The following and last chapter discusses the results from the analysis, leading to the conclusions. A list of used references as well as an appendix containing an interview guide and a detailed illustration of circular economy are found at the end of this thesis. Also, an illustration of this outline is presented in figure 1 on the following page.

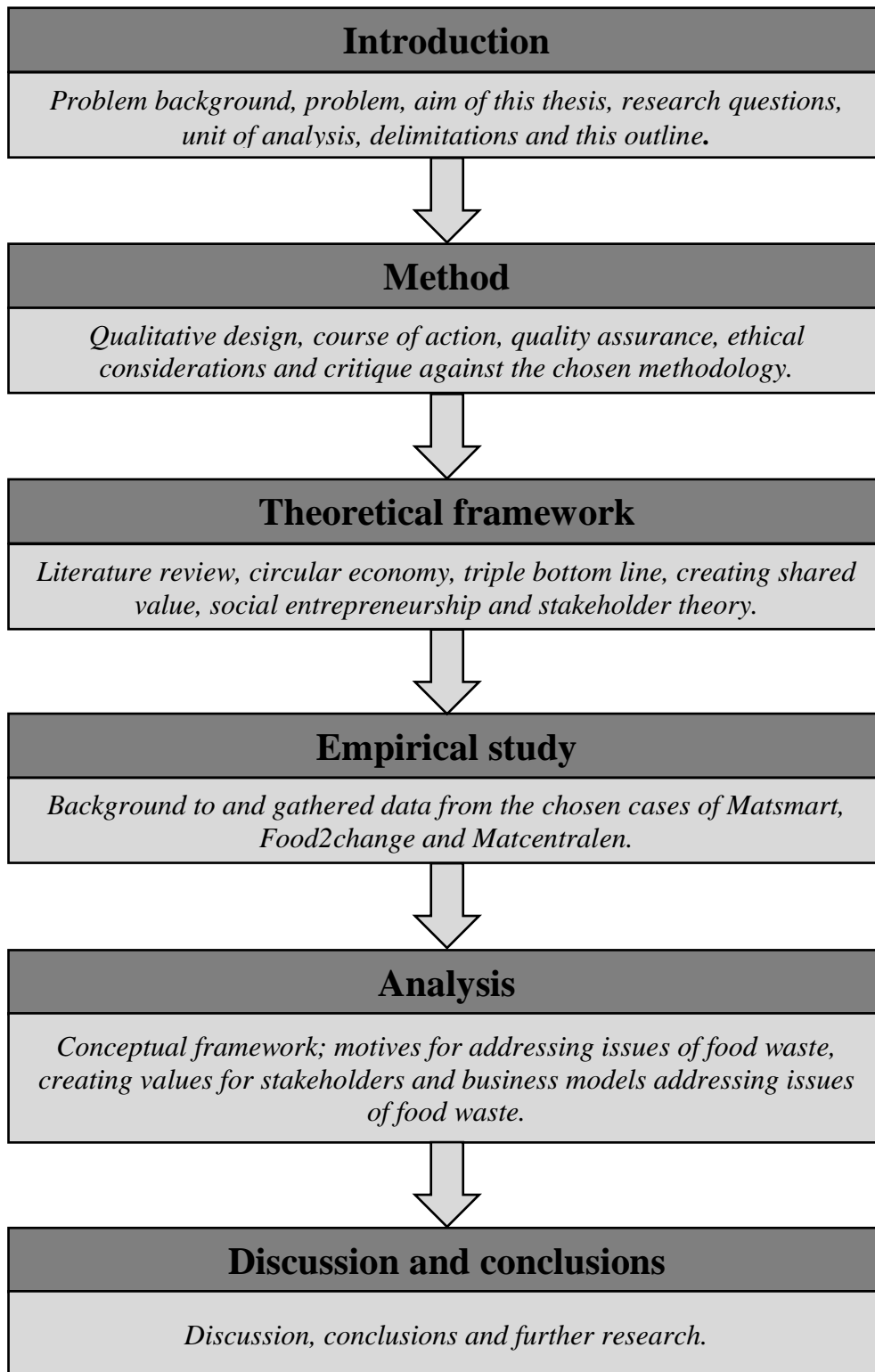


Figure 1: Illustration of the outline of this thesis.

2 Method

This section presents the method used in this thesis. It introduces the research design, followed by the course of action and a description of how the data has been collected. Furthermore, a discussion regarding the quality assurance of this thesis is presented. The section ends with ethical considerations and criticism against the chosen methodology.

2.1 Qualitative research design

This thesis focuses on how intermediary actors, situated in the supplier/retailer interface, address issues of food waste in the Swedish food market. Consequently, the authors of this thesis are interested in developing a deeper understanding of how the selected cases of this thesis experience the problems of food waste and how they choose to address them in their own context. Robson (2011) describes that the aim of a qualitative, or flexible research design, is to describe and understand social constructions while Merriam (1994) contends that it is explorative and puts focus on processes rather than the end result. A qualitative research design focuses on how the interaction between individuals influence their surroundings as well as the interpretation of the respondents' experiences in their context (Bryman & Bell, 2011). The quantitative research design acknowledges one objective reality, whereas the qualitative research design means that there are many realities arising due to the interaction between people (Merriam, 1994). Further, these are created through interpretation of conversations and actions rather than by measuring variables (Merriam, 1994). Faisal Chowdhury (2015, pp. 1135) quotes W.B Cameron, meaning that phenomenon sometimes need to be looked at with a holistic perspective: "Not everything that can be counted counts, and not everything that counts can be counted". This thesis did not set out to measure or quantify any impact that the selected cases have in reducing food waste through their business models. However, this thesis wishes to explore the motives driving the selected cases to reduce food waste, the values they generate for their stakeholders and the business models that they have developed, the authors found a qualitative design to be suitable.

A characteristic of a qualitative research design is that it leaves room for the researcher to decide how to conduct the study, rather than following a given template (Robson, 2011; Merriam, 1994). Another characteristic is that it starts off with an idea that the researchers wish to investigate and understand better (Robson, 2011). This allows the researcher to evolve the design along the process of research, which differs from a quantitative, fixed design that is set from the start (*ibid.*). This thesis started off with an idea to study food waste, without having a clear focus on which phenomenon of interest to study. The qualitative research design allowed the authors to evolve the research process as the understanding for the phenomenon of interest, which is market initiatives in Sweden driven by intermediary actors with the purpose of reducing food waste, got better along the course of research.

2.1.1 Multiple case study

This thesis is based on a multiple case study. A case study is suitable to observe and create an understanding around a case in its specific context (Bryman & Bell, 2011). The chosen case in a case study can be an individual, a group or a situation (Robson, 2011) and it aims to contribute to an increased knowledge about the chosen phenomenon (Yin, 2006). Since a phenomenon cannot be removed from its context, the particular contextual setting of the case is of interest (Robson, 2011). Furthermore, using a case study makes it possible to keep what is meaningful in real experiences and to understand complicated social phenomena (Yin,

2006). Hence, a case study is preferable when a project is focusing on events in a social context (*ibid.*). This thesis problematizes the social constructions related to food waste issues in the Swedish food market, in the specific context of intermediary actors being in the interface between suppliers and retailers, developing new business models to reduce food waste. The context of food waste occurring in the supplier/retailer interface is crucial when understanding the intermediary actors themselves, why a case study was a suitable choice for this thesis.

Within the frame of case studies more than one case can be studied, thus named multiple case study (Eisenhardt, 1989). Single case studies can provide more thorough information about one specific case compared to multiple case studies (Yin, 2006). However, multiple case studies can provide results that can be seen as more convincing and stronger than a single case study (*ibid.*). Each of the three cases selected for this thesis has developed business models that reduce the amount of food wasted in the context in between suppliers and retailers. Thus, the authors saw an opportunity for conducting a multiple case study, to receive a deeper understanding for intermediary actors working to reduce food waste in similar contexts.

2.1.2 Choice of cases

In this thesis, the choice of cases was made through a purposive sampling. Choosing cases for a study can be based on either probability samples or non-probability samples (Robson, 2011). In qualitative research, the choice of cases to study are often based on non-probability samples, since qualitative studies do not aim to statistically generalize the results (Merriam, 1994). One method that is frequently used in qualitative studies is purposive sampling, which is based on the presumption that the researcher should make the choice of cases in order to gain as much knowledge as possible in the area of interest (Merriam, 1994). Thus, when using purposive sampling, the cases are selected according to their relevance in addressing the research questions of the study (Bryman & Bell, 2015), to meet the interest of that particular study (Robson, 2011). In this thesis, three different organisations were chosen on the basis on what they do; developing new business models in the food market to reduce food waste. Since all three organisations either purchase or receive food products from various suppliers and deliver or sell directly to consumers, they can be considered as intermediary actors situated in the supplier/retailer interface. Therefore, it was useful for the authors of this thesis to use a purposive sampling when selecting the following cases:

Matsmart

The company's business idea is to purchase food products and other products, often of large quantities and close to best-before date, from various suppliers and to sell them cheaper to customers in its online store (Matsmart, 2017b).

Matcentralen

A project founded and run by the charity organisation Stockholms Stadsmission (Matmissionen, 2017a). This thesis focuses on the two operations within Matcentralen; Matmissionen and Matbanken. Matmissionen is a grocery store located outside Stockholm, in which donated food products that otherwise would have been thrown away, are sold to a reduced price. Matmissionen aims to decrease food waste and to offer cheap food for economically vulnerable people (Matmissionen, 2017b). Matbanken is a logistic and transport operation that collects food from donating suppliers and distributes it to social operations organised by Stockholms Stadsmission, such as Matmissionen as well as other charities (Matmissionen, 2017c).

Food2change

An association collaborating with grocery stores by taking care of their food waste and giving it to the members of Food2change. The association distributes the food products in the grocery stores. The members of Food2change are people facing economic challenges (Food2change, 2017a).

2.2 Course of action

The following section presents an overview of the course of action that the authors have taken when conducting this thesis, including the approach and method used when collecting and analysing the data as well as when doing the literature search.

2.2.1 Inductive research approach

This thesis is primarily based on an inductive research approach. The inductive research approach is based on the idea that theory is a result of the study and not the basis for it (Bryman & Bell, 2015). Thus, an inductive research approach follows a course of action where the empirical data is collected and divided into different themes, prior to finding relevant theories in order to analyse the data (Bryman & Bell, 2015). This course of action is the opposite from a deductive approach, where the theoretical framework and hypothesis are set before collecting the data. The inductive research approach allows researchers, when collecting the data, to be open to new theoretical approaches that they might not have considered when starting the research, which are suitable for studies with a qualitative design (*ibid.*). Accordingly, the authors of this thesis conducted the literature search during and after data collection, in order not to ignore any important observations that would be important for the theoretical analysis. Specifically, the theoretical concept regarding social entrepreneurship was not considered by the authors until after the interviews were completed, which indeed was important in the analysis of the empirical data.

The idea for this thesis sprung from a project on food waste conducted in a previous course by the authors of this thesis. In that project, the initial theoretical perspective was sustainable marketing management concerning the shared value framework. Food2change was used as the unit of analysis and a face-to-face interview was conducted with Anna Lindbäck, one of the founders of the association. The material from that interview is used as empirical data in this thesis. Also, a short literature review on theories regarding food waste, the Triple bottom line (TBL) and Corporate social responsibility (CSR) was conducted for that project. For this reason, the authors inevitably considered these theories prior to starting with this thesis, therefore using them to formulate a reasonable interview guide prior to the interviews. Hence, this thesis is performed with parts of a deductive approach, where the theory decides the direction for the empirical data collection (Bryman & Bell, 2015).

2.2.2 Data collection - semi-structured interviews and secondary sources

The authors of this thesis have used both semi-structured interviews and information from the websites of the selected cases in order to collect data. Bryman & Bell (2011) state that using several sources when collecting data is a strength in qualitative studies. It is preferable to use interviews as method to collect data, since the method is flexible, in a qualitative study (Robson, 2011). Another strength of semi-structured interviews is that they take human language into consideration, which can provide with richer and more developed answers than numbers and statistics in quantitative research cannot (Bryman & Bell, 2015). Further, semi-structured interviews are suitable for studies following a qualitative research design since

such interviews follow the perspectives and interests of the respondent (Bryman & Bell, 2011). Semi-structured interviews are characterised by a prepared interview guide with questions of an open character. The strength of questions of an open character is that researchers can gain knowledge in the area of interest from the point of view of the respondent. However, if the questions are too open and indirect the researchers risk not to get the answers needed to conduct the research in the area of interest (*ibid.*). Therefore, the interview guide can serve as a checklist for what to be covered during the interview even though the order of the written questions might not follow the outline (Bryman & Bell, 2015). Semi-structured interviews suited this thesis well, since it enabled the authors to adapt to the conversation by adding more questions during the interview when the opportunity arose (Robson, 2011).

Table 1 presents a summary of the interviews conducted for this thesis. Three of the interviews were conducted face-to-face. Robson (2011) argues that face-to-face interviews enables the researcher to follow-up on responses from the respondent directly, which is not possible using a questionnaire for data collection. Thus, face-to-face interviews have the potential to provide rich material (*ibid.*). For these reasons this thesis aimed to conduct as many face-to-face interviews as possible. Three of the face-to-face interviews was held with one respondent at a time which allowed the respondent to speak freely and not to be interrupted by anyone else than the researchers asking the questions (Robson, 2011). However, the interview with Matsmart was held with the two respondents at the same time. The authors of this thesis are aware that the respondents could have affected each others answers and the possibility to speak freely without being interrupted. However, the authors experienced that conducting the interview with both respondents at the same time generated an atmosphere where the respondents were able to complement each others answers.

The face-to-face interviews in this thesis were conducted at different locations that were chosen by the respondents. The interview with Matsmart was held at a café nearby their headoffice in Stockholm whereas the interviews with Matcentralen were conducted at the store in Veddesta. The interview with Anna Lindbäck, one of the co-founders of Food2change, was conducted at the Swedish University of Agricultural Sciences (SLU) in Uppsala.

Table 1: Interview resumé.

Respondent	Date	Duration	Form	Content confirmed
Communication manager, Rikard Hellqvist, Matsmart Chief product officer, Johan Svensson, Matsmart	7 February 2017	60 min	Face-to-face (recorded)	✓
Founder, Anna Lindbäck, Food2change	5 October 2016	60 min	Face-to-face (recorded)	✓
Founder, Rikard Lundgren, Food2change	13 February 2017	45 min	Telephone (recorded)	✓
Store manager, Tove Larsson, Matmissionen (Matcentralen)	15 February 2017	50 min	Face-to-face (recorded)	✓
Logistic manager, Jens Jonsson, Matbanken (Matcentralen)	15 February 2017	50 min	Face-to-face (recorded)	✓

Due to geographical distances, the interview with Rikard Lundgren from Food2change had to be conducted through a telephone-interview. Robson (2011) discusses the respective disadvantages and advantages of telephone interviews. The disadvantages are the lack of visual cues and inability to collect contextual information. The advantage is that geographical distances do not have to be taken into consideration and is therefore less time-consuming. Each of the conducted interviews was recorded, to minimize the risk of losing or forgetting anything mentioned by the respondent (Yin, 2006).

2.2.3 Qualitative data analysis

One of the greatest challenges with a qualitative research design is the analysis of the data, since it often presents a vast and rich material to go through and draw conclusions from (Bryman & Bell, 2011). In order to do so, Robson (2011) recommends for the data to be well-organised, whereby the authors of this thesis have tried to follow this recommendation. The authors of this thesis chose to transcribe the recorded interviews, which is considered time-consuming but beneficial to the researcher since it allows her/him to get fully acquainted with the data (Robson, 2011). Further, the authors chose to transcribe the data not to miss out on any important information collected during the interviews. The transcriptions of the interviews were divided between the authors, even though the authors realise that this could imply different interpretations on how to conduct the transcriptions. To avoid such differences in interpretations and to make as similar transcriptions as possible, a common method was decided upon prior to starting. The authors listened to the recorded material and typed it down in Swedish, since this was the language used during the interviews. Focus was on typing the exact phrases from the interviews however padding words not affecting the information itself were disregarded. Bryman & Bell (2015) mean that typing the exact phrases when transcribing an interview decreases the risk of missing out of any essential information for the analysis.

Thereafter, the transcribed material was translated into English. The authors are aware that translating the material into another language can affect the meaning of the contents (Bryman & Bell, 2011). Throughout the translation process, the authors have continuously overlooked each other's translations in order to avoid alterations of the content as far as possible. After having transcribed and translated the recorded interviews, the authors of this thesis chose to organise the data after themes in a process called thematic analysis (Bryman & Bell, 2011) or thematic coding (Robson, 2011). Robson (2011) means that thematic coding of the empirical data help the researcher in structuring and analysing the data. For each selected case, the empirical data was grouped into themes of motives for addressing issues food waste, stakeholder value creation and business models addressing issues of food waste.

