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Cooperation, trust and transparency: the trident that can make or break the circular economy

A research into the incentives and conditions for interorganizational cooperation in a circular economy

By

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Summary

Circular economy: *"an industrial system that is restorative or regenerative by intention and design"* (Ellen MacArthur Foundation, 2013, p. 7). The transition towards a circular economy is necessary in order to limit ecological degradation and economic instability through price and supply risks of raw materials, caused by the linear economy. The transition brings several challenges, among other things, (governance) questions about how to organize the circular economy. One of these questions is related to intergovernmental cooperation within and between value chains.

Interorganizational cooperation is seen as the key for the development of the circular economy (Jonker et al., 2016). Although business-to-business collaboration is still not widespread, because of many legal, material, fiscal and financial barriers (Jonker et al., 2016). In general these barriers are identified, in contrast to the incentives and conditions for interorganizational cooperation, on which little information is known. Hence, this master's thesis research is focused on the incentives that motivate companies to cooperate with each other towards the circular economy and the conditions that enable businesses to set up a long-term collaboration with each other in order to create circular business models. Therefore, the main question of this research is:

"What are the key incentives for companies to start cooperating with each other towards a circular economy and what are the necessary conditions to make a cooperation successful in a circular economy?"

The objective of this research is threefold: It aims to provide insight in the incentives, of the participants from the coalition programs organized by MVO Nederland, to start with interorganizational cooperation towards a circular economy. Secondly, it aims to identify the conditions for a successful cooperation in a circular economy. Thirdly, it intends to provide MVO Nederland with recommendations based on the results of this research, concerning their coalition programs.

In order to answer the main question a literature study is done on the development of the circular economy. The Ellen McArthur Foundation (2013) identified several incentives for the development of the circular economy. In addition, Jonker et al. (2017) found reasons for companies to start with circular economy. Theory about *successful alliancing* by Hunt et al. (2002) is used as a theoretical framework in order to identify the conditions for a successful cooperation. It must be noted that the theory of Hunt et al. is focused on cooperation in a linear economy. Cooperation in a circular economy differs from cooperation in a linear economy. Due to new business models, focused on servitization of goods, interorganizational cooperation within a circular economy implies a long-term agreement between businesses.

These theoretical concepts were the starting point of three embedded units of analysis that have been studied: the coalition programs Green Deal Circular Purchase, NL Circular! and the Zero Waste(d) Coalition. These cases were researched with help of a short survey, three expert interviews and fourteen semi-structured interviews among participants.

The results of this research show that there is a difference in the incentives for starting with circular economy between semi-governmental organizations and private companies. Semi-governmental organizations are mainly starting with circular activities, because of their independency of market demand and their goal to use public money socially responsible. Private companies are, besides their wish to act socially responsible, also driven by marketing incentives. Incentives for cooperation are in short: obtaining greater learning benefits, sharing knowledge and inspire others, developing innovative products, and having a greater influence on suppliers as an alliance.

The interviewees point out several conditions for the development of the circular economy: new business models require other revenue models, stimulating regulation, cooperation within and between supply chains. The other way around, conditions are often also barriers: obstructing regulation, conventional accounting models focused on short revenue streams, lower price of virgin materials, etc.

The following conditions for interorganizational cooperation in a circular economy were identified by the interviewees: trust, transparency and shared goals. These conditions are most similar to the *relational factors view* described by Morgan and Hunt (1994). Interviewees do acknowledge the importance of trust, transparency and shared goals for a successful cooperation. However, all interviews do also admit that these conditions are not at stake currently.

As an outcome of this research, recommendations for further research have been made. Subsequently, MVO Nederland is advised about how to involve new companies in their coalition programs: focus recruitment of new participants on: *sharing knowledge, network opportunities* and *form an alliance to have a greater influence on suppliers.* Based on the identified conditions for a circular economy it seems legit to focus the coalition programs at *cooperation in a circular economy, new financial models* and *how to handle obstructing regulation.* Also questions in line with: '*how to create trust*, *transparency* and *shared values and goals?*' should be addressed.

Preface

Before you lies the master thesis *"Cooperation, trust and transparency: the trident that can make or break the circular economy"* the basis of which is a qualitative research into the incentives and conditions for interorganizational cooperation that was conducted among members of circular economy coalition programs organized by MVO Nederland. It has been written to fulfill the graduation requirements of the master Environment and Society Studies at Radboud University in Nijmegen. I was engaged in researching and writing this thesis from March to August 2017.

The project was undertaken at the request of MVO Nederland, where I undertook an internship from March to July. I focused my research question on incentives for cooperation in a circular economy instead of the barriers. This is one reason why my research fitted so well with the work of MVO Nederland, which is always aimed at stimulating SMEs to become more sustainable.

During my study public management I got interested in sustainability and circular economy. This is the reason I chose to extend my education with the master Environment and Society Studies. Circular economy caught my attention, therefore, I chose to follow the corporate sustainability specialization. Why do companies start with circular business models? What drives them? And do companies see the urge to cooperate with each other? This is a broad topic, so I narrowed it down to companies who join the coalition programs of MVO Nederland related to circular economy.