2.2.4 Finding literature

The authors of this thesis have conducted an extensive literature search to obtain a deep understanding for the issues of food waste in Sweden and to have a theoretical framework to base the analysis of the empirical data on. When searching for literature, the relevance of the chosen literature to the study clearly is important (Robson, 2011). To find the relevant literature, different methods such as library search, electronic databases and search engines can be used. A library search can provide the researcher with books and academic journals, in order to find relevant articles (*ibid.*). The literature search was based on findings in the empirical data and aimed to find literature that could be relevant for the analysis, following an inductive approach. The authors have tried to use a wide range of literature to gain insight in the area of study to find articles that approach the problem from different perspectives,

hopefully providing a thorough understanding. Primarily, the authors of this thesis have based the theoretical framework on peer-reviewed academic articles and in addition published reports as well as websites have been used to frame the problem of food waste in Sweden. In order to find the material search engines such as Google Scholar, Web of Science and Primo have been used to find relevant material, mainly to find suiting literature for the research method. Moreover, the authors have conducted library searches for books and articles. The words used when searching for literature in this thesis are: *food waste, circular economy, waste, stakeholder, social entrepreneurship, triple bottom line, sustainability, creating shared value* and *corporate social responsibility*. The words have also been used in combination with each other.

2.3 Quality assurance

This section presents an overview of the actions that the authors of this thesis have taken to ensure its trustworthiness, especially when conducting the interviews and generally when trying to conduct and describe a valid and reliable study.

2.3.1 Interviews

This thesis uses semi-structured interviews as a source to collect empirical data. However, there are possible weaknesses related to this type of data collection (Yin, 2006; Robson, 2011). One weakness is the possibility of respondents giving answers they believe the researchers wants to hear (*ibid.*). The authors of this thesis have, as much as possible, tried to develop open-ended questions and to avoid leading questions. Furthermore, the authors acknowledge their influence they might have had in the interview situation, knowing that being fully objective is not possible. Consequently, some bias may have arisen that might have had implications on the questions asked during the interview. However, the authors have tried to decrease the risk of bias by not interrupting the respondent during the interview and letting him or her talk and associate freely. Moreover, the authors maintained different roles during the interviews, which Bechhofer *et al.* (1984) describe as beneficial. Bechhofer *et al.* (1984) argue that one interviewer should be more active, and the other one more passive, which might lead to a more open conversation and a more relaxed atmosphere in the interview situation. The authors tried to adopt this strategy when conducting the interviews; one of the interviewers actively asked more questions in the beginning of the interview, whereas the other interviewer stayed quiet, taking notes of the conversation. This allowed the more passive interviewer to follow the turn of the conversation and follow up with important questions regarding unexpected topics that had come up during the interview.

2.3.2 Validity

Bryman and Bell (2011) state that it is important to consider the validity of a study with a qualitative research design to ensure its quality and the trustworthiness. The concept of validity generally refers to the accuracy in the methodology and presentation of a study and whether the study examines what it intends to examine (Yin, 2006). Qualitative case studies are to be concerned with the perspective of internal validity (*ibid.*). Internal validity means that there should be a clear correspondence between the observations made by the researchers and the theoretical ideas that are developed following the observations (Bryman & Bell, 2011).

The use of triangulation is an acknowledged method to strengthen the internal validity (Merriam, 1994). In order to ensure internal validity, the authors of this thesis have made use of theory and data triangulation. Theory triangulation refers to the use of several theories or perspectives, whereas data triangulation refers to the use of multiple sources of data collection

rather than relying on one source of data (Robson, 2011). This thesis has used multiple theoretical sources, including peer reviewed articles, books, published reports, web-pages and newspaper articles, attempting to give a thorough and a broad understanding regarding the present issue and initiatives of food waste. Further, research data has been collected from documented information found on the websites of the chosen cases as well as from interviews with representatives from the selected cases. Having two sources of data have allowed the authors of this thesis to compare information given by the respondents with information stated on the websites. Also, conducting interviews with more than one representative from each selected case have provided a broad and insightful picture of how each selected case addresses and work with the issue of food waste. In the case of Matsmart and Matcentralen, the representatives interviewed were responsible for separate operations, giving a more comprehensive overview of the different organisations. In the case of Food2change, both of the founders were interviewed, providing with different perspectives on the association's work with food waste.

Moreover, the authors of this thesis have made use of respondent validation, which is important to secure the internal validity of the collected data (Bryman & Bell, 2011; Robson, 2011). The respondent validation is the process where the respondents of the study get access to read the data collected from the interviews (Bryman & Bell, 2011). The authors of this study chose to transcribe each interview and then forward it to the respondent of that particular interview. Thus, the respondents were given the opportunity to give feedback on the transcribed material and demand changes to be made before the material was analysed. All respondents returned with feedback and approval on the material and only minor adjustments were made to the material.

2.3.3 Reliability

The concept of reliability refers to what extent a performed study can be duplicated and through that show the same results (Merriam, 1994; Drost, 2011). Yin (2006) develops this definition of reliability, stating that a reliable study should be possible for another researcher to conduct once again achieving the same results, if he or she follows the same course of action, using the same cases. However, qualitative studies focus on interpretation, and consequently different researchers will arrive at different interpretations of the same situations, phenomena or cases (Merriam, 1994). As a result, Stenbacka (2001) argues that reliability is irrelevant for qualitative studies. In this sense, the authors are aware that this thesis depends on the subjective interpretation in how to conduct the interviews, how to analyse the empirical data and how to present the thesis. Nevertheless, Merriam (1994) points out that it is still important to show that a qualitative study is reliable. Therefore, the authors of this thesis have tried, as far as possible, to present a replicable study by giving a thorough and transparent description of the methodology used. Additionally, the authors used an interview guide when conducting the interviews, which is attached in this thesis (appendix I).

2.4 Ethical considerations

There are ethical considerations that need to be taken into account when doing qualitative research, consisting of face-to-face and telephone interviews with respondents that do not occur to the same extent in quantitative studies (Robson, 2011). It is important to consider the interviewees well-being prior, during and after the interviews to make sure that the material provided by the respondents is not misinterpreted and misused to serve the interest of the researchers (*ibid.*). Kvale & Brinkmann (2009) state that informed consent is of utmost importance in qualitative research, which includes to brief the respondents about the thesis and its purpose.

The authors of this thesis have tried to be thorough in keeping a transparent dialogue with the respondents about the contents of the thesis prior, during and after the interviews as well as describing how the respondents' participation will be used in the thesis. Prior to the interviews, the interview guide was emailed to the respondents enabling them to read the questions before the interview was conducted. Thereby, the respondents were not taken by surprise by the questions and were able to reflect upon them beforehand. Moreover, the respondents got the opportunity to turn down any questions they did not wish to answer, although this situation never arose during the course of research. When meeting with the respondents, the respondents were asked for approval prior to recording the conversation. Also, the respondents were asked if their names could be used in the thesis. Hence, the respondents got the possibility to be anonymous in the thesis, in order to protect their confidentiality (Kvale & Brinkmann, 2009). Nevertheless, all respondents chose to participate without anonymity, consenting to the use of their names.

Kvale and Brinkmann (2009) mean that it is important to allow the respondents to read through the transcribed material from the interviews, this to give the respondents the chance to think through the questions and their answers once again and to correct the material if something has been misunderstood on their or the researcher's part. The data collected from the interviews was transcribed and e-mailed to the respondents for confirmation, to make sure that nothing was inaccurately interpreted or unacceptable for the respondents to be included in the thesis.

2.5 Criticism against chosen methodology

The qualitative research design acquires criticism (Robson, 2011; Bryman & Bell, 2015). Bryman & Bell (2015) state that qualitative research design is hard to replicate and to statistically generalise. In addition, qualitative research design is sometimes perceived as subjective and non-transparent (*ibid.*). Yin (2006) direct three different critiques that case studies often receive. The first critique treats the lack of generalisation of case studies. Creating statistical generalisation from populations is not possible within case studies; however, case studies can be generalised in regards to theoretical hypotheses. Consequently, case studies aim to generalise and develop theories, not frequencies. Second, case studies receive critique for taking too much time. The third critique against case studies treats the possible bias of the researcher that can influence the results and conclusions of a study (*ibid.*). Merriam (1994) agrees with this, stating that the researcher is the one gathering and interpreting information in a qualitative study, meaning that the researcher can not possibly be outside the studied phenomena.

Consequently, this thesis does not wish to accomplish statistical generalisation, but to create an understanding for the issues of food waste within the context of the intermediary actors studied. The thesis was carried out as a multiple case study based on three selected cases, why the authors do not strive for generalisability beyond their mutual context. Also, this thesis was conducted with a given time limit, meaning that the research was made within the same timeframe. The authors of this thesis are aware of the bias and the subjective implications a qualitative approach can generate. Since this thesis was inspired by another course project regarding food waste, in which Anna Lindbäck from Food2Change acted as a respondent, the authors of this thesis are aware that the knowledge gained from that project has to some extent affected our subjectivity. However, by presenting the methodology as precisely and as explicitly as possible, the authors hope to make the thesis transparent and replicable.

3 Theoretical framework

This chapter aims to provide the reader with an understanding of previous research on food waste to describe why it occurs and to present existing market initiatives to reduce food waste. Further, this chapter presents and describes the chosen theories, as well as a summary of them. At the end of the chapter, a conceptual framework is established that will be used for analysing the empirical results.

3.1 Literature review

The terms of food loss and food waste are typically related to different parts of the food supply chain (Parfitt *et al.*, 2010). Food losses occur at the early stages in the supply chain, at the production, postharvest and processing stages; referring to the “decrease in food quantity or food quality, which makes it unfit for human consumption” (Parfitt *et al.*, 2010, p. 3066). However, the term of food waste is related to behavioural patterns in the medium and final stages of the supply chain where edible foods are discarded at retailer or consumer level (*ibid.*). It is important to distinguish between different types of food waste, in terms of *unavoidable food waste* and *avoidable food waste* (Bernstad Saraiva Schott & Andersson, 2015; Naturvårdsverket, 2014a). Unavoidable food waste is defined as waste in processing or preparation of food, commonly referring parts that are considered inedible such as peel, shells and bones. Avoidable food waste is defined as food products that are discarded of for various reasons despite them being, or have been, edible (*ibid.*). For the sake of clarity of this thesis, we will use the term ‘food waste’ when referring to both food loss and food waste in the supply chain. Further, when using the term food waste throughout this thesis we refer to avoidable food waste.

FAO (2011) pinpoints five main causes of food waste in medium-and high income countries. First, food waste is identified as a result of food production exceeding demand, for example resulting in crops being processed into animal feed (*ibid.*). In a case study in the United Kingdom described by Parfitt *et al.* (2010), food processors would strategically over-produce food to be able to deliver extra-quantities of food to retailers with short notice, not risking to lose their contracts to other stakeholders. Second, the abundance of food and the attitude among consumers that they can afford to waste food are stated as important causes (FAO, 2011). Jurgilevich *et al.* (2016) agree that food waste and food surplus emerge due to consumption patterns, relating it to the lack of knowledge about food products. Third, esthetic quality standards are common in medium-and high income countries, resulting in food being wasted since it does not fulfil the standards of colour, weight or size (FAO, 2011). Fourth, another cause to food waste is the large and varied supply of food products and brands offered to meet consumer expectations. Having a large range of food products and brands can increase the risk that some of the products reach their best-before date before being sold, leading to the products being wasted (*ibid.*). Last, FAO (2011) means that a main problem of food waste is the fact that disposal of edible food along the FSC is cheaper than reusing it. However, seeing food waste from the perspective of business economics, it might not be self-evident to prioritize working with reducing food waste (Andersson & Kock, 2012). Losing one customer might be costlier for the store than the cost for wasting perishable food that are perceived not good enough to be bought (*ibid.*).

Accordingly, food waste occurs in every link of the FSC from producer to consumer level (Regeringen, 2017; Papargyropoulou *et al.*, 2014) (see figure 2). In the primary production,

the beginning of the FSC, waste occurs through incorrect storage and bad conditions on the field, making it difficult to harvest (Naturvårdsverket, 2014b). At refinement level, food waste is anticipated due to misdelivery or wrongly made orders while the food waste at retailer level arises through wrong temperature when storing too large purchases, handling the products incorrectly or else. Moreover, food is also wasted at the consumer level by not using left overs or buying too much food (*ibid.*).

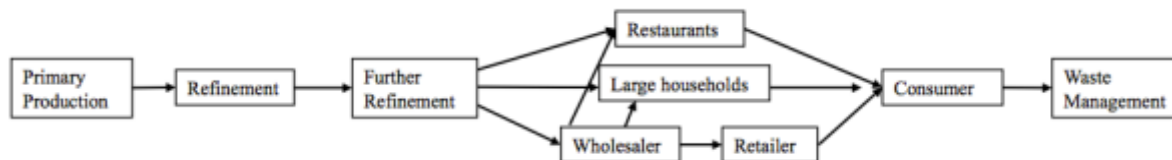


Figure 2: An illustration of a food supply chain, where the food waste occurs at every link (Naturvårdsverket, 2014b, own processing).

Furthermore, Ellen MacArthur Foundation (EMF)(2013b) argues that a significant amount of material is lost when processing and distributing food products, which results in value losses in the FSC. A significant reason for the value losses of food products, is that food products that are close to the best-before date appear to be hard to sell, despite them being of good quality for consumption (*ibid.*).

The labelling of best-before dates and expiration dates are used on food products as a guide for consumers to know that the food is safe to eat and to inform the consumer about the quality of the product (Naturvårdsverket, 2014b). The best-before date is a quality marking, implying that the producer guarantees that the product has the qualities that is normally associated with the product until the date labelled on the product (Naturvårdsverket, 2014b). Food products that have passed the best-before date are normally safe to eat even a few days thereafter and are allowed to be used as ingredients in other food products, and are also allowed to be sold (*ibid.*). In contrast, food products labelled with an expiration date are perceived to deteriorate quickly and to become a health risk for humans (Naturvårdsverket, 2014b). These products are not allowed to be sold or used in other food products when the expiration date has exceeded (*ibid.*).

In Sweden, there are different methods used for disposing food waste and where the following are currently being used; incineration, biological treatment, animal feed and landfill (Avfall Sverige, 2014). Avfall Sverige (2014) means that incineration often is used for waste that should not be treated in any other way. Biological treatment of waste returns nutrients from the waste back to the soil and is therefore closing the eco-cycle. Approximately 16 percent of household waste, which consists of food waste, are being biologically treated (*ibid.*). Food waste, primarily at producer level, can instead be used as animal feed (Andersson & Kock, 2012). This waste is mainly by-products, generated by the food industry, from producing products. However, by-products are not rated as food waste. In 2011, approximately 1.3 million tons of by-products were produced and 95 percent of these became animal feed (Avfall Sverige, 2014). Food waste has traditionally been disposed of as landfill, however fish, raw meat and poultry can no longer be used as landfill in Europe (Mena *et al.*, 2010). Instead, it has to be disposed of through approved techniques such as incineration or biological treatment (*ibid.*).

The Swedish government has recently presented a food strategy, including the goals of the United Nations for sustainable development of food waste, implying a 50 percent reduction of

the global amount of food waste per person at retailer and consumer level (Regeringen, 2017). The intention is to decrease the overall amount of food waste in the entire FSC in Sweden. The reason behind the strategy is to reduce the negative impacts food waste has on the environment, but also to secure the food supply globally. One quarter of the negative environmental effects caused by Sweden derives from food waste in the FSC. The Swedish government argues that decreasing the food waste is a way to use resources more efficiently and can become economically beneficial for both society and business, unless the cost of reducing the food waste is higher than the environmental benefits from it. Moreover, to reduce the amount of food waste, the Swedish government estimates that a collective effort is necessary and everybody is responsible since food waste occurs at every link in the supply chain. However, in the strategy report emphasis on food waste is limited and the government clearly states that this is an issue that they wish to revert to in the future (*ibid.*).

To decrease the amount of food waste in Sweden, a network of different actors in the FSC has been created (Naturvårdsverket, 2017). The network is called Samverkansgruppen för minskat matavfall (SaMMA); a coordinating group working with the aim to decrease food waste (Livsmedelsverket, 2017). Actors joining this network can be researchers, authorities, companies and various interest groups. The overall goal of SaMMA is to serve as a network where information can be exchanged and new contacts can be established (*ibid.*). SaMMA was initiated by various civil services in Sweden, such as: The National Food Agency, Swedish Environmental Protection Agency and the Swedish Board of Agriculture (Naturvårdsverket, 2017). The initiative is also supported by the Swedish Ministry of Enterprise and Innovation and the Ministry of Environment and Energy. SaMMA shall provide information about activities done with the aim of reducing food waste and shall gather knowledge about current research to reach an understanding of where the food waste occurs (*ibid.*).

Stenmarck *et al.* (2011) present possible initiatives within the retail and wholesale sector to reduce food waste, including discounts on products approaching the best-before dates, selling such food products to restaurants and donations to charities or food banks. Accordingly, many of the Swedish retailers are increasingly working with food waste, for example by donating (Ica, 2017; Coop, 2017) or selling food products (Willys, 2017) that are approaching the best-before date or have broken packages, as well as improving routines for reducing food waste. Such initiatives indicate that retailers within the Swedish food industry increasingly start to take responsibility for reducing avoidable food waste (Livsmedelsakademin, 2015). Lebersorger & Schneider (2014) agree, stating that food products that are removed from sales but still safe to consume might be donated to social services. The donation of food products to social services causes a loss of revenues from a business perspective. Still, donating these products are beneficial in terms of both reduced amount of food waste costs for managing the waste. Moreover, social benefits arise from donating food products that otherwise would have been discarded of as well as from contributing in giving the business itself a positive image (*ibid.*). Contributing are social supermarkets that have developed within the retail sector, where socially and economically challenged customers are able to purchase food products that have been donated from producers, wholesalers and retailers to a reduced price (Holweg & Lienbacher, 2010). The EC (2015) means that food waste has a negative impact on economic, environmental as well as social issues, stating that the process of donating food surpluses should be made easier in order to ensure that it reaches people in need of it (European Commission, 2015).

As the literature review shows, there is substantial knowledge regarding food waste, why and where it occurs in the FSC in high-and medium income countries such as Sweden. Studies show how food waste is approached and managed through regulations and national policy initiatives as well as market initiatives on supplier and retailer level in the food sector. Thus, there is substantial knowledge on initiatives to reduce food waste within the retail and supplier stages in the food sector. However, there is less research on market initiatives of intermediary actors in the interface between suppliers and retailers working to reduce food waste. Little is known about intermediary actors that integrate principles of circular economy in their organisational models when addressing issues of food waste and what values that this generates for their stakeholders. Accordingly, more research is needed on what characterises such intermediary actors and what motivates them. Therefore, the following presentation of circular economy, the triple bottom line, creating shared value, social entrepreneurs and stakeholder theory attempt to build a theoretical framework in order to analyse the empirical material with these issues in mind.

3.2 Circular economy

The concept of circular economy has in recent years gained increased attention worldwide (EMF, 2015a; Pomponi & Moncaster, 2017; Geissdoerfer *et al.*, 2017; George *et al.*, 2015; Lewandowski, 2016; Hobson, 2016; Winans *et al.*, 2017), especially through recent efforts by the Ellen MacArthur Foundation (EMF). However, the concept circular economy is not a new phenomenon (Ghisellini *et al.*, 2016; Sauvé *et al.*, 2016; Bocken *et al.*, 2016), and can be traced back to the 1980s where Frosch & Gallopoulos (1989) requested a new business model to replace the present linear business model (Pomponi & Moncaster, 2017). The economy of today is based on a linear business model where raw materials are used to produce goods which are later sold, used and rejected as waste (EMF, 2015a; Linder & Williander, 2017). Stahel (2016) explains this as a use and dispose thinking amongst humans, which discourages cycles in nature where discards become resources. The phenomena are also described as a throwaway society by Castellani *et al.* (2014). Ghisellini *et al.* (2016) argue that the linear model is a threat to the stability of economies and natural ecosystems, both of which are essential to the survival of humanity.

EMF (2015a) discusses the need for a change in our operating economic system, where economic losses and structural waste are reasons as well as risks for companies concerning price and supply. Further, urbanisation, natural systems degradation and trends are also described as reasons for the need to change current business models (*ibid.*). Charonis (2012) compares circular economy with the concept of degrowth and steady state since they share principles and goals. These concepts aim for human society to operate within the ecological boundaries that our planet has, compared to the linear model that consists of growth-oriented models (Ghisellini *et al.*, 2016). As illustrated in figure 3, the circular economy creates loops by reusing products and taking care of emerging waste whereas the linear economy does not.

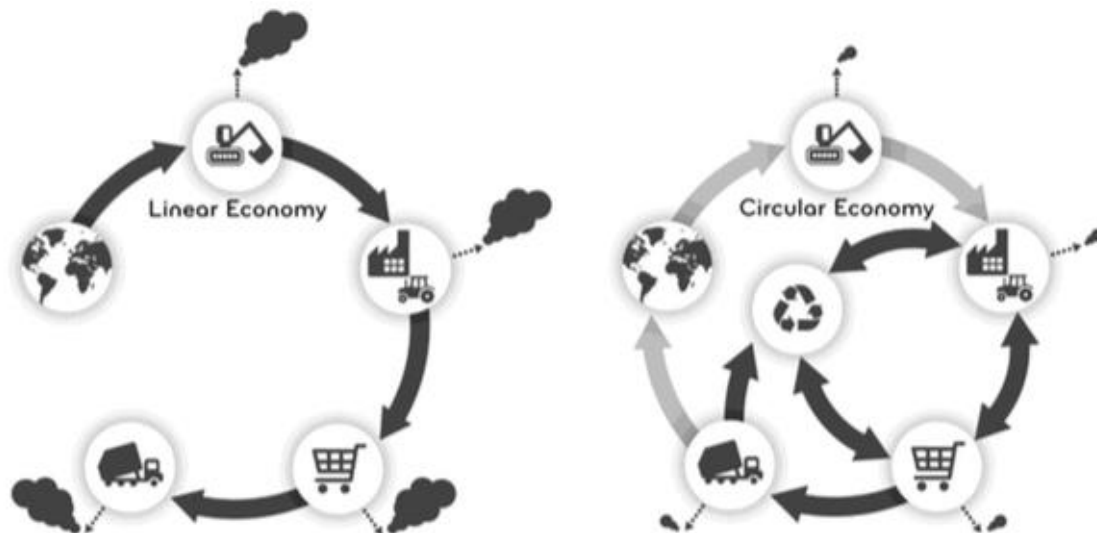


Figure 3: Exemplifying the linear and circular economy. The figure shows a decrease in waste, as well as closing the loop by taking care of the emerged waste (Sauvé *et al.*, 2016, own processing).

Pomponi and Moncaster (2017) argue that economic profitability and development can happen without putting pressure on the environment. Circular economy is introduced as a business model that should replace the present linear business model and, consequently, result in a more sustainable development (Ghisellini *et al.*, 2016; Sauvé *et al.*, 2016; Huamao & Fengqi, 2007). However, this transformation might not be easy to accomplish (Schulte, 2013). Furthermore, Stahel (2016, p. 435) argues that the circular business model would change the economic logic in stating: “It replaces production with sufficiency: reuse what you can, recycle what cannot be reused, repair what is broken, remanufacture what cannot be repaired.”

In previous studies, researchers have presented various definitions of circular economy, however no mutual definition is agreed upon (Ghisellini *et al.*, 2016; Haas *et al.*, 2015). EMF (2015b) states that the purpose of circular economy is to always keep materials and products at their highest value, which means that circular economy is a regenerative and restorative system (Charonis, 2012). Further, Haas *et al.* (2015) argue that materials within the circular economy are designed to be reused and recycled, thus circulating within the economy. The shared principles among research on circular economy, are that resources should be better managed (Pomponi & Moncaster, 2017).

Circular economy is further described as a business model (EMF, 2015b). A business model is a term referring to how a firm creates and grants economic values (Linder & Williander, 2017). Roos (2014) discusses that green business models can provide users with environmental and economic benefits, as well as offer systems for waste regeneration where waste is reused or recycled. Linder and Williander define a circular business model accordingly:

“A business model in which the conceptual logic for value creation is based on utilizing economic value retained in products after use in the production of new offerings. Thus, a circular business model implies a return flow to the producer from users, though there can be intermediaries between the two parties.”

(Linder & Williander, 2017, p. 183)

Similarly, Stahel (2016, p. 435) describes circular economy as a business model that “would turn goods that are at the end of their service life into resources for others, closing loops in industrial ecosystems and minimizing waste”.

3.2.1 The principles of circular economy

The circular economy is based on three principles (EMF, 2015a). Principle one is to “preserve and enhance natural capital by controlling finite stocks and balancing renewable flows” (EMF 2015a, p. 5), meaning that renewable or better-performing resources are used where possible. The second principle is to “optimise resource yields by circulating products, components and materials at the highest utility at all times in both technical and biological cycles” (EMF 2015a, p. 7). This means to extend product life by designing products so that materials and technical components can circulate and thereby contribute to the economy. The third principle means to “foster system effectiveness by revealing and designing out negative externalities” (EMF 2015a, p. 7). This means reducing damage to areas and systems such as health, food, mobility as well as managing negative externalities (*ibid.*). However, circular economy is also developed through three actions named the 3Rs principles: reduction, reuse and recycle (Ghisellini *et al.*, 2016; Feng & Yin, 2007; Naustdalslid, 2014). The first R, reduction, refers to minimizing the consumption of raw materials and energy (Feng & Yin, 2007; Naustdalslid, 2014). The second R, reuse, refers to reusing products after the initial consumption of the product instead of letting it become waste. The third R, recycle, implies using a product more than once in its primary state (*ibid.*). The principles of circular economy include characteristics such as (EMF, 2015a; Lewandowski, 2016) (see a more detailed illustration of the circular economy in figure 9, appendix II):

- **Waste does not exist, it is intentionally designed out:** Through composting and anaerobic digestion, biologically materials can be returned to the soil (EMF, 2015a; Lewandowski, 2016). Technological materials can, through their design, be recovered, upgraded and maintain its value for a longer period of time.
- **Building strength through diversity:** Large and small businesses are needed where large businesses provide efficiency and volume and small businesses provide alternative models as a solution when crisis occur (*ibid.*).
- **Think in systems:** Businesses, people, plants etcetera are all part of larger and more complex systems where different parts are linked to one another (EMF, 2015a; Huamao & Fengqi, 2007). Moreover, the implications and consequences of these links should be taken into consideration (*ibid.*).

Castellani *et al.* (2014) argue that many products are wasted even though they have the potential to be reused. Handling food waste in a circular economy implies that waste generated within the food system should be reduced by utilizing food waste and reusing food products (Jurgilevich *et al.*, 2016). Circular economy seeks to avoid value losses in the FSC in trying to reduce the volume of food lost caused by defective cold chains, long distances to food markets (EMF, 2012; EMF, 2013a) and consumer behaviour (EMF, 2013b). The circular economy promotes alternative ways of using food waste to avoid value losses such as the donations of food to service companies, food banks and hospitality businesses (*ibid.*). Moreover, EMF (2015b) argues that food waste can be reduced by creating awareness and knowledge amongst consumers as well as by businesses adopting efficient technology and procedures (*ibid.*). Furthermore, creating markets for refused food is stated as a solution to decrease food waste (EMF, 2015b). Circular economy could be a source of differentiation

through the development of micro-markets, creating integrated systems in the food supply chain (EMF, 2013b). Service contracts between businesses as well as reuse centres for food waste are examples that could facilitate such integration (*ibid.*).

European countries have taken various initiatives to promote a more circular economy (Sauvé *et al.*, 2016). France has carried through a legislation that bans large supermarkets to throw away food products that has not been sold (EMF, 2015b). Instead, left-over food products are donated to charity, recycled as animal feed or composted. Denmark has developed a track and record system to minimize waste and to find efficient ways of using waste and by-products. These initiatives are in line with the transition proposed by the EC to circular economy. Thus, there seem to be a strong focus on reducing food waste in the FSC between producers, suppliers and consumers (*ibid.*). To date, countries such as China (Naustdalslid, 2014), Japan, Germany and Austria have also applied strategies interrelated with circular economy activities (George *et al.*, 2015; Sauvé *et al.*, 2016).

3.2.2 Limitations of circular economy

There are limitations and challenges identified with the circular economy (Linder & Williander, 2017; Rizos *et al.*, 2016). The lack of capital and government support from the surrounding network are pinpointed as challenges for businesses wanting to adapt to the circular business model (Rizos *et al.*, 2016). Linder and Williander (2017) and Winans *et al.* (2017) agree that supporting regulations are needed to operate a shift to a circular business model. Further challenges are identified as the lack of information regarding its benefits as well as administrative burdens in the transformation (Rizos *et al.*, 2016). Moreover, Linder and Williander (2017) and Hobson (2016) state that there is customer based challenges, meaning that not all customers are willing to adapt to a circular economy and buy remanufactured products (Linder & Williander, 2017).

Webster (2013) argues that circular economy has to be seen as a circulatory system for information and materials that is driven by energy flows. Hence, connections and flows in the system have the same importance as things within the system and that system thinking should be explored in context. There is a risk in focusing on things within the economy instead of systems, performances and services. Webster (2013) stresses the need for a balance between products and its context. However, there is a need to remember the complexity of systems and therefore, disruptions in big flows can result in failures larger than the size of disruption (*ibid.*). Bocken *et al.* (2016) conclude that the transformation into a circular business model implies a large change and requires new ways of doing and thinking business. However, Lewandowski (2016) argues that there is no framework of circular economy that is suitable for all companies and that the existing models have a narrow transferability (*ibid.*).

Sauvé *et al.* (2016) argue that social objectives in the circular economy are not met and despite the set of tools presented for the concept, the final objective of circular economy is not clear. Further, Andersen (2007) means that the framework of circular economy does not describe how the concept can provide benefits from a socioeconomic perspective. Sauvé *et al.* (2016) mention that social objectives do emerge in the circular economy, however, the need to define them is not the primary goal.

3.3 Triple bottom line

The framework of Triple bottom line (TBL) is applied to measure and communicate a company's sustainability performance in relation to direct stakeholders including employees, suppliers and customers as well as indirect stakeholders such as governments and local

communities (Hubbard, 2009). Painter-Morland (2006) argues that the framework of TBL helps businesses to recognize the importance of the relationship with their stakeholders and their context. Moreover, TBL-reporting creates a sustainable relationship between business and society (Painter-Morland, 2006). Willard (2012) argues that governments and civil society are limited in their capacity to alter the economic system, while businesses are recognised as the most influential actors in achieving paradigm shifts. Therefore, Willard (2012) means that businesses are preceived to lead the transformation to become more sustainable.

The framework of TBL states that businesses ought to include social and environmental values in the corporate mindset, rather than solely focusing on the economic values (Elkington, 2004). In other words, the framework of the TBL includes three dimensions; people, planet and profit, defined as the 3Ps (Elkington, 1999) (see figure 4).

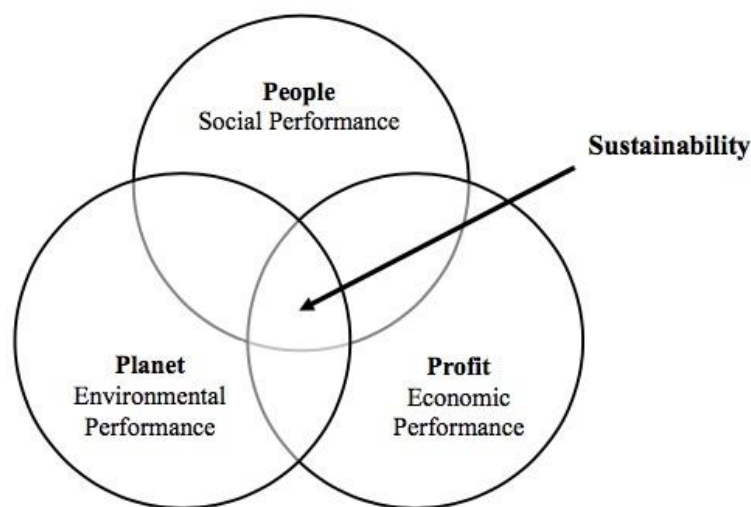


Figure 4: The triple bottom line combining the three dimensions of people, planet and profit (Elkington, 1999, own processing).

The 3Ps all need to be taken into account when conducting business and when measuring business performance (Slaper & Hall, 2011). The concepts of sustainability and the TBL are often interlinked when trying to define them. Kleindorfer *et al.* (2005) state that sustainability has a broad perspective on the TBL by integrating people, planet and profit into the company strategies, operations and culture. Further, Kleindorfer *et al.* (2005) means that environmental management and closed-loop supply chains are closely related to sustainability and the TBL. Similarly, Slaper and Hall (2011) state that the TBL includes profitability, shareholder values as well as social and environmental capital, thus capturing the core of sustainability. In this thesis, the authors apply the following definition when referring to the TBL; the TBL aims to integrate the three Ps into the culture, strategy and operations of companies as well as measuring the impact on their surrounding stakeholders.

Specifically, TBL is used as an accounting framework in order to measure a company's sustainability performance of economic as well as social and environmental character (Slaper & Hall, 2011). According to Elkington (1999), there is usually legal obligations for companies to report on their financial performance. However, less emphasis is put on the social and environmental performance. The economic bottom line typically includes financial indicators such as short-and long term profitability, revenue and costs. When measuring and accounting for their responsibility of the social bottom line companies should include indicators of e.g. trade union relations, wages and working conditions, gender equality,

responsible marketing and so on (*ibid.*) In regards to the environmental bottom line, Elkington (1999) states that companies should include measures of e.g. efficiency in the use of natural resources, materials and energy, life-cycle of products, polluting emissions and environmental hazards. Similarly, Hubbard (2009) emphasizes that the focus is usually placed on the amount of input resources, such as raw material, energy, land, water, used in the activities of a company and the output these activities create, such as waste and polluting air emissions.