I wish to thank my supervisors Mark Wiering and Pieter van den Herik for their guidance and support during my research. I also would like to thank all of the interview participants, without their cooperation I would not have been able to conduct this analysis.

I would like to thank my colleagues and fellow interns at MVO Nederland for their cooperation as well. I enjoyed our discussions during lunch break and it was always helpful to bat ideas about my research around with you. Lastly, I wish to thank my friends and family, which were always there when I needed a motivational talk. This has served me well.

I hope you enjoy your reading.

Lisa Bakker

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1. Introduction

1.1 Background

Our traditional industrial economy is based on a linear model of resource consumption that follows a 'take-make-dispose' pattern. After using a product, the consumer disposes the product and most of the (scarce) materials get lost (Ellen MacArthur Foundation, 2013). This linear system brings increasing economic challenges for our society in the 21th century (Cramer, 2014) especially, supply risk and higher resource prices, which lead to financial and economic instabilities for individual companies and entire economies (Geissdoerfer et al., 2016; Ellen MacArthur Foundation, 2013). To address these, and other sustainability issues, the concept 'Circular Economy' has gained attention from policymakers recently (Geissdoerfer, et al., 2016).

Figure 1 Dutch news article 'Without the circular economy we cannot live any longer' (Veldboom, 2016).

Figure 1 shows a Dutch news article in which the transition towards the circular economy is described as a necessity to survive as human beings on the earth. The statement in the headline comes from the Dutch Social Economic Council, which did a research on how the Dutch economy can be transformed in a circular economy. Chairman Ed Nijpels claims: without raw materials, welfare is impossible. Therefore, the title of the research report is clear: *'No time to lose'*.

The research report of the Social Economic Board coincides with the ambition of Dutch government to have a circular economy in the Netherlands by 2050, which was presented in 2016 (Rijksoverheid, 2016). This goal is aimed at five themes: biomass, the construction industry,

manufacturing industry, plastics and consumption goods. The ambition is to reduce the use of raw materials and metals with more than 50% by means of recycling. By 2050 the Dutch economy needs to be fully circular, this means that no new raw materials should be used. However, if we want to reach this goal, we should change our system. Circular economy requires to think beyond branches and product sectors. Sectors should be interrelated, based on their raw material flows.

The circular economy concept

First a definition of the concept: 'circular economy'. A circular economy is an industrial system that replaces the 'take-make-dispose' concept with restoration, reuse of materials and products. It attempts to eliminate waste through another design of materials, products, systems and business models (Ellen MacArthur Foundation, 2013).

The importance of interorganizational cooperation

The circular economy aims to have zero waste, by using and reusing materials as long as possible. Central to this definition is the feedback loop of materials, all materials need to flow back into the supply 'cycles'. This implies that the whole supply chain is involved in a circular business model. Therefore, success of a circular business model is dependent on collaboration and value creation between businesses in networks and value chains. Long-term collaboration within the supply chain is necessary to organize closed resource loops. Therefore, a shift from organizational-centric thinking towards network-centric thinking is imperative. This demands for social and organizational innovation, which offers chances for businesses, governments, foundations, network organizations and citizens, in the appearance of triple helix networks (Jonker et al., 2016). Recently a Dutch research project showed that businesses have a great willingness to create a circular business model. Yet business-to-business collaboration is still not widespread, because of many legal, material, fiscal and financial barriers (Jonker et al., 2016). In general, these barriers are identified, however, many questions remain unanswered. Particularly questions about the incentives and conditions in which successful collaborations between businesses are able to develop are still open. For example, how do businesses find suitable collaboration partners? What is important to make a cooperation successful in a circular economy? Also, the question about what drives companies to cooperate with each other in a circular economy remains unanswered.

Hence, this master's thesis research is focused on the incentives that motivate companies to cooperate with each other towards the circular economy and the conditions (including: circumstances, cooperation skills and facilities) that enable businesses to set up a long-term collaboration with each other in order to create circular business models.

1.2 Research objective

The objective of this research is threefold. First of all, it aims to provide insight in the incentives and motives, of the participants from the coalition programs organized by MVO Nederland, to start with interorganizational cooperation towards a circular economy. Secondly, it aims to identify the conditions that are perceived by the participants as necessary for a successful cooperation to work towards a circular economy. Thirdly, it intends to provide MVO Nederland with recommendations based on the results of this research, concerning their coalition programs.

1.3 Research questions

The main question will be as follows:

> *What are the key incentives for companies to start cooperating with each other towards a circular economy and what are the necessary conditions to make a cooperation successful in a circular economy?*

1.3.1 Explanation of the concepts

- **Incentive**: *"something that incites or tends to incite to action or greater effort, as a reward offered for increased productivity"* (Dictionary.com[3], n.d.). In this research the word 'incentive' is used as something that drives or motivates companies to start with circular economy and interorganizational cooperation for the development of circular business models.
- **Cooperation**: "*an act or instance of working or acting together for a common purpose or benefit; joint action."* (Dictionary.com[2], n.d.). In this research cooperation is focused on the working and acting together of companies on circular business activities.
- **Circular economy:** The most common definition of the circular economy comes from the Ellen MacArthur Foundation: *"A circular economy is an economic and industrial system that attempts to eliminate waste through another design of materials, products, systems and business models"* (Ellen MacArthur Foundation, 2013). The circular economy is not there yet. Therefore, this research is focused on companies who are attempting to develop circular business activities.
- **Conditions**: *"a circumstance indispensable to some result; prerequisite; that on which something else is contingent*" (Dictionary.com[1], n.d.). Concerning this research, the word condition is intended as the circumstances indispensable to the successfulness of interorganizational cooperation for a circular economy.

1.3.2 Sub-questions

To be able to answer the main research questions and to provide a clear structure for the research, the following sub-questions have been formulated:

A. What are the main incentives for companies to start with circular business activities?

B. What main incentives and conditions are identified in the literature about interorganizational collaboration in a circular economy or in general?

C. What are the main incentives motivating companies to start an interorganizational cooperation in order to work on the circular business models?

D. What are the main conditions facilitating a successful cooperation between companies in a circular economy?

E. How can MVO Nederland create conditions that stimulate companies to start new (supply chain) collaborations to enhance the circular economy?

1.4 Scientific relevance

Scientists point out that long-term cooperation within the value chain and cooperation in the form of triple helix networks is necessary to make circular business models successful and to enhance the circular economy in total (see Cramer, 2014 and Jonker et al., 2016). One can describe triple helix networks as university-industry- and government relations (Etzkowitz and Leydesdorff, 1997). Although, Hobson (2015) points out that the current (scientific) debate on circular economy, goes barely about socio-political implications and possibilities for shifting our production-consumption-use-waste practices. Since the concept of the circular economy includes so many processes, peoples and places, *"crucial questions require greater consideration, such as the forms and processes of governance that would facilitate an effective and equitable circular economy"* (Hobson, 2015, p. 2). So far, no research has been done about the incentives of companies to start cooperating with each other on a circular economy. Also, no research has yet been done about the conditions that are needed for a successful interorganizational cooperation in a circular economy. This forms a gap in the scientific knowledge about governance necessary in the transition towards a circular economy. Hence, this research will contribute to the theory about the governance for the circular economy through exploring the incentives of companies to start with circular economy, the incentives for interorganizational cooperation in the development of the circular economy and the conditions which are needed to make a cooperation successful in a circular economy.

1.5 Societal relevance

Climate change and depletion of raw materials are two of the greatest issues of the 21th century. Through increasing scarcity and supply uncertainty of raw materials, prices increased over the years. Hence, individual companies and entire economies which are dependent of those raw materials, risk to become unstable (Geissdoerfer et al., 2016; Ellen MacArthur Foundation, 2013). A promising solution to limit the use of scarce resources is to switch from a linear economy to a circular economy, where raw materials are reused almost endlessly. In addition, the circular economy is not only focused at re-use, but does also aim for product life-time extension. When the product life-time is extended the demand for replacement products will decline, therefore companies should define other business models, such as pay-per-use and product-as-a-service, to secure their incomes.

The Dutch government has set the ambition to have a circular economy in the Netherlands by 2050. In order to reach this goal a system change is indispensable. Interorganizational cooperation within and between supply chains is one of these changes which is necessary to close raw material loops (Jonker et al., 2017). Considering the intensified dependency between companies in the value chain and the urge for knowledge innovation, cooperation is seen as one of the key conditions for the development of a circular economy. Despite the necessity, interorganizational cooperation appears to be difficult and suffers from lots of barriers.

In line with the governmental ambitions, MVO Nederland aims, among other things, to stimulate Dutch SMEs to start with circular business activities. This is done by means of coalition programs, where they invite companies to join. Barriers that restrain companies to join the cooperation are well known at MVO Nederland. On the other hand, the underlying motivations to do participate in the coalition programs are not clear. By exploring the motivations of businesses to start with circular economy and the incentives to start cooperating with each other towards a circular economy, conclusions can be drawn about the incentives to participate in coalition programs. Therefore, based on the results of the research, MVO Nederland will be advised about how to create the right conditions to enhance collaboration between businesses that want to switch to circular business models.

1.6 Reading guide

In this introduction chapter you have already read that the transition towards a circular economy is necessary in order to reduce the raw material depletion and all the consequences that this depletion entails. Interorganizational cooperation is essential in order to develop this circular economy. In chapter two the concept of circular economy and theoretical perspectives about interorganizational cooperation is described. The third chapter of this thesis is about the

methodology, which includes the research design and an explanation about the data collection and analysis. In addition, the validity and reliability of the research are also discussed in chapter three. Chapter four shows the results of the case study about Gispen and Alliander and the cooperation between these two organizations. This chapter is illustrative for chapter five which elaborates on the analysis of the results of the field research. This chapter is divided in a paragraph about the incentives to start with circular economy and cooperation and a paragraph about the conditions for a successful cooperation. Same as in chapter four, the results are compared and analyzed with help of the theory described in chapter two. Finally, in the last chapter conclusions are drawn, based on the in the previous chapters presented data. Related to these conclusions recommendations will be made to MVO Nederland. Also, the results and the used theory and methods will be critically reflected.