On a critical note, Norman and MacDonald (2004) mean that advocates of the TBL use a rhetoric where measurability of social, environmental and economic performance is the key contribution, arguing that this is not possible. Instead, they argue that the strength of the TBL ought to be its emphasis on recognising the social, environmental as well as economic aspects of businesses rather than its measurability (*ibid.*). Norman and MacDonald (2004) mean that TBL-reporting is merely a way for businesses to “display their clean laundry in public” (p. 255). Further, Robins (2006) states that another problem with the TBL is that it does recognise the requirements of stakeholders but do not give businesses a clear directive on how to prioritize between these. Slaper and Hall (2011) also pinpoint that measuring the sustainability performance according to the TBL is more complicated than defining it due to the variety of indicators associated with the three different bottom lines. Indeed, clear trade-offs are difficult to interpret since different metrics are used in measuring the different bottom lines, thus separate reporting of the different bottom line is applied by companies (Sherman, 2012). However, Slaper and Hall (2011) argue that the lack of a universal framework to measure a business performance based on the TBL is its strength; this allows different actors to adapt the general framework after its context.

The concept of TBL has been widely adopted by businesses to include and measure aspects of the social, environmental and economic line within their activities of Corporate social responsibility (CSR), indicating that they increasingly accept and take their responsibility for sustainable development (Cramer *et al.*, 2006; Fauzi *et al.*, 2010). Simultaneously, businesses are blamed for turning sustainable development into a business case within the current model of linear economy continuously focusing on the financial bottom line (Marshall, 2007). Porter and Kramer (2011) mean that businesses often make the mistake of having a short term financial perspective on value creation, failing to acknowledge the benefits of a long-term perspective on value creation. In introducing the concept of Creating Shared Value (CSV), Porter and Kramer (2011) argue that businesses must alter their view on value creation between them and their stakeholders.

Creating shared value

The concept of shared value appears both within CSR and CSV, focusing on businesses making connections between societal, environmental and economic values (Cramer *et al.*, 2006; Porter and Kramer, 2011). However, the perspectives on shared value differ within CSV and CSR; the first-named integrates shared value by embedding a social purpose within the core business, whereas the latter views shared value as activities separate from the core businesses (Pfizter *et al.*, 2013). Porter and Kramer (2011) argue that businesses should bring society and business back together, which can be managed by applying the concept of CSV to their core business.

Shared value can be created by companies in three distinct ways, by 1) reconceiving products and markets, 2) redefining productivity in the value chain and 3) enabling cluster development (Porter & Kramer, 2011; Porter *et al.*, 2012) (see table 2). First, reconceiving products and markets is associated with the idea that businesses ought to focus on unmet

needs in the society (Porter *et al.*, 2012). Rather than creating a demand for products, businesses need to look at the actual needs of their current and potential customers (Porter & Kramer, 2011). Businesses should ask themselves whether their products are good or can become even better for their customers, or if they can be made available for customers in new markets (*ibid.*). If businesses can create social, environmental and economic benefits through their products or services and at the same time improve their profitability in terms of increased revenue, market shares and market growth, then shared value is possible (Porter *et al.*, 2012).

Table 2: Possible business and social results from various levels of shared value (Porter *et al.*, 2012, own processing).

Levels of Shared Value	Business Results	Social Results
Reconceiving product and markets: How targeting unmet needs drives incremental revenue and profits	<ul style="list-style-type: none"> • Increased revenue • Increased market share • Increased market growth • Improved profitability 	<ul style="list-style-type: none"> • Improved patient care • Reduced carbon footprint • Improved nutrition • Improved education
Redefining productivity in the value chain: How better management of internal operations increases productivity and reduces risks	<ul style="list-style-type: none"> • Improved productivity • Reduced logistical and operating costs • Secured supply • Improved quality • Improved profitability 	<ul style="list-style-type: none"> • Reduced energy use • Reduced water use • Reduced raw materials • Improved job skills • Improved employee incomes
Enabling cluster development: How changing societal conditions outside the company unleashes new growth and productivity gains	<ul style="list-style-type: none"> • Reduced costs • Secured supply • Improved distribution infrastructure • Improved workforce access • Improved profitability 	<ul style="list-style-type: none"> • Improved education • Increased job creation • Improved health • Improved incomes

Second, redefining productivity in the value chain refers to the quite recently accepted idea that progress at societal and environmental level is associated with an increased productivity in the value chain (Porter & Kramer, 2011). The prevailing notion has been that taking societal and environmental issues into account would inevitably increase business costs. Instead, CSV advocates that improvements throughout the value chain in terms of energy use and logistics, resource use, procurement of resources, distribution, employees' well-being as well as production-and sale locations can generate net cost savings (*ibid.*). Third, creating shared value through enabling cluster development stems from the view that engaging outside the core business by investing in and strengthening local communities, institutions and suppliers will improve the business' long-term performance (Porter *et al.*, 2012).

Although recognising the strengths of CSV in terms of placing social goals on a strategic level and developing a conceptual framework around "conscious capitalism" (Crane *et al.*, 2014, p. 133), Crane *et al.* (2014) criticize the novelty and contribution of the concept. They mean that the concept of CSV ignores the remaining difficulty in aligning economic and social goals for all stakeholders. Moreover, they mean that the concept of CSV gives a naïve understanding on businesses' role in society and in transforming the economic system, not taking the corporate self-interest into account (*ibid.*). In fact, Crane *et al.* (2014) mean that CSV simply reformulates the ideas of social entrepreneurship, creating business opportunities in addressing social issues and meeting social needs.

3.4 Social entrepreneurship

Entrepreneurship is usually associated with the process of change in identifying and responding to opportunities, creating new values for businesses (Venkataraman, 1997). The term ‘social’ in social entrepreneurship refers to its focus on social value creation, whereas economic value creation through the same process is rather considered “a necessary condition for economic viability.” (Mair & Marti, 2006, p. 38).

Leadbeater (1997) argues that social entrepreneurship occurs in the intersection and through the collaboration between the private, public and voluntary sectors, thus combining the motives of different sectors. As the public sector increasingly sees benefits in new forms of welfare services while the private sector emphasises social values within their core business, both encourage entrepreneurial activities across the different sectors (*ibid.*). Further, Leadbeater (1997) means that the voluntary sector is an essential source of social entrepreneurship, adopting business skills to approach problems within the public and private sectors. Similarly, Dees (1998) argues that social entrepreneurship is organised and motivated across a broad continuum rather than through specific characteristics, by introducing the Social enterprise spectrum (see figure 5).

THE SOCIAL ENTERPRISE SPECTRUM				
		Purely Philanthropic	←→	Purely Commercial
Motives, Methods, and Goals		Appeal to goodwill Mission driven Social value	Mixed motives Mission and market driven Social and economic value	Appeal to self-interest Market driven Economic value
Key Stakeholders	Beneficiaries	Pay nothing	Subsidized rates, or mix of full payers and those who pay nothing	Market-rate prices
	Capital	Donations and grants	Below-market capital, or mix of donations and market-rate capital	Market-rate capital
	Workforces	Volunteers	Below-market wages, or mix of volunteers and fully paid staff	Market-rate compensation
	Suppliers	Make in-kind donations	Special discounts, or mix of in-kind and full-price donations	Market-rate prices

Figure 5: The Social Enterprise Spectrum, a framework presenting a scale of possible motives, methods, goals and stakeholders for the social enterprise (Dees, 1998, own processing).

As Dees (1998) suggests, social entrepreneurship can be motivated through the combination of mission and market goals or social and economic values, depending to what extent organisations depend on philanthropic and/or commercial ideals. Nicholls (2006) agrees, stating that social entrepreneurship is increasingly characterised by ethical economic activities, which combines both social and economic objectives. Accordingly, the concept of social entrepreneurship is commonly recognised as an important link between economic and social value creation (Dacin *et al.*, 2011), detecting and acting upon opportunities that other actors have failed to see or been unable to solve (Seelos & Mair, 2005). Thus, this thesis applies the definition on social entrepreneurship as formulated by Seelos and Mair (2005), who mean that social entrepreneurs can create new business models that fulfill human needs that are unsatisfied by current social and economic institutions.

Nevertheless, the academic understanding of social entrepreneurship is commonly divided; some argue that social entrepreneurship refers only to processes of non-profit actors, whereas others withhold that it comprises both of profit and non-profit actors (Austin *et al.*, 2006). However, most scholars agree that the priority on value creation of an economic or a social nature commonly differs between businesses and non-profit organisations (Mair & Marti, 2006). Businesses often focus on economic value creation viewing social value creation as an important outcome of the first (Venkataraman, 1997), whereas non-profit organisations view social value as their main priority (Seelos & Mair, 2005). Indeed, non-profit organisations might have an interest in economic value creation but find it problematic to achieve, since their stakeholders are unable to pay for the services provided (Seelos & Mair, 2005).

Specifically, social entrepreneurs are defined as the actors driving the process of social entrepreneurship (Zahra *et al.*, 2009), being recognised as important change agents when identifying and addressing societal and environmental issues (Drayton, 2002). Mair and Marti (2006) mean that social entrepreneurs are commonly driven by a sense of moral responsibility, although also including motives such as personal fulfilment. However, contrary to the common definition of entrepreneurs, who are primarily driven by economic motives, social entrepreneurs are driven by both social and economic motives (Dorado, 2006). Similarly, Seelos and Mair (2005) argue that the collaboration between social entrepreneurs, businesses engaged in CSR-activities and public organisations have a great potential to contribute to a sustainable development by generating new forms of value creation through their organisational models.

Despite the potential of social entrepreneurs to improve societal issues, Tilley and Young (2009) mean that it might be misleading to fully rely on their contribution to sustainable development. Sustainable development, according to Tilley and Young (2009) combine issues of social, economic and environmental nature. Since social entrepreneurs concentrate mainly on social values, it is difficult for them to achieve a sustainable development with regards to the entire TBL for themselves or for their stakeholders (*ibid.*). However, Zahra *et al.* (2009) argue that social entrepreneurs are motivated to serve and improve conditions for their stakeholders, contributing to social change. Dees (2007) builds on this further, stating that social entrepreneurs play an important role in the sustainable improvement of society. Dees (2007) means that social entrepreneurs tend to be motivated to create innovative forms of organisational models in order to work across the boundaries of social and environmental issues. Therefore, social entrepreneurs have the possibility to supplant or complement governmental efforts to address social and environmental problems (*ibid.*).

3.5 Stakeholder theory

Stakeholder management was introduced in the 1980s by Edward Freeman in which he developed and outlined the basic concepts of stakeholder theory (Jones, 1995; Mitchell *et al.*, 1997; Shankman, 1999; Wagner Mainardes *et al.*, 2011). The development of stakeholder theory grew from the finding that businesses are open systems, interacting with other parties (Wagner Mainardes *et al.*, 2011). Hence, there is a need to set strategies that suit the system as a whole, not only setting strategies suitable for those stakeholders that decide the survival of the business. Moreover, Wagner Mainardes *et al.* (2011) argue that building trustworthy relationships with all external groups of the business are important since they affect the success of the business. Laplume *et al.* (2008) mean that the stakeholder theory has recently been subject for discussion along with sustainable development. Zahra *et al.* (2008) agree, stating that stakeholder theory is essential within CSR as it recognises the responsibility that

businesses have to their stakeholders. Furthermore, Laplume *et al.* (2008) argue that the stakeholder theory can address questions regarding how businesses affect society, an impact that is mostly disregarded amongst researchers.

There are three different perspectives of stakeholder theory; descriptive, instrumental and normative (Donaldson & Preston, 1995; Jones, 1995; Mason & Simmons, 2014). The descriptive perspective aims to explain and/or describe how businesses behave (Jones, 1995) and what businesses are (Donaldson & Preston, 1995). Further, Wagner Mainardes *et al.* (2011) state that the descriptive stakeholder theory aims to describe the relationship between the company and its stakeholders. The instrumental perspective of the theory can be described as a framework to use when analysing connections between the achievement of corporate goals and the practice of stakeholder management. A normative perspective means to accept that all stakeholders are valuable, since they are identified as having a legitimate interest in the business (*ibid.*). This thesis will use the descriptive formulation of stakeholder theory, since the authors wish to describe how the selected cases work in relation to their stakeholders, but do not want to place value in which stakeholder that is the most important to them.

Mitchell *et al.* (1997) state that a stakeholder could be anyone. However, organisations, people, groups, neighbourhoods, societies, institutions and the natural environment, are most commonly defined as stakeholders (*ibid.*). Moreover, stakeholder theory can be defined through the relationship that the business has with various groups and individuals, where these stakeholders affect the business performance as well as being affected by the performance of the business (Jones, 1995; Donaldson & Preston, 1995) (see figure 6). However, Shankman (1999) concludes that regardless of how stakeholders are defined, the model comprehends a two-way exchange, meaning that stakeholders can be affected by the business and that, in turn, stakeholders can affect the business and its activities.

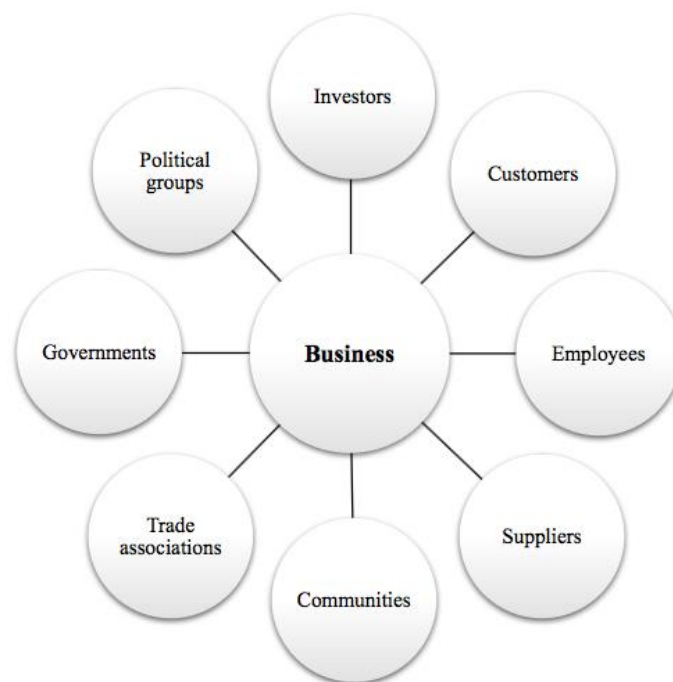


Figure 6: Possible stakeholders of a business (Donaldson & Preston, 1995, p. 69, own processing).

In this thesis, stakeholders will be defined as groups or individuals that have an interest in the company, as well as affecting the performance of the company. Furthermore, this thesis

recognises the two-way exchange in the relationship between the business and its stakeholders, in creating shared values. Creating values can be seen as a necessary section of doing business (Freeman *et al.*, 2004). Furthermore, Freeman *et al.* (2004) state that economic value can be created by people coming together and cooperating to improve their situation. In order to create profitable businesses, managers have to inspire and develop relationships with business stakeholders (*ibid.*).

3.6 Summary of theoretical frameworks

To provide clarity to the reader of the theoretical frameworks, a summary pinpointing their essence and level of analysis are presented in table 3 below.

Table 3: A summary of the theoretical framework.

Theory	Summary	Level of analysis	References
Circular economy	An alternative to a linear business model where system thinking, the use of renewable materials and products as well as designing out waste is essential.	Macro level	Ghisellini <i>et al.</i> (2016), EMF (2013, 2015), Sauvé <i>et al.</i> , (2016), Stahel (2016), Jurgilevich <i>et al.</i> (2016), Linder & Williander (2017).
Triple bottom line (TBL)	Business framework integrating economic, environmental and social values into the core business.	Micro level	Elkington (1999), Elkington (2004), Slaper & Hall (2011), Kleindorfer <i>et al.</i> (2005).
Creating shared value (CSV)	Focus on social and economic value creation between business and society, rather than short-term business profit.	Micro level	Porter & Kramer (2011), Porter <i>et al.</i> (2012).
Social entrepreneurship	Change agents in identifying and addressing societal problems. Creates new business models.	Micro level	Seelos & Mair (2005), Mair & Marti (2006), Zahra <i>et al.</i> (2009).
Stakeholder theory (descriptive perspective)	The descriptive stakeholder perspective aims to describe the stakeholders of a business. A stakeholder is anyone affecting or being affected by a business operation.	Micro level	Freeman <i>et al.</i> (2004), Donaldson & Preston, 1995, Mitchell <i>et al.</i> (1997), Shankman (1999).

Circular economy, or the circular business model, is presented as an alternative to the linear business model (Ghisellini *et al.*, 2016; Sauvé *et al.*, 2016; Huamao & Fengqi, 2007). A circular economy strives to design products that last longer and will circulate in the economic system (EMF, 2015a). Furthermore, a circular economy means to use renewable products and materials, whenever it is possible, and creating systems that will cause no negative externalities (*ibid.*). Hence, less or no waste will arise in the supply chain (EMF, 2015a). Regarding food waste, a circular economy promotes various ways of using it, such as donating the food to charities (EMF, 2013b). Moreover, the circular economy promotes the creation of markets where refused food can be used. Thus, a circular system is created where

no waste occurs (EMF, 2015b). Primarily, the theory of circular economy enables a macro level of analysis, putting society and not business as the contextual starting point for analysis.

The framework of the triple bottom line (TBL) brings up the importance for businesses to emphasise their social and environmental performance, rather than solely focusing on the financial performance (Elkington, 2004). Specifically, the TBL can be used as an accounting framework, in which social, environmental and economic values in a business are to be measured (Slaper & Hall, 2011). The framework is also applied to communicate the sustainability performance of businesses to their stakeholders (Hubbard, 2009). Moreover, the TBL can be helpful for businesses when considering the context of their stakeholders in order to form sustainable relationships (Painter-Morland, 2006). Hence, the framework of TBL enables a micro level of analysis, placing the business as a contextual starting point for analysis.