2. Theoretical framework

Central in this research are the words 'interorganizational cooperation' and 'circular economy'. Therefore, this chapter elaborates on the definition of these terms. Subsequently, theoretical perspectives on both interorganizational cooperation and circular economy are discussed.

2.1 Collaboration

This master thesis research is focused on what companies triggers to start cooperating with each other in circular business models or collaboration programs. An understanding of the theoretical perspectives on collaboration between businesses and motives for collaboration contributes to the design of the research. This paragraph will provide an insight into the concept of collaboration by elaborating on some definitions of collaboration, incentives and conditions for collaboration. Furthermore, it will provide an answer to sub-question B "*What main incentives and conditions are identified in the literature about interorganizational collaboration in a circular economy or in general?*"

2.1.1 Definition of collaboration

Over the last decades many terms were used to describe collaboration between firms (De Leeuw and Fransoo, 2009). Collaboration or partnerships between businesses can be described as *"purposive strategic relationships between independent firms who share compatible goals, strive for mutual benefits, and acknowledge a high level of mutual interdependence"* (Mohr and Spekman, 1994, p 135).

The school of thought about alliances and networks increasingly focused on alliance management and interorganizational cooperation over the last 20 to 25 years (Kaats and Opheij, 2012). Collaboration, alliances, strategic alliances and partnerships, which can appear in various forms, are all characterized by voluntary cooperation between firms involving exchange, sharing, or co-development of products, technologies or services (Gulati, 1998). Within the alliance theory a difference is made between vertical alliances and horizontal alliances. Vertical alliances are collaborations within the supply chain, often based on relationships between buyers and suppliers. Horizontal alliances are often more invisible and informal networks of companies based on information and social exchange (Bengtsson and Kock, 1999).

2.1.4 Collaboration in a circular economy

Researchers endorse the importance of supply chain collaboration for a circular economy, however, the way in which these collaborations will become successful is not clear. The circular economy asks for new business models and requires businesses to be innovative. Also, there need

to be a shift in thinking; the company's success relies on the cooperation within the supply chain (from organizational centric to network centric) (Jonker et al., 2016). The closed loop economy requires, just like innovations do, systemic changes that go beyond the individual firm. Preston (2012) argues that these changes must be embedded in partnerships and networks of companies operating at different points in the supply chain. Cooperation is important because changing a business model into a new business model requires knowledge and skills and sometimes also new machinery and logistics infrastructure. However, not much is written about the organization of cooperation in a circular economy. Hence, the theory about the incentives and conditions for interorganizational cooperation is aimed at a linear economy.

2.1.2 Incentives for collaboration

Motives for cooperation between firms in supply chains and in strategic alliances in a linear economy have been frequently researched. The fundamental rationale behind those studies is the same: companies are not successful enough to compete by themselves and therefore seek establishment of collaboration between other entities in the supply chain (De Leeuw and Fransoo, 2009). Especially sharing costs for marketing, research, development or manufacturing is an important incentive for companies to cooperate (Varadarajan and Cunningham, 1995). A literature study by Yang et al. (2015) learns us that there are more incentives for alliance forming: (1) gaining access to new markets can be a reason to set up alliances (Varadarajan and Cunningham, 1995), (2) resolving competitive conflicts (Anand and Khanna, 2000), (3) developing innovative products (Grenadier and Weiss, 1997), (4) obtaining greater learning benefits (Sampson, 2002), (5) improving technical skills (Eisenhardt and Schoonhoven, 1996) and (6) dealing with the uncertainty and turbulence of the market (Andersen and Buvik, 2001).

2.1.3 Conditions for successful collaboration

Nowadays, not much attention is paid to collaboration between businesses in a circular economy. Therefore, it is fruitful to use a broad theory about alliance success in this research. Kaats and Opheij (2012) describe linguistic confusions as a barrier for successful cooperation and come up with conditions to overcome these barriers. Hunt et al. (2002) made an overview of theoretical stances on conditions for successful cooperation in alliances. Both theoretical perspectives will be described later on in this section. But first a quick overview of literature on alliance success.

Research has shown that alliances are sometimes difficult to manage and many times alliances end up as failures (Bleeke and Ernst, 1993 and Day, 1995 in Hunt et al., 2002). So, what conditions are needed to create a successful alliance? Throughout the years, many theorists have written about the success factors of collaborations between businesses, i.e. about alliancing skills that companies need to have in order to work successfully together. Experience with working in

alliances is positively influencing those alliancing skills (Lyles, 1988 and Simonin, 1997 in Kale et al., 2001). However, in a study by Kale et al. (2001) focused on 200 companies, experience alone appears to be not enough. A stable structure to coordinate the alliance activity is important, therefore specific systems are implemented to capture, codify, communicate and create alliance management lessons and insights. Kale et al. also point out the importance of coaching the managers and executives on alliance skills. Helmink et al. (2000) described the successfulness of the systemic approach for the management of alliances and give the advice to make use of standardized procedures, checklists and templates. Yang et al. (2015) did a research among Chinese manufacturers working together in supply chains. They discovered that effective communication is also influencing the successfulness of alliance. The results of Yang et al. are in line with the view of Kaats and Opheij (2012), who describe the threat of linguistic confusions for cooperation.

Kaats and Opheij: overcome linguistic confusions

Kaats and Opheij (2012) warn that linguistic confusion looms in situations of interorganizational cooperation and can lead to trust issues. Speech confusion is often the result of three aspects of cooperation: (1) confrontation of two worlds in terms of culture, norms, values and language, (2) diffusion about the interests at stake, and (3) specific contextual factors that influence the opportunity for a successful cooperation. In order to overcome these barriers, Kaats and Opheij developed an instrument to get insight in the complexity of interorganizational cooperation (see Figure 2). Their instrument elaborates on five perspectives for alliance success: (1) shared ambition and strategy development, (2) respect each other's interests and find the mutual gain in dialogue, (3) attention for the unseen; acknowledge the role of the individual in the cooperation, (4) professional organization of the alliance, and (5) develop the cooperation process together (Kaats and Opheij 2012).

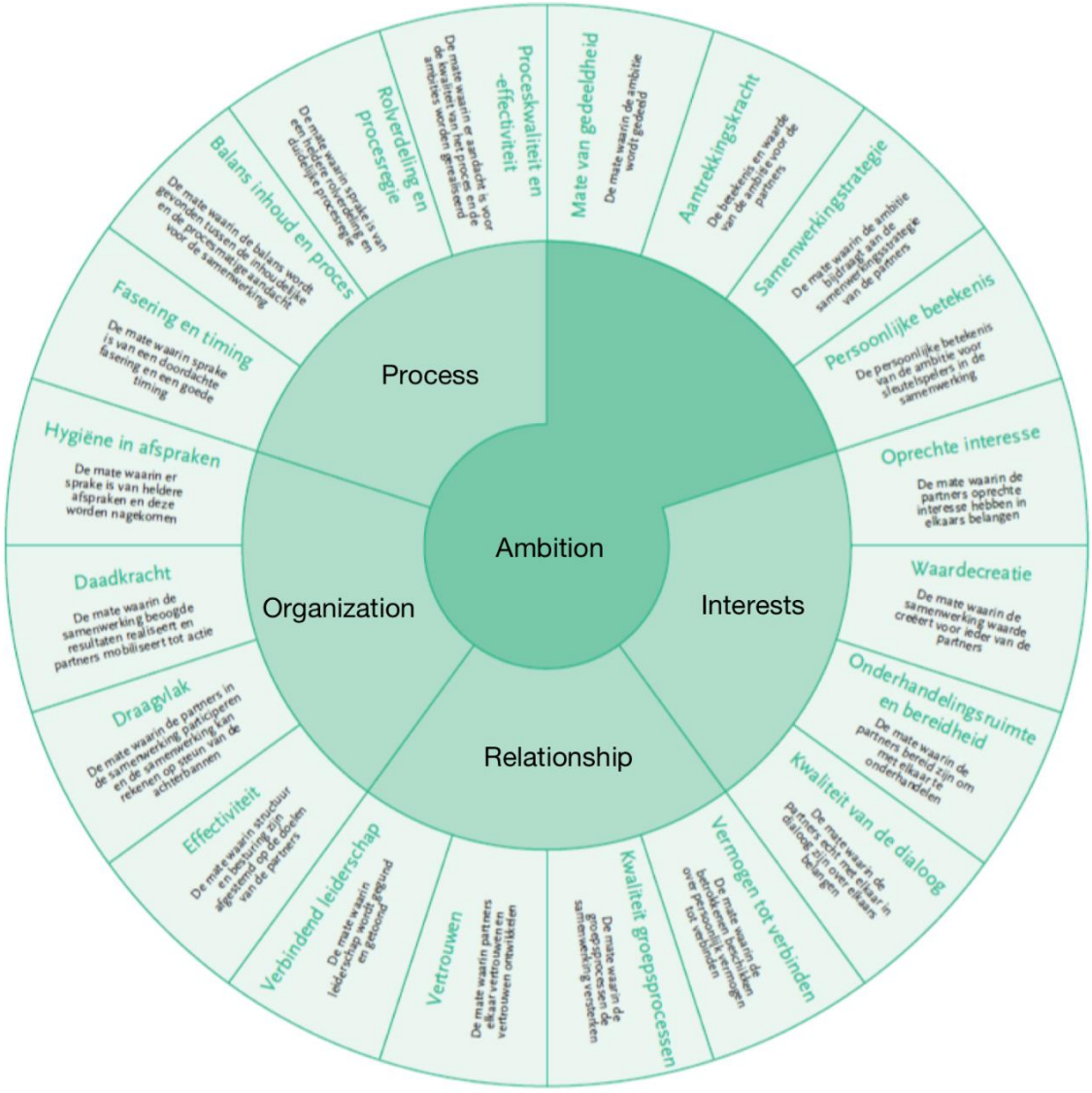

Figure 2 Instrument for successful cooperation (Common Eye, n.d.).[1]

Hunt et al.: four views on alliance success

Hunt et al. (2002) have created a broad theory through clustering the proposed explanations for alliance success into four categories: (1) the resource-based view, (2) the competence-based view, (3) the relational factors view and (4) the competitive advantage view. Based on these four perspectives a theory of alliance success was made and supported with a model. This overview of theoretical streams for alliance success can be a useful basis in discovering the conditions that are necessary for a successful cooperation in a circular economy.