The concept of creating shared value (CSV) further emphasises the TBL, stating that companies rethink their position in relation to their stakeholders and become the leading force in societal change (Porter & Kramer, 2011). In applying a framework of shared value, a social purpose can be embedded within the core business (Pfitzer *et al.*, 2013), creating long-term values for the company and their stakeholders (Porter & Kramer, 2011). In order to create shared value, business must question the linear business model and rethink what products or services they offer or which markets they operate in (Porter *et al.*, 2012). Also, the productivity in the value chain must be reconsidered to imply that social and environmental improvements generate savings rather than costs. Further, business engagement and investments in the surrounding community are important factors in creating shared value between business and society (*ibid.*). The framework of CSV enables a micro level of analysis, placing the business as a contextual starting point for analysis.

The process of social entrepreneurship is often considered as an important link between economic and social value creation (Dacin *et al.*, 2011), as it manages seize opportunities and creates new models benefiting society with products and services (Seelos & Mair, 2005). Social entrepreneurs are driven by both social and economic motives (Dorado, 2006), and can be seen as important change agents in identifying and addressing societal problems that established actors have failed to recognise and address (Drayton, 2002). Thus, the collaboration between social entrepreneurs, businesses and public organisations is considered important for societal value creation with the potential to contribute to sustainable development (Seelos & Mair, 2005). The theories of social entrepreneurs used in this thesis enables a micro level of analysis, placing the business of social entrepreneurs as a contextual starting point for analysis.

The descriptive perspective of stakeholder theory aims to describe the business and what the business is (Donaldson & Preston, 1995). Freeman *et al.* (2004) means that the relationship between the business and the stakeholder is necessary to create profitability and value within the business. Thus, a trustworthy relationship between stakeholder and business affects how successful the business is (Wagner Mainardes *et al.*, 2011). A stakeholder can be anyone (Mitchell *et al.*, 1997). However, there is a two-way exchange between the stakeholder and the business, regardless of who the stakeholder is (Shankman, 1999). Also, Laplume *et al.* (2008) mention that stakeholder theory has the possibility of addressing questions considering how businesses affect society. Placing the business in the center of descriptive perspective of stakeholder theory, it serves as a contextual starting point for a micro level of analysis.

Conceptual framework

The theory of circular economy serves as the theoretical starting point of this thesis, in trying to identify and explicate market initiatives by intermediary actors that address issues of food waste. However, the theory of circular economy is limited; it does not provide a clear framework for micro level analysis and it does not focus on social values. Since the cases studied in this thesis operate on a micro level, there is a need to complement the theory of circular economy with theories that do provide a level for micro level analysis and include a focus on social values. Figure 7 below illustrates the conceptual framework that has been developed to serve as a conceptual framework for analysis.

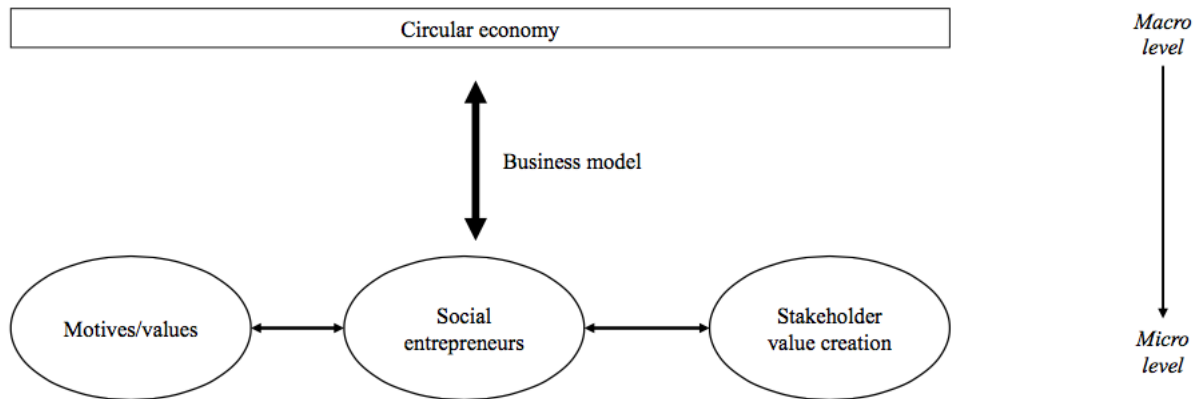


Figure 7: Conceptual framework for analysing the empirical data of this thesis.

This thesis' phenomenon of interest is market initiatives to reduce food waste in Sweden that are driven by intermediary actors. The theory of social entrepreneurship functions as an analytical tool to understand the phenomenon of interest through the unit of analysis; Matsmart, Food2change and Matcentralen. Three characteristics of social entrepreneurs have been identified within the theory of social entrepreneurship. First, social entrepreneurs are characterised by a motivation originating from social and economic values. Here, the theory of social entrepreneurs is used to identify motives and values of the unit of analysis. Second, the operations of social entrepreneurs aim to create value for their stakeholders. Here, the theories of TBL, CSV and the descriptive stakeholder perspective address social, environmental and economic values that are created for the stakeholders of the selected cases. Third, business models developed by social entrepreneurs can serve as catalysts of societal change. Here, the characteristics and principles of circular economy are put in relation to the business operations of Matsmart, Food2change and Matcentralen, serving as a bridge between the micro and macro level of analysis of circular economy.

4 Empirical study

The following chapter presents the empirical results retrieved from the interviews with representatives from the organisations studied in this thesis. The selected cases include Matsmart, Food2change and Matcentralen, which are intermediary actors working to reduce food waste in the Swedish food supply chain.

The phenomenon of interest in this thesis is market initiatives in Sweden driven by intermediary actors with the purpose of reducing food waste. The selected cases of Matsmart, Food2change and Matcentralen are all intermediary actors that have developed different market initiatives that take care of waste originating from suppliers and retailers in the Swedish FSC. Matsmart, Food2change and Matcentralen do not manage food waste by discarding it through common methods such as incineration, biological treatment or animal feed. Instead, they all extend the life of food products by donating or selling them which reduces food waste in the supplier/retailer interface. Therefore, Matsmart, Food2change and Matcentralen serve as interesting cases when studying this thesis' phenomenon of interest.

4.1 Matsmart

This section provides the empirical results from the interview with representatives from the company Matsmart in Scandinavia AB. In this section, all information originates from the interview with Rikard Hellqvist, Communication Manager, and Johan Svensson, Chief Product Officer, if not stated otherwise. When the information given by the different interviewees needs to be distinguished, their names are clearly stated.

Matsmart is a Swedish investor owned firm (IOF) that was founded in 2012 (Matsmart, 2017a) by Erik Södergren, Ulf Skagerström and Karl Andersson. The business idea of Matsmart is to purchase surpluses of products from producers, wholesalers, food processors and grocery stores and to sell the surplus to a reduced price to customers through its online web-store, in order to reduce food waste in Sweden (Matsmart, 2017b). Matsmart focuses on purchasing and selling food products, but it also offers a limited assortment of books, DVDs and disposable novelties. The company purchases products from suppliers having excess stocks, outdated product assortments, products with soon past or past before-date, seasonal products or products with outdated package (*ibid.*). However, it does not purchase or sell any fresh food products labelled with an expiration date. Matsmart mainly purchases surplus products from Swedish suppliers, but also collaborates with suppliers in Europe. The head office is located in Stockholm, whereas its storage warehouse and customer service is located in Katrineholm. Approximately 60 people are employed in the company, where the majority work as storage workers, and others within marketing, business development and business administration. The main customer base of Matsmart is in Sweden, however, the company recently launched its businesses in Norway. In 2016, Matsmart purchased and sold 708 tons of food that otherwise would have been thrown away.

Hellqvist describes that the founding idea to Matsmart was initiated by Erik Södergren, at the time when he was running an Ica grocery store in a suburb to Stockholm. Södergren noticed a pattern in having many customers who repeatedly raised the question of reduced prices of food products that had or were soon going to pass the best-before or expiration date. Simultaneously, Södergren increasingly received phone calls from suppliers asking him to

buy parts of their excess food stocks that they needed to discard if being unable to sell elsewhere. After a while he introduced discount corners in the store as well as increasingly accepted offers to take on excess stocks. Even after having introduced these solutions, Södergren got increasingly frustrated by the large quantities of food that he, as well as his suppliers, were forced to discard of. Hellqvist says that Södergren experienced “a gap in the supply chain” as well as a lack of knowledge among customers that food with a past best-before date is edible and does not have to be wasted. Södergren believed that there was potential for a new business idea in buying excess food stocks from suppliers and offering customers these products to reduced prices. Södergren and the other founders of Matsmart reasoned that this business idea would be suitable for e-commerce and in 2012, they set up a simple web-page and started the business of Matsmart.

Matsmart purchases and sells food products with soon past and past before-dates, but not fresh food products labelled with an expiration date. The idea was initially discussed, but the process of managing food products with expiration dates is much more complicated than that of food products labelled with a best-before date. Svensson says that there are no restrictions preventing Matsmart to sell products that are labelled with a best-before date, even if a product has passed its best-before before date. The best-before date of each product is always clearly communicated for each product for sale on the website. Matsmart takes on the responsibility for the products after the best-before date has passed, while the producer or the supplier are responsible for the products until the best-before date.

Svensson estimates that Matsmart daily receives approximately 40-50 offers to purchase products from its suppliers and they thoroughly consider which products they can sell to their customers before accepting any offers. Svensson emphasises that the products Matsmart purchases must have the right preconditions for a customer to buy it and says that; “we cannot to buy someone else’s problem. We do not want to end up up in the same situation as our suppliers and not be able to sell our assortment of products.” Svensson means that some products are more interesting than others when deciding what products that Matsmart choose to offer to its customers. He states that the Swedish consumer is picky and is not prepared to buy products from whatever brand even though a product is cheap. Therefore, it is important for the company to evaluate the brand image of a product before accepting any offers. When Matsmart chooses not to accept an offer the reason normally is either too large volumes offered or too highly priced products making it difficult to receive an acceptable sales margin.

Matsmart rarely has a problem with selling products that it has purchased from its suppliers. Svensson believes that this is due to that the company is growing, the access of a wide range of popular products demanded by the customers as well as attractive prices. Matsmart works proactively with the pricing of the products in order to sell them before they pass the best-before date and does not have a specific ambition only to sell products that have expired. In case of Matsmart not being able to sell its products in stock, they are disposed to recycling, composting or incineration, or donated as free gifts to their customers.

When Matsmart first started its business, it was challenging to tie suppliers to the company, since they were not familiar with Matsmart’s business model. As the company has grown, new suppliers have started to contact Matsmart to establish a collaboration, rather than the other way around. Today, Hellqvist says that many of the suppliers means that it is amazing that the company exists since they have the possibility to greenwash their brand images by Matsmart taking care of their food waste. Svensson adds that the suppliers often see different benefits with Matsmart, depending on which department they represent. The logistic and sales

department see the economic benefits in selling products that they otherwise would have thrown away, while the CSR-department see the environmental benefits in reducing their food waste.

With its business concept Matsmart offers the suppliers a new solution to reduce food waste that previously was not available on the market. Svensson describes that the problems surrounding food waste in the retail sector is much due to the large retail actors setting a sales prognosis and the suppliers are bound to deliver according to this prognosis. At the same time, large retail actors have demands on the best-before dates, stating that at least two thirds of the best-before date must remain for them to purchase products from their suppliers. Svensson means that if the sale does not match the prognosis, the suppliers need to solve this on their own; “this is where the large waste occurs. That is why the waste occur that needs to be sold through other channels, and this is where we enter the picture.”

Further, Matsmart receives good reactions on its business idea from the customers shopping on its website. Svensson and Hellqvist mean that Matsmart’s base of private customers consists of two groups; one group that shop at Matsmart because the products are cheap and the second group because they want to actively contribute to reducing food waste. Reclamations from the customers are not related to the best-before date, for example if the product packaging has broken during delivery or if float beetles are discovered inside a product package. Svensson says that these types of reclamations could happen to any supplier. Hellqvist means that this in itself is a proof that the best-before date is only a quality label and nothing else.

4.2 Food2change

This section provides the empirical results from the interviews with the representatives from the association Food2change. In this section, all information originates from to the interviews with the founders of Food2change, Rikard Lundgren and Anna Lindbäck, if not stated otherwise. When the information given by the different interviewees needs to be distinguished, their names are clearly stated.

Food2change is a non-profit association founded in the beginning of 2016 by Rikard Lundgren and Anna Lindbäck. The association is part of the company 2change, which aims to create a sustainable development through developing new business ideas and financially supporting societal projects, such as Food2change (2change, 2017). The business idea of Food2change is to help grocery stores to reduce their food waste by donating it to people facing economic difficulties. At the time of writing, Food2change collaborates with twelve grocery stores, however, recently signed a general agreement with two large food retail chains in Sweden, Netto and Ica. The grocery stores that Food2change collaborates with sort out food products approaching their best-before date or products with broken packages that cannot be sold, donating it to the association. Members of Food2change, acting as hosts, go to the grocery stores and take responsibility for dividing the food products into food bags. The goal is that each bag should have approximately the same monetary value, even though the assortment of products might vary. When the sorting is done, members are invited to fetch their food bag at the store. At the time of writing, Food2change has approximately 300 members, and approximately 1,000 people are in the process of becoming members.

The idea to Food2change was initiated by Lundgren, facing a career break when moving back to Sweden after some years living in Switzerland. Lundgren needed to cut his costs of living

and found himself at the bargain shelf at his local grocery store in Västerås. He started to reflect upon what would happen with these food products after the store had closed for the day, realizing that it would be thrown away. During his moving process, Lundgren had access to a moving lorry and started to think about the possibility of using it to transport left-over food products and donating it to people in need of it. However, doing this would mean a process strictly following legal requirements regarding food safety from the Swedish National Food Agency, such as unbroken cold chains. Instead, Lundgren started to think about how the food could be distributed without having to transport it from the grocery store. Lundgren realized that this could be achieved through having people come to the grocery store and fetch the food products themselves, having an association linking demand and supply. Lundgren says that Food2change link the grocery stores and the members, by members collecting the food bags in the store. In that way, Food2change avoids the regulations from the Swedish National Food Agency, regarding food safety that apply to the transporting of food.

Lindbäck means that one main motivation to start Food2change was to reduce food waste. Decreasing food waste could lead to a more efficient way to use food and to the reduction of carbon dioxide-emissions related to the handling of food waste. Further, Lundgren says that Food2change shows what Lundgren and Lindbäck want to achieve with their company 2change. Through 2change, they want to make a change in society in creating a system where organisations and businesses donate parts of their profit to projects, like Food2change, solving problems in society. Lundgren states that Food2change wants to “contribute to make the world a better place and to give it a more sustainable content”.

Food2change offers three different membership; hero membership, support membership and ordinary membership. The support membership implies financial donations to the association whereas the ordinary membership gives the right to vote at annual meetings. Most members are hero members, who are eligible for receiving food bags from the grocery stores through the association. The hero membership is reserved for people earning less than 13,000 SEK per month before taxes or receiving some sort of economic support from the government (Food2change, 2017b). A hero membership costs 500 SEK a year, with the promise to receive at least one food bag with the value of 200 SEK every week, meaning food products to a value of at least 5,000 SEK every six months. Lundgren says that Food2change has been able to exceed this promise. Through their membership contract, the hero members of Food2change have the responsibility to smell and taste the food they are given before eating it. Lundgren means that the association has had very few complaints of the quality of the food from the members, and that most of them are aware that the food they are given have often past the best-before date. Lundgren stresses that the grocery stores, by law, are allowed to give away food products that have passed the best-before date, however not allowed to give away food products that have passed the expiration date. If the grocery stores select products by mistake that have passed the expiration date, Food2change removes these products before handing out the food bags.

Lindbäck says that the reason to call those members that collect food bags hero members, is because they help to solve the problem of food waste. This is good for the grocery store not having to throw away food, which in turn is good for the environment. Therefore, rather than being subjects to charity, Food2change perceive these members as heroes. Lundgren agrees with this in saying that members of the association are contributing rather than receiving charity. He means that this strengthens the individual member and that they can feel proud of themselves in saying: “I have done something for the society today, I have done something for the environment, I have made a contribution”. Further, some hero members volunteer as

hosts in sorting and giving away food bags to other members at the grocery stores. Since many hero members of Food2change are people that, for various reasons, are not able to work, Lundgren and Lindbäck mean that the members engaging in the association get to practice at having a job. Active participation in Food2change can help those members getting one step closer to an employment and get experience to put on their resumé.

Lindbäck says that the members have joined Food2change because they want to decrease their cost of food or because they are upset that food is wasted. Lindbäck says that their members are pleased with their work, and have even suggested to increase the membership fee in order to quicken the expansion of Food2change. Still, Lundgren means that the process of establishing Food2change has gone quickly. The association has gone from collaborating with four grocery stores in October 2016; at the time of writing this thesis Food2change collaborates with twelve grocery stores and has recently signed general agreements with Netto and Ica. Expressing the expansion in monetary terms, the association had saved food for a value of approximately 75,000 SEK in October 2016, while as much as 1,175,000 SEK had been saved by May 2017. Lundgren specifies that; “This is not money that goes into people's pockets, it is food. But this means that they do not have to buy food, which can be measured in people's lives since they can start saving money”.