[1] The five main perspectives for alliance success are translated from Dutch to English. The descriptions in the outer circle are intentionally not translated.

1. The resource-based view

Resource-based view theorists state that firms are producing heterogeneous products (firm diversity) through combining heterogeneous, imperfectly mobile resources (resources that are inimitable, non-substitutable and not yet bought and sold in the factor markets). Hunt et al. describe a resource as follows: *"... any tangible or intangible entity available to the firm that enables it to produce a market offering that has value for some market segment(s)."* (Hunt et al., 2002, p. 19). The resource-based view assumes that both complementary and idiosyncratic resources are positively related to alliance success. Alliance-derived idiosyncratic resources are "created through the combining of the respective resources of partner firms, are developed during the life of the alliance and being unique to the alliance, but may have little value or use outside of the alliance" (Hunt et al., 2002, p. 21). Sometimes companies do not own all the resources they need, this can bring companies to form an alliance to complete their resource assortments with each other's resources (complementary resources) (Das and Teng, 2000).

2. The competence-based view

This view is derived from the company's capability (competence) to achieve its goals. Managerial competences help to create a company's success. Lambe, Spekman and Hunt (2002) argue therefore that managerial competences are important for the success of alliances. This managerial competence is called alliance competence and involves the capability for *"securing, developing and managing alliances"* (Hunt et al., 2002, p. 22). Alliance competence consists of three elements: (1) alliance experience, (2) alliance manager development capability, and (3) partner vigilance capability.

Firstly, companies must have extensive experience with alliances to gain knowledge about how to manage them. Secondly, companies need to have the potential to develop capable alliance managers (Hunt et al., 2002). Lastly, companies need to know how to find potential partners that have the complementary resources the company needs, which will lead to competitive advantage.

Moreover, Hunt et al. (2002) state that companies that have an alliance competence are often also more capable of developing idiosyncratic resources will also be more able to realize greater resource complementarity than firms that do not have such a competence.

3. The relational factors view

The relational factors view is the third element for alliance success. Many of the exchanges involved in marketing are long in duration and reflect an ongoing relationship-development process (MacNeil, 1980 in Hunt et al., 2002). The relational factors view part in the integrative model of Hunt et al. (2002) is based on Morgan and Hunt's (1994) relational factors model. In this

model 'cooperation' is the key factor for relationship marketing and 'commitment' and 'trust' are the key mediating variables that have a positive influence on cooperation between parties. Termination costs, shared values, communication and opportunistic behavior indirectly influence the willingness of cooperation. When dissolving an alliance will bring high termination costs, firms in alliances are more willing to continue with the alliance. Shared values and norms will lead to more commitment to and trust in the alliancing partners. Effective communication will positively influence the trust of firms and will also directly influence cooperation. Opportunistic behavior has a negative effect on trust which will indirectly have a negative effect on the willingness to cooperate and successfulness of the cooperation. Cooperation has also an indirect effect on alliance success via idiosyncratic resources. Alliances build up on cooperation should be more able to develop idiosyncratic resources (Hunt et al., 2002).

4. The competitive advantage view

A successful alliance should provide both parties some kind of advantage over their competitors in the market (Hunt et al., 2002). Alderson (1957) identified six types of advantage: market segmentation, selection of appeals, transfection, product improvement, process improvement, and product innovation (in Hunt et al., 2002). When the alliance offers a competitive advantage, it is worth the effort to maintain the alliance. Therefore, competitive advantage is positively related to alliance success.

2.1.5 Reflection on the theory

Hunt et al. (2002) described four views on alliance success. Three of the four views on alliance success are mainly profit and market driven, which may be representative for the linear economy. However, one could expect that the pioneers who are nowadays starting with the development of the circular economy are driven by their mission and engagement for 'a more sustainable world'. These elements are not included in the theory about alliance success. Thus, it is expected that the theory of Hunt et al. (2002), based on cooperation in a linear economy, will not fully applicable to the circular economy. Hence, it is expected that a part of the findings in this research will mainly focus the 'soft-side' of the theory: the relational factors view. The focus on engagement might change once the circular economy is more developed. Read more about the concept circular economy in the next paragraph.

2.2 Circular economy

This paragraph gives insight into the concept of circular economy by elaborating on the origins of the concept circular economy, the definition of circular economy and its characteristics. It also discusses incentives and enablers for the development of a circular economy.

2.2.1 Origins of the circular economy concept

Currently, the concept circular economy is gaining attention of scientists and policymakers, however, it is based on many old schools of thought. Already in the late 1970s the basis for the circular economic thinking gained momentum, led by a small number of academics and businesses (Ellen MacArthur Foundation, 2013).

In the early 1980s Stahel addressed the environmental consequences of the shortening of the product-life. He advocated for an extension of the product-life, which should reduce depletion of natural resources and will thus *"contribute to the transition towards a sustainable society"* (Stahel, 1982, p 72). In his later work Stahel advocated for a performance or functional economy wherein products are created with as few natural resources and energy as possible, and during consumption the products are used as frequent as possible and as long as possible (Stahel, 1997).