Food2change receives positive reactions from the collaborating grocery stores. Lundgren means that the association offers a solution that both members and grocery stores benefit from. The grocery stores are pleased that they do not have to throw food away anymore, which they did prior to the collaboration with Food2change. Lundgren says that the grocery stores do not experience any extra work sorting out the food that they want to donate; it is something that they would do anyway in sorting out food products that they estimate not being able to sell. Instead, donating the food to Food2change gives goodwill for the business of the grocery stores as well as a nice feeling among the staff.

Lundgren and Lindbäck explain that the main challenge for Food2change is that, so far, it has not been able to pay any remuneration to anyone engaging within the association, including themselves. Lundgren is working more than full time with Food2change, however without getting paid. The rapid expansion of Food2change, especially with the two new general agreements with Netto and Ica, requires more people working with the association, however, receiving a salary for their work.

4.3 Matcentralen

This section provides the empirical results from the interviews with the representatives from Matmissionen and Matbanken, two operations in the project Matcentralen. In this section, all information originates from the interviews with Tove Larsson, store manager at Matmissionen in Veddesta, and Jens Jonsson, logistics manager of Matbanken. When the information given by the different interviewees needs to be distinguished, their names are clearly stated.

Matmissionen and Matbanken are two operations within the project Matcentralen, both run by the non-profit organisation Stockholms Stadsmission. Matmissionen is a grocery store founded in December 2015, currently located in the premises of an old Willys-grocery store in Veddesta, Stockholm. In March 2017, a second store run by Matmissionen opened in Hägersten (Axfood, 2017). Matmissionen does not purchase any food products itself, but receives donations of food products from different suppliers that otherwise would have been wasted and sell these products in the store. Matmissionen sets two price levels on their

products; one level of ordinary prices that corresponds to those in ordinary grocery stores and one level of heavily reduced prices for members of Matmissionen. Members of Matmissionen are people that face socioeconomic challenges and have difficulties to afford buying food in an ordinary grocery store. Members are granted to buy food products at Matmissionen at a discount of 70 percent compared to prices in ordinary grocery stores. Each member is allowed to purchase food products for a maximum of 250 SEK each week, a rule that has been set up to allow as many members as possible to get access to the food provided by Matmissionen. To qualify for a membership in Matmissionen, which is free, either one must earn less than 8,700 SEK per month after taxes or receive some kind of economic support from the government (Matmissionen, 2017b). In February 2017, Matmissionen had approximately 3,000 members and six employees working full time in the store, as well as some people employed by the hour. As the popularity of Matmissionen has increased, Stockholms Stadsmission is looking at developing and spreading the concept in Stockholm and in other Swedish cities.

Matbanken started in the summer of 2016 and functions as a logistics operation within Matcentralen and consists of a central warehouse located in the same premises as Matmissionen. Matbanken has two main functions; to collect food products donated from nearby ordinary grocery stores and to distribute the donated food products to social operations within or collaborating with Stockholms Stadsmission. Further, Matbanken collects donated food that is to be sold at Matmissionen. In February 2017, Matbanken employed two people working full time and delivered food to approximately ten social operations in the Stockholm area.

The concept of Matmissionen is owned by Stockholms Stadsmission and their main collaboration partner is Axfood, the second largest retailer on the Swedish food market. The collaboration between Stockholms Stadsmission and Axfood started as the two actors realized that they shared a common interest in reducing food waste. The current grocery store in Veddesta is located in the premises of an old Willys grocery store. Willys is a chain store within the Axfood corporate group, and Matmissionen can rent the premises to a reduced price. Matmissionen offers both fresh food products, such as meat, dairy products and fresh fruits and vegetables (FFVs), and dry food products to their customers. Through Matbanken, Matmissionen collects food products twice a day from its suppliers in the local area, which mostly are grocery stores within the Axfood corporate group such as Willys and Hemköp. The products collected from nearby grocery stores are mainly fresh food products and mostly donated due to the products approaching their best-before or expiration date. Larsson means that a lot of the food waste occurs before the food products even reach the grocery stores, since the grocery stores do not accept products from suppliers that are about to pass their best-before date. Large volumes of basic, dry food products are usually donated by other suppliers such as food processors and wholesale suppliers. Commonly, larger donors such as food processors and wholesalers deliver their products directly to Matbanken's central warehouse.

Jonsson says that Matbanken usually receives offers from its donors through e-mail, where donors state what they want to donate, asking how much they can accept. The decision on what food products to accept depends on either how much time that remains of the date marking in order for Matmission and Matbanken to have the time to sell or distribute those products, or on the volume of the food products. Matbanken is able to freeze food products before they pass their best-before date and redistributes them to the social operations if Matmissionen estimates that it cannot sell the products. Many donors contact Stockholms Stadsmission when wanting to establish collaboration with Matbanken and Matmissionen,

however, Stockholms Stadsmission also contact companies for them to become donors. Jonsson means that Matbanken has benefited from their collaboration with Axfood to establish the collaboration with donors, especially in the start-up process.

Larsson says that Matmissionen works according to three overall goals. The first goal is to reduce food waste, a goal that is associated with how much food waste that Matmissionen should manage each year. The second goal is to increase the level of emancipation among people. Due to the heavily reduced prices of food products, Matmissionen enables their members to go to the grocery store and buy the products they choose for themselves, rather than receiving a donated bag of groceries that someone else has collected for them. This goal is also associated with the quality of the supply of products that Matmissionen offers to its members. Larsson means that it is important for Matmissionen to offer high-quality products that its members usually cannot afford to buy, and not only cheap and unhealthy products like snacks, sweets and fizzy drinks. The third goal is related to job integration. This means that people who, for various reasons, have a need to become integrated on the labour market for various reasons are given the opportunity to get personalised job training at Matmissionen.

Overall, Matmissionen and Matbanken receive positive reactions on their operations from their members, donors and social operations. Larsson says that; "People are incredibly grateful to have the possibility to buy products that that they normally would not, you get so much of your money's worth here". However, Larsson says that their members sometimes mention say that there is too little food, especially of products such as meat, dairies and FFVs. This is challenging since there is a low supply of products from suppliers while the demand from members of Matmissionen is high.

Jonsson means that the donors are pleased about the collaboration with Matbanken, since it offers a solution for the donors to reduce their food waste by using it instead. The donors often contact them with offers of excess stocks due to short date markings or incorrect packaging, reasons that by law restrict the donors to sell the products. Jonsson means that; "At the same time there is nothing wrong with the product, and instead of throwing or destroying it they can donate it to us". Jonsson thinks that the donors that have chosen to collaborate with Matbanken is due to that it has a functioning model with the logistic requirements that makes it possible to manage larger volumes of food than other organisations.

Further, Jonsson says that the social operations are happy about the collaboration since they receive food for free. Many of them mean that the food that they receive from Matbanken offers a better quality and a greater variation than the food that they usually can afford to buy. Jonsson says that this is very motivating although it has not been a goal in itself, and Matbanken sees this as a confirmation that the food that is donated to the social operations has a high value. However, Matbanken has received some negative reactions from its donors after a few occasions when the company has not been able to accept offers on left-over food products. Jonsson hopes that the operation will grow so Matbanken can accept all the offers that it receives.

5 Analysis

This section analyses the empirical data in relation to the conceptual framework of social entrepreneurship that was developed and illustrated in chapter three. The analysis provides a first step towards answering the aim and research questions of this thesis.

5.1 Conceptual framework

In this chapter, the conceptual framework explained in section 3.6 and illustrated in figure 7 is used in analysing the empirical data presented in chapter four. The theory of social entrepreneurs is applied to identify and explicate the market initiatives initiated and driven by Matsmart, Food2change and Matcentralen, the unit of analysis of this thesis. As identified in the theory, social entrepreneurs show three characteristics; motivation originating from social and economic values, stakeholder value creation and the foundation of new business models addressing social problems. The analysis of the empirical data will be structured according to these characteristics under three separate headings. First, the motives for addressing issues of food waste for Matsmart, Food2change and Matcentralen will be analysed, using the theory of social entrepreneurship. Second, the values that Matsmart, Food2change and Matcentralen create for their stakeholders will be assessed, using the theoretical frameworks of TBL, CSV and the descriptive stakeholder perspective. Third, the business models of Matsmart, Food2change and Matcentralen will be analysed in relation to the principles and characteristics of circular economy, applying the framework to a micro level analysis.

5.2 Motives for addressing issues of food waste

Dees (1998) and Nicholls (2006) mean that social entrepreneurship is driven by both mission and market motives or by social and economic values, subject to what extent organisations depend on philanthropic and/or commercial ideals on the Social enterprise spectrum. This goes in line with all three cases since they are all motivated by social values, whereas Matsmart is further motivated by economic values. The foundation of Matsmart was motivated through to a frustration amongst the founders that suppliers were forced to waste, instead of use, large quantities of food. Matsmart means that the company is driven by the mission of reducing food waste and improving the knowledge among consumers that food having past its best-before date is still safe and perfectly fine to consume. Being an IOF, Matsmart is further motivated to maximise its profit. The foundation of Food2change was motivated through the realization that food was wasted instead of donated to people in need of it. Further, Food2change describes that the association is motivated to contribute to a more sustainable society and improve the socioeconomic situation for its members. Matcentralen has three overall goals; to reduce food waste, to increase the level of their members' emancipation and to offer job integration. All three cases are indeed motivated by the same mission; to reduce as much food waste as possible. To do this, they all wish to expand their operations.

Mair and Marti (2006) argue that social entrepreneurs is motivated by social value creation while the economic value is considered necessary for the survival of the business. The situation for Food2change corresponds to Mair and Marti's argument, since the association is dependent on the membership-fees to continue its operations. Food2change wants to expand to reduce as much food waste as possible, and is thus in need of a cash flow. The founders of Food2change are not able retrieve a salary for their work with the association, which is

needed for its long-term survival. Further, Food2change recently started a collaboration with Netto and Ica, where the challenge is to be able to hire and pay employees to run the operation that the expansion requires. Seelos and Mair (2005) mention that non-profit organisations might have problems to create economic value even though they want to, since their stakeholders are not able to pay for provided services. Moreover, Seelos and Mair (2005) means that non-profit organisations mainly prioritise social values, while businesses view social value creation as an outcome of economic value creation (Venkataraman, 1997). Food2change and Matcentralen fit this description, while Matsmart does not. While Food2change and Matcentralen are focusing on social values in donating and selling food waste to heavily reduced prices, Matsmart focuses on the economic value. However, Matsmart bases its business idea on social values in terms of reducing food waste. Dorado (2006) agrees with Mari and Marti (2006), stating that social entrepreneurs are driven by economic and social motives.

Zahra *et al.* (2009) mean that social entrepreneurs are motivated to create social change and reform. Similarly, Dees (2007) argues that social entrepreneurs play an important role in the sustainable improvement of society. Willard (2012) builds on this further, stating that businesses might act as leading actors in the transformation to sustainability since governments and civil society might have a limited capacity to do this. All three cases correspond with the arguments put forward by Zahra *et al.* (2009), Dees (2007) and Willard (2012), sharing the common motive to reduce food waste originating from suppliers and retailers in Sweden, a problem that have not been solved by other actors. Also, Food2change points out that it wants to give the world a better and more sustainable content through their operation. All three cases are operating in the supplier/retailer interface, addressing their wish to avoid food waste. Thus, Matsmart, Food2change and Matcentralen are combining motives of suppliers and retailers, which goes in line with Leadbeater's (1997) argument that social entrepreneurship combines motives of different sectors.

5.3 Creating values for stakeholders

In this section, the values that Matsmart, Food2change and Matcentralen create for their stakeholders will be assessed, using the theoretical frameworks of descriptive stakeholder theory, TBL and CSV.

5.3.1 Descriptive stakeholder analysis of the selected cases

Mitchell *et al.* (1997) argue that a stakeholder in an organisation is any individual or group that affects or is affected by the objectives of the organisation. Donaldson & Preston (1995) mean that stakeholders have a legitimate interest in the organisation. Further, Shankman (1999) states that the stakeholder model means a two-way exchange in the relationship between the business and the stakeholders. The descriptive stakeholder perspective aims to describe the stakeholders of a business as well as their relationship (Wagner Mainardes *et al.*, 2011; Donaldson & Preston, 1995). Food2change's primary stakeholders are the grocery stores that they collaborate with as well as their members. Food2change creates a two-way exchange between their stakeholders in helping the grocery stores to decrease their food waste by giving it to the heromembers of the association, people with socioeconomic challenges. One of Matcentralen's primary stakeholders is Axfood, the second largest retailer group in Sweden, by being their founding partner and main donor of food products. Axfood and Stockholms Stadsmission founded Matcentralen since both actors wanted to do something to reduce food waste. Moreover, other primary stakeholders of Matcentralen are its donors and members, in giving the donors a chance to reduce their food waste and the members the

possibility to buy cheap food. Also, other primary stakeholders are the social operations that receive food from Matcentralen to use in their operations. One of Matsmart's primary stakeholders is their suppliers, consisting of producers, wholesalers, food processors and grocery stores. Matsmart purchases food surplus from the suppliers that otherwise would have been thrown away, helping the suppliers to reduce their food waste. Through its business model, Matsmart offers a new solution to its suppliers that previously has not been available on the market. Matsmart means that different departments within their supplier companies perceive different benefits in the relation to Matsmart. For example, sales departments see the economic benefits while the CSR-departments focus on the environmental benefits in reducing their food waste. Another primary stakeholder group is the customers of Matsmart. The company has identified two customer groups; one choosing Matsmart due to the low prices on their products, the other one since they want to contribute to a decrease in food waste.

Freeman *et al.* (2004) mean that creating values is a necessity of conducting business, stating that people who cooperate to improve circumstances for everyone can create economic value. Also, managers should inspire and develop relationship with stakeholders of the business to create profitability. In the beginning of its business, Matsmart put a lot of effort in creating relationships with different suppliers. This was challenging since the company was a new actor in the market, presenting a new and unknown business model that was not familiar to the suppliers. However, after the company has become more established, suppliers contact Matsmart rather than the other way around. Currently, Matsmart receives approximately 40-50 offers from suppliers every day, which indicates that the company has been successful in establishing relationships with their suppliers. However, Laplume *et al.* (2008) argue that the stakeholder theory might be useful in addressing questions how business affect society and sustainable development. The argument put forward by Laplume *et al.* (2008) goes in line with Food2change and Matcentralen. Being non-profit organisations, they establish a relationship with their stakeholders focusing on social and environmental values. Members of Food2change and Matcentralen are people with socioeconomic challenges, people experiencing a hard time in society. Food2change give their members a chance to engage in the association, whereas Matcentralen offers job integration. Further, the members of both organisations, as well as the social operations tied to Matcentralen, have the possibility to reduce their costs of food.

5.3.2 The triple bottom line of the selected cases

Matsmart means that its suppliers see benefits in doing business with Matsmart. The suppliers have the possibility to consider the environmental bottom line and greenwash their brand image, since Matsmart helps them reducing their food waste. Also, Matsmart says that their suppliers see the economic benefits with their collaboration, since they are able to sell products that otherwise would have been wasted. The customers shopping at Matsmart, are understood to be of two kinds; those who shop because the products are cheap and those who shop because they are making an effort for the environment. Hubbard (2009) argues that the TBL is useful to communicate a company's sustainability performance to stakeholders, which fits with the reactions Matsmart get from their stakeholders. Painter-Morland (2006) means that the TBL emphasises the relationship that businesses have with their stakeholders and their context to create a sustainable relationship between the business and society. Food2change communicates to their members that they are making a contribution to the environment by taking care of food waste that originates from the grocery stores. Also, Food2change's strive to reduce food waste and provide society with a more sustainable content, corresponding with Painter-Morland's (2006) argument. Further, Matcentralen

receives positive reactions from customers, being able to purchase cheap food, and from their donors, having a possibility to reduce their food waste. Also, Matcentralen describes that the social operations that receive food donations are pleased with the collaboration since they can cut their cost of food while at the same time the donated food is of very good quality.

The framework of TBL emphasises the importance for businesses to account for their social and environmental performance, not solely focusing on their economic performance (Elkington, 2004). The TBL consists of three dimensions taking people, planet and profit (Elkington, 1999) into consideration when measuring business performance and conducting business (Slaper & Hall, 2011). The selected cases of this thesis, Matsmart, Food2change and Matcentralen, all focus on different parts of the framework TBL in their business models. As an IOF, Matsmart focuses on the environmental and economic bottom lines, since its business idea is based on the founders strive to reduce food waste and turning this into profit for the business. Food2change and Matcentralen differ in their business idea, both being non-profit organisations. They focus on the environmental and the social objectives of the TBL, in trying to reduce food waste and distribute it or sell it to people facing economic difficulties. However, Food2change and Matcentralen place an emphasis on the economic bottom line, since both organisations need to break even to run their operations.