In 1989 the environmental economists Pearce and Turner introduced the concept of circular economic system based on studies of the ecological economist Boulding (1966). Boulding advocated in *'The economics of the coming spaceship earth'* for an economy as a circular system with nearly no exchanges of matter with the outside environment (Ghisellini, 2016). Pearce and Turner (1989) addressed three economic functions of the environment: provision of resources, life support system, and a sink for waste and emissions. According to Pearce and Turner these economic functions of the environment should have a price similar to other economic functions. However, as Ghisellini (2016) explains: *"there is neither a price nor a market for environmental goods (i.e. air and water quality) even if they have a clear value or utility for individuals and societies."* (Ghisellini, 2016, p 14).

The roots of circular economy can also be found in Industrial Ecology. Industrial Ecology was the first concept that perceived the industrial system and the environment not as two separate systems but as a joint ecosystem. It advocates for the transition to closed cycles of materials and energy (Graedel and Allenby, 1995).

Other predecessors of the circular economy thinking are Braungart and McDonough with their cradle-to-cradle concept. In 1998 Braungart and McDonough introduced this concept which sees all materials involved in industrial and commercial processes as nutrients. Figure 3 shows they made a clear distinction between two types of material flows in the circular economy: (1)

biological nutrients, designed to re-enter the biosphere safely after usage, and (2) technical nutrients, designed to circulate at high quality with their economic value preserved (Braungart and McDonough, 2002 in MacArthur, 2013). In order to close these nutrient loops, it is necessary to design products in such a way that materials can be reused perpetually. If so, the concept of waste is eliminated (McDonough and Braungart, 1998).

Besides the theories described above the Ellen MacArthur Foundation refers to regenerative design, biomimicry, industrial symbiosis, natural capitalism and blue economy as important contributors to the development of the concept circular economy. See Table 1 for an overview of the different schools of thought that contributed to the concept circular economy.

Table 1 Overview of the schools of thoughts that contributed to the circular economy concept

School of thought	***Explanation***
Biomimicry	*"Biomimicry is an approach to innovation that seeks sustainable solutions to human challenges by emulating nature's time-tested patterns and strategies"* (Biomimicry.org, n.d.)
Blue economy	Blue economy is an open-source movement that collects case studies. It proposes using *"the resources available in cascading systems, (…) the waste of one product becomes the input to create a new cash flow."* (Ellen MacArthur Foundation[1], n.d.)
Cradle-to-cradle	The Cradle-to-cradle concept aims to eliminate the concept of waste. All materials involved in industrial and commercial processes are considered as nutrients. Products should be designed for continuous recovery and reutilization as biological or technical nutrients (McDonough and Braungart, 2010).
Industrial ecology	The industrial ecology *"is a systems view which one seeks to optimize the total materials cycle from virgin material, to finished material, to component, to product, to obsolete product, and to ultimate disposal. Factors to be optimize include resources, energy and capital."* (Graedel and Allenby, 1995, p 6).
Industrial symbiosis	Industrial symbiosis is *"taking full advantage of by-product utilization, while reducing residual products or treating them effectively."* (Zhu et al., 2007, p 33). It focuses on the cross sector symbiotic relation between networks of companies in their industrial and commercial operations.
Natural Capitalism	Natural Capitalism is an economy in which business and environmental interests overlap. It highlights the interdependency of human activity and natural capital. It aims to radically increase the productivity of natural resources, shift to biologically inspired production models and materials, move to a service-and-flow business model, and reinvest in natural capital (Ellen MacArthur Foundation[2], n.d.; Hawken, Lowins and Lovins, 2013).
Performance Economy	The performance economy is an economy where products are created with as few natural resources and energy as possible, and during consumption the products are used as frequent as possible and as long as possible, products are used as services (Stahel, 1997).
Regenerative Design	The regenerative design concept proposes for a system which *"provides for continuous replacement, through its own functional processes of energy and materials used in its operation."* (Lyle, 1996, p 11).

2.2.2 Definition of circular economy

The Ellen MacArthur Foundation – which was the first party that monetized the circular economy – has described the circular economy as *"an industrial system that is restorative or regenerative by intention and design"* (Ellen MacArthur Foundation, 2013, p. 7). The durability of the products and raw materials is essential in this concept, therefore, the foundation foresees a replacement of the 'end-of-life' concept. This changing perspective on economy requires a whole new set of business models that focus on the reuse of materials and product life-time extension.

Circular economy appears at different scale levels of organization: at macro level as an overall strategy (e.g. city, province, region or nation), at a meso-level (e.g. circular industrial parks) and at a micro level (e.g. single company or consumer) (Ghisellini et al., 2015).

The Ellen MacArthur Foundation[3] (n.d.) has identified five indispensable characteristics of a pure circular economy: (1) the elimination of waste by design, (2) build resilience through diversity, (3) energy from renewable sources, (4) system thinking and (5) think in cascades, waste is food and share values (symbiosis). These characteristics will be described below.