Kleindorfer *et al.* (2005) emphasise that the concepts of sustainability and the TBL are often interlinked by integrating the components of people, planet and profit into the company culture and operations. Furthermore, closed-loops supply chains are included in the concepts (*ibid.*). On the one hand, Matsmart has integrated planet and profit in their business model, by having a profit-seeking business concept based on reducing food waste. On the other hand, Matsmart does address the component of people by offering reduced prices on food products. Both Food2change and Matcentralen have, as opposed to Matsmart, created business models that integrate people and planet by donating or offering heavily reduced prices on food products for people with socioeconomic challenges, which lead to a decrease in food waste.

5.3.3 Creating shared value

Porter and Kramer (2011) mean that companies should take responsibility for bringing business and society together. Further, they argue that business can create shared value by changing the way they look upon value creation in relation to their stakeholders. Thus, the concept of CSV encourages businesses to adopt a long-term perspective on shared value (*ibid.*), incorporating a social purpose within the core business (Pfitzer *et al.*, 2013). Food2change and Matcentralen both fit the description of CSV, having integrated a goal to provide economically challenged people with food into their business models. Marshall (2007) argues that businesses continuously focus on the financial bottom line, thus turning sustainable development into a business case. Matsmart has a clear strategy regarding which products it chooses to purchase from its suppliers; the products must have the right preconditions for the customers to buy them. Sustainable development, in terms of reducing food waste, can be interpreted as a business case for Matsmart. However, the company idea is to purchase surplus food from various suppliers that otherwise would have been thrown away, which indeed is to integrate an environmental purpose in their business model.

Shared value is possible if social, environmental and economic benefits, as well as improved profitability for the business, are achieved through a business idea (Porter *et al.*, 2012). The environmental benefit for all cases is the reduced food waste. The social and economic benefits for Food2change and Matcentralen arise in their members and customers having reduced costs for food. Further, there are social benefits in Matcentralen offering personalized

job training as well as Food2change requiring members to engage in the association giving them job training and qualifications on their resumés. Another goal of Matcentralen is to increase the level of emancipation of its members, which it tries to achieve by having members come to the store, choosing the products that they want to buy for themselves. In Food2change, its members are called hero members, meaning that they are heroes since they help reduce food waste rather than receiving charity. The founders of Food2change mean that the hero members are contributing to the environment and society that they can be proud of. However, the profitability of Matcentralen and Food2change is not prioritized, which is the case for Matsmart.

One way for businesses to create shared value is to reconceive the products and services that they offer as well as the markets they operate in, as a way of trying to fulfil the unmet needs of potential customers in new markets (Porter & Kramer, 2011; Porter *et al.*, 2012). All three cases have by different approaches found ways in new markets to fulfil unmet needs in terms of reducing food waste. Matsmart offers a solution for suppliers to reduce their food waste through purchasing the food and selling it to reduced prices on its online webstore, Food2change helps grocery stores to reduce food waste by donating it to its members and Matcentralen receives food waste and sells it to its members to heavily reduced prices.

Porter *et al.* (2012) state that another way to create shared value is to enable cluster development, meaning that businesses should engage in local communities in order to improve their long-term performance. The social results of business changing societal conditions through their business model are stated as increased job creation, improved income and improved education (*ibid.*). Matsmart, Food2change and Matcentralen, strive for a change in society regarding the approach to products that are close to, or have passed, the best-before date, as most food products that have passed the best-before date are still edible. They want to change people's knowledge about best-before and expiration dates, since improved knowledge and a change of mindset can help reduce food waste.

Social entrepreneurs are recognised as change agents when identifying and addressing environmental and social issues (Zahra *et al.*, 2009). Seelos and Mair (2005) mean that social entrepreneurs collaborating with businesses and public organisations have potential to contribute to sustainable development, since the collaboration might generate new types of value creation. All the selected cases of this thesis have created business models that generate new forms of value creation, in collaborating with suppliers, retailers and grocery stores to reduce food waste. Therefore, the arguments put forward by Zahra *et al.* (2009) and Seelos and Mair (2005) fits all three cases in this thesis, enabling an interpretation of as them as possible change agents towards sustainable development. Moreover, all cases state that they work to change how their members and consumers experience the best-before and expiration labelling on food products. In stating that they are successful in this, all the selected cases have a possibility to contribute to a sustainable development, by acting as change agents, according to the argument put forward by Seelos and Mairs (2005). However, Tilley and Young (2009) argue that a sustainable development combines issues of environmental, social and economic nature, and that social entrepreneurs cannot achieve this due to them concentrating mainly on social values. The cases of this thesis do not correspond with the argument stated by Tilley and Young (2009), since all of them focus on more than social values. As social entrepreneurs, Food2change and Matcentralen also focus on creating values of environmental character with their aim of reducing food waste. Matsmart focuses on economic values, however also creating values of environmental character in its strive to reduce food waste.

5.4 Business models addressing issues of food waste

In this section, the business models of Matsmart, Food2change and Matcentralen will be analysed in relation to the framework of circular economy, applying the framework to a micro level analysis.

5.4.1 A circular business model

Today, the economy is based on a linear business model (EMF, 2015a; Linder & Williander, 2017) which is followed by a take, make, use and dispose-thinking in society (Stahel, 2016). In other words, the linear business model results in a throwaway society (Castellani *et al.*, 2014). EMF (2015a) emphasises that structural waste and economic losses are threats to the survival of companies, meaning that a change in the current economic system is needed. The founders of Food2change holds the vision of changing systems in society which is carried out by presenting solutions to social problems, in this case food waste. Food2change promises its hero members that they will receive food valued to at least 5,000 SEK, however, the actual value of food given away has been much higher. The collaboration with grocery stores has gone through a fast expansion during their first year to include agreements with two large retail groups. In terms of Matsmart, it receives 40-50 offers each day from suppliers. The company carefully considers which products to accept to be able sell them, since it does not want to buy their suppliers' problem and end up wasting the same food products. Matcentralen also receives offers on food products that it is unable to accept due to too large quantities offered that makes it impossible to sell or donate.

Stahel (2016) emphasises that the circular business model can change the economic model by replacing production with sufficiency, stating that it is vital to reuse and recycle products if possible. According to Avfall Sverige (2014) there are three ways that are currently used in Sweden to recycle food waste; incineration, biological treatment and animal feed. Matsmart, Food2change and Matcentralen all offer a possibility for their suppliers to sell or donate their surplus food, instead of wasting it. Hence, the selected cases provide a way to reuse food products when possible, which is an alternative to recycle food products through incineration, biological treatment and producing animal feed.

Matsmart's initiator Södergren experienced that there was a gap in the supply chain where a lot of food was discarded of amongst suppliers. The business model of Matsmart offers a solution for the suppliers to reduce their food waste that was previously not available. Seelos and Mair (2005) mean that social entrepreneurship can create new business models that serves to satisfy unmet human needs. Further, Dacin *et al.* (2011) state that social entrepreneurship is recognised as an important link between economic and social value creation, as it identifies and acts upon opportunities that others have missed (Seelos & Mair, 2005). In the case of Food2change, the association expresses that grocery stores that it works with are pleased with the collaboration since Food2change's business model offers an opportunity for its stakeholders. Food2change is assisting the grocery stores in reducing their food waste instead of ignoring it and the members of Food2change are pleased to receive food. Matcentralen means that its donors choose it to collaborate with specifically because of its business model and logistic requirements, allowing Matcentralen to manage large volumes of food products. Indeed, Seelos and Mair (2005) argue that the collaboration between businesses and social entrepreneurs have the potential to generate new forms of value creation that could contribute to sustainable development. Furthermore, Zahra *et al.* (2009) mean that social entrepreneurs make contributions to their communities and to society, by using business models that offer

solutions to persistent and complex social problems. Dees (2007) agrees, arguing that social entrepreneurs can be motivated to create new organisational models with the purpose of addressing social and environmental issues. This can be illustrated by Matmart saving 708 tons of food waste through its business model in 2016 and Food2change saving food waste for a value of approximately 1,175,000 SEK since May 2016.

Pomponi and Moncaster (2017) mean that a common denominator in defining circular economy is the improved management of resources. EMF (2015b) means that products, components and materials should be used at their highest utility and value in a circular economy, while Haas *et al.* (2015) state that materials should be reused and recycled within the economy. Moreover, Stahel (2016) argues that circular economy promotes a business model where used products are turned into resources and thereby closing loops in the ecosystem. However, Andersen (2007) and Sauvé *et al.* (2016) point out that circular economy does not describe possible socioeconomic benefits. Matmart describes that the company is able to buy large volumes of food waste from suppliers due to large retail actors setting a sales prognosis and suppliers must deliver accordingly. Also, large retailer actors have demands on the best-before dates, meaning that the suppliers can only deliver products with two thirds left of the best-before date. Since the sales-prognosis is not always correct, suppliers have to get rid of the excess stocks by other means. Hence, using its business model, Matmart can purchase these excess stocks of food products. Food2change and Matcentralen turn food waste into resources for people with socioeconomic challenges by receiving products from grocery stores and suppliers, with the purpose of donating or selling them. Thus, Food2change and Matcentralen correspond with the critique against circular economy put forward by Andersen (2007) and Sauvé *et al.* (2016). Moreover, Linder and Willianders' (2017) definition of a circular business model is that a circular business model means to create economic value in products, after they have been used. Roos (2014) argues that output from one company can become input for another company in the circular business model. All three cases correspond with these definitions of the circular business model, in using food waste from grocery stores, suppliers and different donors, and selling it cheap or donating it in new markets.

5.4.2 Characteristics and principles of a circular economy and the selected cases

EMF (2015a) argues that circular economy consists of three principles. The first principle states that natural capital and finite stocks should be preserved and enhanced, meaning that renewable or better-performing resources should be used when possible to balance renewable flows. The second principle reads that resource yields should be optimized and that the life of products should be extended, in order for material components to circulate and contribute to the economy. The third principle concerns the system effectiveness by reducing damage to systems regarding e.g. health and food (*ibid.*). The cases of this thesis do not correspond with the first principle of the circular economy, since neither Matmart, Food2change or Matcentralen focus on the preservation or enhancement of natural capital to balance renewable flows. However, all three cases are adopting the second and third principles of circular economy. They all offer solutions for suppliers to reduce food waste by circulating it back into the business of Matmart, Food2change and Matcentralen, extending the life of the food products.

Further, EMF (2015a) and Lewandowski (2016) state that there are certain characteristics of circular economy. One characteristic is that waste does not exist since it is deliberately designed out (EMF, 2015a; Lewandowski, 2016). Another characteristic is that strength in the economic system is built through diversity; large businesses provide volume and efficiency

while small businesses present alternative business models solving problems that large business cannot address (*ibid.*). A third characteristic emphasises the importance to think in systems, since everything within society and business is linked to one another in a large and complex system (EMF, 2015a; Huamao & Fengqi, 2007). Thus, the consequences and implications for all parts in the system must be taken into consideration (*ibid.*). The existence of Matsmart, Food2change and Matcentralen is due to the actual existence of food waste, meaning that the current FSC does not correspond with the first characteristic of a circular economy. Important to point out is that none of the cases specifically expresses that its business models follow the characteristics of, or contribute to, a circular economy. However, all cases do fulfill the first characteristic of circular economy in the sense that they are assisting suppliers and retailers in taking care of their respective food waste. Further, all three cases correspond to the second characteristic of a circular economy since their business models address problems of food waste that other businesses have not been able to take on. Moreover, all three cases have developed business models that try to connect different actors in the large and complex system of the FSC, fulfilling the third characteristic of a circular economy.

5.4.3 The consumer role in a circular economy

Jurgilevich *et al.* (2016) mean that food waste occurs due to consumption patterns that are based on a lack of knowledge and skills regarding food products. Castellani *et al.* (2014) argue that even though food products have the potential to be reused, they end up as waste. EMF (2013b) agrees, stating that it is difficult to sell food products close to their best-before date, even though they are of good quality and edible. However, EMF (2015b) argues that by creating awareness and increase knowledge amongst consumers and business it is possible to decrease food waste. Matsmart has chosen not to purchase or sell any fresh food products or products with an expiration date, since this requires more complex logistics. Also, Matsmart means that the company does not receive requests for reclamations related to the products' best-before date, which they see as a proof that the best-before date is a quality label, however not a label stating whether the product is edible or not. The members of Food2change sign a contract stating that they are personally responsible for smelling and tasting the food they are given before consuming it since the products have often past the best-before date. Food2change means that some members are still reluctant to eat products after they have past the best-before date, even though the products are edible. Matcentralen means that it can sell food products to their members after they have past the best-before date. Further, Matcentralen says the social operations that they collaborate with experience that the food they receive is of better quality and variation than what they normally afford to buy, even though it has passed the best-before date. All three cases show that best-before and expiration dates on food products are generally misunderstood. However, since Matsmart, Food2change and Matcentralen have customers buying or members receiving food, this indicates that the customers and members realize that the food is still of good quality and edible regardless of the best-before date.

Hobson (2016) means that the role of consumers must change in a circular economy, questioning if consumers are willing to adapt to new models of consumption. Similarly, Linder and Williander (2017) mean that not all customers are willing to buy remanufactured products and adapt to a circular economy. However, all three cases show that their customers or members are in fact willing to adopt new ways of consuming food products, not corresponding with the critique presented by Hobson (2016) and Linder and Williander (2017). Currently, Food2change has approximately 300 members however, there are about 1,000 more pending applications. This indicates that Food2change's business model offers a

way of consuming food that is interesting to an increasing number of people. Matcentralen expresses that there is a high demand on their food products, while the challenge is that the supply is low. Further, due to the increasing popularity in Matcentralen, Stockholms Stadsmission aims to expand in Stockholm and spread the concept to other cities. This shows that there is an interest among the members of Matcentralen in consuming cheap food products that are close to, or have passed, the best-before date. Matsmart has recently expanded its business to the Norwegian market, which suggests that there is an interest to consume the type of food products that they offer. However, Matsmart means that their Swedish customers are selective regarding which brands they buy, even though a product is cheap. This could indicate that Hobson's (2016) reflection is correct meaning that customers might not be willing to adapt to new models of consumption, if the brand of the food products are not according to their liking.

5.4.4 Micro-marketeers in a circular economy

EMF (2015b) states that one solution presented to decrease food waste is to create markets for refused food products. Here, circular economy could offer differentiation by developing micro-markets within the current food market (EMF, 2013b). This could consist of micro-marketeers offering business to business (B2B) service contracts or establishing reuse centres for food waste (ibid.). The members of Food2change pick up bags of food products themselves at the grocery stores that the association collaborates with, which is a unique way of handling refused food products. The procedure requires that the employees at the grocery store select the food that is to be donated to Food2change. In practice, this does not mean any extra work for the employees, since the sorting out of food products that are close to the best-before and expiration date is already done on a daily basis. The collaboration could be perceived as a service contract between Food2change, serving as a micro-marketeer, and the grocery stores. Matcentralen also offer B2B service contracts in collecting and receiving donations of food products from suppliers. In contrast to Food2change, Matcentralen has established a reuse center for food waste, in selling the donated food products to heavily reduced prices to its members. Moreover, Matcentralen distributes the donated products to social operations it cooperates with, which also can be seen as reuse centres for food waste. In choosing to sell food products that otherwise would have been wasted through an online website, Matsmart has found a micro-market for refused food products within the current food market. Through purchasing food waste from suppliers having a surplus of food, Matsmart can be seen as a micro-marketeer in line with the argument put forward by EMF (2013b; 2015b).

6 Discussion and conclusions

This section addresses the four research questions formulated in chapter one. Further, this section discusses the results presented in the analysis in relation to research on reasons for food waste in the FSC and market initiatives to reduce food waste presented in the literature review (3.1). Moreover, this section presents the conclusions of this thesis by addressing its aim as well as presenting the main findings. The section ends with recommendations for future research.

6.1 Discussion

This section addresses the research questions of this thesis, as stated in the introduction chapter. The results from the analysis presented in chapter five will be discussed in relation to the literature review and the theoretical framework in chapter three. The research questions of this thesis read as follows:

- *What characterises intermediary actors working to resolve issues of food waste?*
- *What motivates intermediary actors to develop business practices to resolve issues of food waste in the Swedish food market?*
- *What values do intermediary actors, addressing issues of food waste, generate for their stakeholders?*
- *What is the potential of these intermediary actors to promote circular economy on a micro level?*

All three cases studied in this thesis, Matsmart, Food2change and Matcentralen were selected due to them operating as intermediary actors between suppliers and retailers in the FSC in Sweden, focusing on reducing food waste. Dees (1998) and Nichols (2006) argue that social entrepreneurship can be motivated by social or/and economic values, depending on to what extent an organisation depends on nonprofit or profit ideals. Further, Zahra *et al.* (2009) mean that social entrepreneurs are characterised by adopting innovative business models that address and offer solutions to complex social problems. By identifying and acting upon societal and environmental issues, social entrepreneurs are identified as possible change agents in society (Drayton, 2002). The analysis shows that as intermediary actors, Matsmart, Food2change and Matcentralen all fit the three characteristics of social entrepreneurs. First, all cases are motivated by social or environmental values, having developed business models to reduce food waste. Food2change and Matcentralen are further motivated by social values seeing economic values as necessary means for running their operations, whereas Matsmart are motivated by both social and economic values. Second, through their business models, all cases assist their stakeholders to reduce their food waste, thus acting as a link in economic and social value creation for their stakeholders. Third, all three cases have adopted business models that act upon societal and environmental issues surrounding food waste in the supplier/retailer interface. For example, the founders of Matsmart were frustrated that a lot of food was being wasted in the supplier/retailer interface, experiencing a gap in the supply chain where the company could operate and help to decrease the amount of food waste. Parfitt *et al.* (2010) point to this problem, arguing that food processors over-produce to be able to deliver extra-quantities and not to risk losing contracts to their stakeholders. The result of this over-production amongst food processors, is that food is being wasted. Thus, the analysis shows that Matsmart has responded to the specific problem described by Parfitt *et al.* (2010), indicating that new business models are resolving issues of food waste. The Swedish

government has recently set a goal to decrease the overall amount of food waste in Sweden for everyone in the FSC, stating that a collective effort is needed to achieve this goal (Regeringen, 2017). The results of the analysis show that Matsmart, Food2change and Matcentralen could be viewed as social entrepreneurs that function as possible change agents in reducing food waste. This result indicates that social entrepreneurs could be important actors in the collective effort to reduce food waste in the supplier/retailer interface in the Swedish FSC.

Matsmart, Food2change and Matcentralen all share a common motive; to reduce food waste. However, the way they choose to do this differs. One important characteristic of social entrepreneurs is their motivation to create social and economic values (Dorado, 2006). Seelos and Mair (2005) argue that social values are prioritized by social entrepreneurs in non-profit organisations, whereas the economic values are seen as important in order to continue their operations. Social entrepreneurs within profit-organisations can combine social and economic values, however perceiving social value creation as an outcome of economic value creation (Venkataraman, 1997). The analysis shows that Food2change and Matcentralen are motivated to create social values. Specifically, Food2change is motivated to contribute to a more sustainable society and to improve the socioeconomic situation for their heromembers. Matcentralen is motivated to increase the level of emancipation among their members and to offer job integration. Matsmart is an IOF, and the analysis shows that it is motivated to gain profit from its business operation while reducing food waste. Further, Matsmart is motivated to educate consumers about best-before and expiration dates, as a way to avoid edible food of good quality to be wasted. Hence, it is possible to argue that Matsmart's business operation is motivated by economic and social values. The analysis demonstrates that Food2change and Matcentralen are not primarily motivated by economic values, however, they need economic capital to manage their operations. Further, Food2change means that this is its main challenge for the future. This indicates that Food2change and Matcentralen are in fact motivated by economic values to some extent. Putting this in the context of the TBL, the cases succeed in creating economic, environmental and social values for their stakeholders, but fail in fulfilling this for themselves. Therefore, the analysis illustrates a paradox concerning sustainable development; creating sustainable development for others when at the same time not doing it for yourself.

Another characteristic of social entrepreneurs is the willingness to serve as a link in social and economic value creation for their stakeholders (Dacin *et al.*, 2011). Similarly, the business framework of the TBL emphasises the importance for businesses to focus on people, planet and profit, i.e. to integrate social, environmental and economic values into business models (Elkington, 1999; Slaper & Hall, 2011). The results of the analysis read that Matsmart creates values of environmental and economic character for their suppliers. The environmental values refer to reducing the amount of food waste that their suppliers generate. In the collaboration with Matsmart, the suppliers see a possibility to greenwash their brand image, again emphasising environmental values. Further, economic values are created for Matsmart's suppliers by offering an alternative for them to sell and gain profits from food products that otherwise would have been wasted. Also, the analysis suggests that Matsmart's customers experience economic and environmental values since they can buy food at reduced prices while at the same time they support the cause to reduce food waste. However, the analysis suggests that Matsmart does not emphasise the creation of social values for its stakeholders.

The analysis indicates that Food2change and Matcentralen, having integrated a goal to provide food to people with socioeconomic challenges and to help their suppliers to reduce

food waste into their business models, create social values for their stakeholders. Lebersorger & Schneider (2014) suggest that social benefits arise from donating food products that otherwise would have been wasted. The analysis shows that the members of Food2change and Matcentralen experience social benefits that are made possible due to the donations made by the collaborating retailers and suppliers, matching Lebersorger & Schneider's (2014) suggestion. Members of Food2change and Matcentralen receive economic benefits through reduced costs of food, in receiving a bag of food for a small membership fee or through buying cheap food at Matcentralen. In addition, Matcentralen helps the social operations to reduce their cost of food when donating food to them. The results of the analysis indicate that Food2change and Matcentralen creates social values in offering job training within the organisations for their members. Also, both Food2change and Matcentralen engage in increasing the emancipation of their members, however approaching it differently in their operations. Food2change means that members of the association are not subject of charity but are instead perceived as heroes, since they help out to save food from being wasted. Instead, Matcentralen means that the goal of emancipation is reached since the members can choose for themselves which food products that they want to purchase instead of someone else doing this, as in Food2change. Further, the suppliers are pleased about the collaboration with Food2change and Matcentralen, since it gives them an opportunity to create environmental values by reducing their food waste.

The analysis shows that in creating values for products after their primary usage, Matsmart, Food2change and Matcentralen approach the aim of circular economy. A circular business model aims to create value in products after they have been used (Linder & Williander, 2017). Thus, output from one company can become input for another company, closing the loop between them (Roos, 2014). Through their operations, Matsmart, Food2change and Matcentralen extend the life of food products originating from suppliers and retailers in FSC. By selling and giving these food products to customers and members, they are able to circulate them within the economy. This result suggests that Matsmart, Food2change and Matcentralen contribute in creating a more efficient FSC since less food is being wasted.

One of the characteristics of a circular economy is that waste does not exist since it is designed out (EMF, 2015a; Lewandowski, 2016). The analysis shows that the selected cases does not operate in a circular but in a linear economy, since they exist due to the occurrence of food waste. However, if the operations of Matsmart, Food2change and Matcentralen expand, they might contribute to a system where food waste is designed out. Another characteristic of circular economy is for businesses to think in systems (EMF, 2015a; Huamao & Fengqi, 2007). The analysis shows that the cases have created operations that take care of food waste after having experienced that too much food is wasted, which indicates that all three cases have a system thinking. Matsmart, Food2change and Matcentralen try to solve existing problems of food waste without altering the system of linear economy. Instead, they have adjusted themselves to the current system of linear economy by placing themselves in the supplier/retailer interface in the Swedish FSC. Hence, it can be argued that their operations enable a more circular economy.

Circular economy is also characterised by diversity in the economy; where small business constructs business models that addresses problems created by large businesses (EMF, 2015a; Lewandowski, 2016). The results of the analysis show that Matsmart, Food2change and Matcentralen are perceived as small organisations solving problems of food waste, that are mainly created by large actors on the food market in the suppliers/retailer interface. Hence, they have developed business models that connects different actors in the FSC. Further, EMF

(2015b) argues that circular economy can help to develop micro-markets within the current food market, where refused food products can be reused. In contrast to EMFs (2015b) argument, the results of the analysis show that micro-markets for refused food products can be created even in the absence of a circular economy.

Jurgilevich *et al.* (2016) argue that consumption patterns and a lack of skills regarding food products are reasons for the existing amount of food waste. Further, FAO (2011) means that food waste occurs due to not fulfilling esthetic quality standards of weight, colour or size (FAO, 2011). The analysis shows that Matsmart perceives that people are reluctant to consume food products that are close to their best-before date even though the food is still safe to consume, which corresponds with FAO's (2011) statement. However, Matsmart means that it never receives reclamations due to bad quality related to the best-before date, showing that these food products are still safe to consume. Food2change has a similar experience in that members seem reluctant to consume food products that have passed the best-before date. In contrast, the customers of and the social operations connected to Matcentralen are surprised that the food products that they buy and receive are of good quality. Hence, the analysis shows that the best-before and expiration dates on food products are misinterpreted amongst consumers. The results of the analysis indicate that the business models of these cases can contribute with a gained knowledge and acceptance for food products that normally would be perceived as food waste.

Hobson (2016) means that the role of consumer must change to create a circular economy; consumers have to be willing to adapt this kind of business model. The number of members in Food2change and Matcentralen shows that they offer a way of consuming food that people are interested in. This indicates that people seem willing to adapt to new ways of consuming food products, which according to Hobson (2016) might lead to a more circular economy. Moreover, all three cases strive to expand their operations, both geographically and regarding the number of customers and members. This suggests that there is a growing interest for organisational models offering new ways to consume, and at the same time reduce, food waste. FAO (2011) argues that one source to the amount of food waste is the attitude amongst consumers that they can afford to waste food, which in turn affects their consumption patterns. Therefore, circular economy might not be fully accomplished until all types of consumers, not only consumers with socioeconomic challenges, are willing to change their consumption patterns.

6.2 Conclusions

The problem of food waste is closely related to sustainable development and has received increased attention in medium-and high income countries over the recent years. The EC has increased macro level initiatives to promote the shift from a linear to a circular economy, recognising its importance towards a sustainable development. Food waste is pin pointed as a key area within circular economy. However, market initiatives at a micro level within the framework of circular economy are poorly investigated. The collaboration between suppliers and retailers is perceived as essential in dealing with food waste in the food supply chain. Existing research overlooks how intermediary actors influence such collaborations. Therefore, this thesis intends to contribute to increased knowledge on ways to resolve issues of food waste, in relation to circular economy, in the supplier/retailer interface through the following aim:

The aim of this thesis is to identify and explicate market initiatives, developed by intermediary actors promoting a circular economy, that address issues of food waste in the supplier/retailer interface.

The intermediary actors selected for this thesis, Matsmart, Food2change and Matcentralen, have developed market initiatives that intend to reduce food waste in the supplier/retailer interface. These intermediary actors all show the three characteristics of social entrepreneurship; motivation originating from social and economic values, stakeholder value creation and new business models addressing social problems. Therefore, this thesis has identified Matsmart, Food2change and Matcentralen as social entrepreneurs in the Swedish FSC.

The primary motive of Matsmart, Food2change and Matcentralen is of environmental character; to reduce food waste. For Matsmart, gaining profits is an essential motive. For Food2change and Matcentralen, social motives to help people with socio economic challenges, provide job integration and increase emancipation amongst members are identified. Matsmart creates values for their suppliers of environmental and economic character in terms of reduced food waste and economic profit. Food2change and Matcentralen primarily create environmental values for their suppliers by taking care of their surplus food. Food2change and Matcentralen are further creating social and economic values for their members, integrating them in the operations and reducing their cost of food.

Moreover, the findings of this thesis highlight the existing problems in the current FSC. Instead of promoting a decrease in food waste, the system generates a surplus of food products from the supplier/retailer interface which continues to create food waste. Matsmart, Food2change and Matcentralen have created business models that share characteristics of a circular economy. Their operations help to reduce food waste in the supplier/retailer interface in the Swedish FSC, thus making it more efficient in their particular context. Therefore, all three cases show how a circular economy can operate on a micro level. In this sense, this thesis contributes to the development of the framework of circular economy on a micro level by combining it with the theory of social entrepreneurship. Furthermore, this thesis show that intermediary actors play a key role to address issues of food waste by taking care of food surplus, but may struggle with the financial bottom line. Thus, business models based on social entrepreneurship may contribute to sustainable development, however, the business model may not be sustainable itself. These findings are important in the sense that food waste could be heavily reduced on a long-term basis in adopting similar business models that have been developed by Matsmart, Food2change and Matcentralen. According to these findings, such market initiatives to reduce food waste have the potential to provide environmental, economic and social benefits for society.

6.3 Future research

As this thesis shows, much emphasis within circular economy is put on policies, enabling a macro level of analysis. Further research on this subject might focus on investigating market initiatives promoting circular economy on a micro level, and how it might operate in other parts of the FSC than the supplier/retailer interface. In addition, a large amount of food waste originates due to consumption patterns. Therefore, it would be interesting to investigate consumption patterns in relation to circular economy and how a circular economy might promote a change in the existing patterns.

This thesis suggests that intermediary actors developing business models based on social entrepreneurship may struggle with the financial bottom line, while contributing to sustainable development. Therefore, further research could focus on how social entrepreneurs can develop and maintain a financial liability.

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Appendix I: Interview guide

Organisation

Can you tell us about the concept of your business/association? Would you like to tell us how the business/association is organised?

How many people engage/are employed in the business/association? What positions do the employees have – storage workers, customer support, sales etc?

What was the underlying motivation to start the business/association? What is your main driving force?

Have you encountered any challenges or difficulties? How did you overcome those? What challenges do you expect in the future?

How did you reason when deciding upon how to sell your products online/in a grocery store or by giving out bags of food in the grocery store? What advantages and disadvantages are there?

Do you believe that the business/association, through its operation, is creating any values?

What role do you believe your business/association play in the extended supply chain, when it comes to the reduction of food waste?

Logistics and communication

What reactions regarding your operation do you receive from your suppliers and customers/members?

How do you reason regarding the communication with customers/members? What do you perceive to be important in the communication with customers/members?

How do you establish contact with producers/wholesalers/grocery stores? What does the collaboration with suppliers look like with the regards to the logistics?

What does the logistics regarding the selling of products look like? How do you receive the products from the suppliers and how do the customers receive the products from you?

How do you reason when communicating with suppliers? What do you perceive to be important when communicating with your suppliers?

How do you reason regarding the supply of products? What regulations do you have to relate to when selling food products? What does the decision-making process look like regarding what food products to sell? How do you guarantee the quality of the products to be as good as the customers expect them to be?

How is the business/the association handling its own waste? What do you do with products that you are not able to sell?

What are the goals for the operation? What is the next step?

Additional question for Matcentralen

How is the work training organised and how does it function?

Appendix II: Illustrating the circular economy

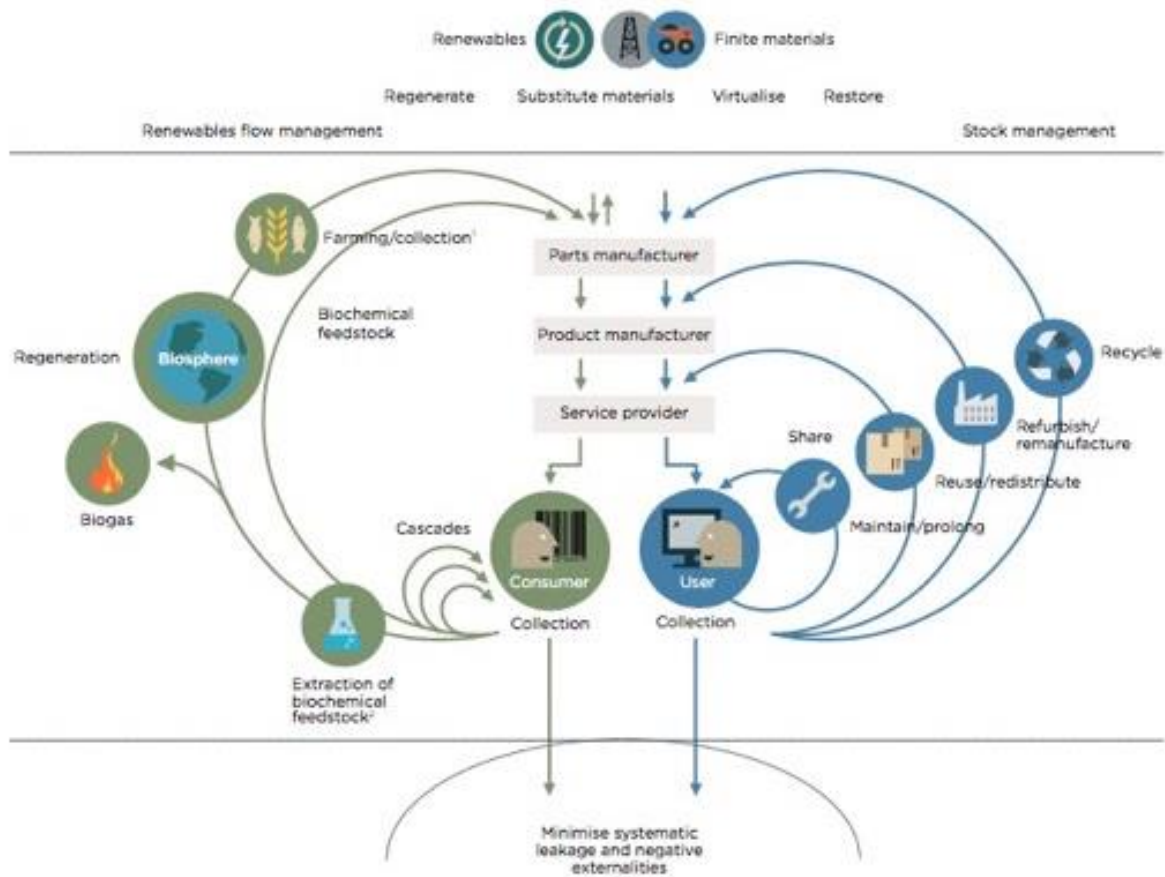


Figure 8: An illustration of the circular economy. Showing the different closing loops and how different materials “circulate” in the economy (EMF, 2015c, p. 24).