1. Elimination of waste by design

The concept circular economy aims to minimalize waste flows, ideally to zero waste output (Jonker et al., 2017). Products should be designed by intention to fit within a biological or technical materials cycle (Ellen MacArthur Foundation[4], n.d.). This principle derives from the cradle-to-cradle concept found by Braungart and McDonough (2002) and industrial symbiosis. According the cradle-to-cradle principle all materials are nutrients that should flow back in either the technical or the biological cycle (see Figure 3). Therefore, products must be designed for durability, disassembly and refurbishment. Also, businesses should follow the eco-design principles such as, among other things, the elimination of toxic and hazardous materials, maximization of the sustainable use of renewable resources, extension of the product durability and reduce the material intensity of goods and services (McDonough and Braungart, 2008, p 72).

Industrial symbiosis is *"taking full advantage of by-product utilization, while reducing residual products or treating them effectively."* (Zhu et al., 2007, p 33). Industrial symbiosis refers to a cross-sector symbiotic relation between different independent companies that exchange by-products and possibly share other common resources (Chertow, 2007; Zhu et al., 2007). This allows biological and technical nutrients to continue in the material loop.

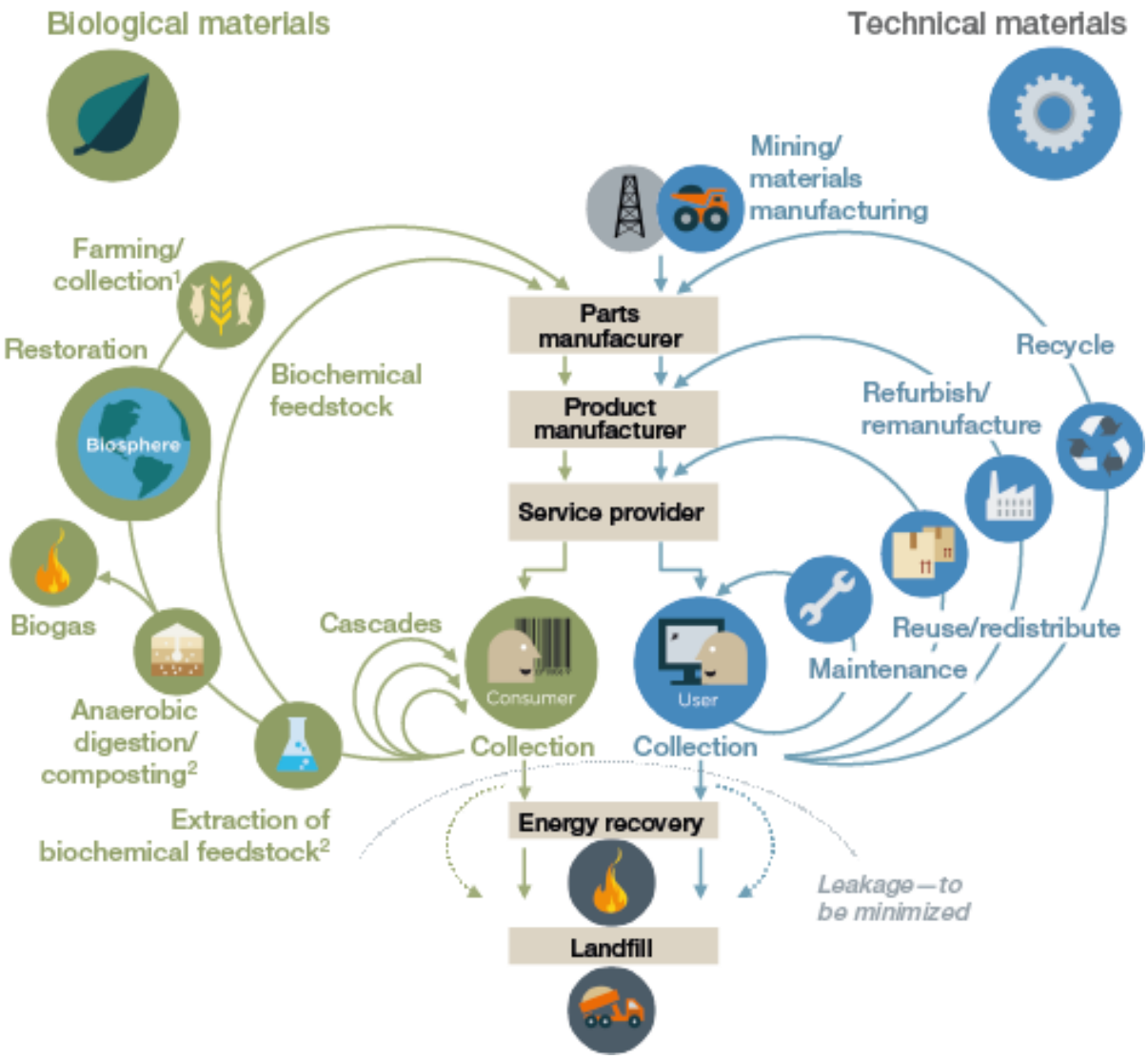

Figure 3 Biological and technical material loops (Ellen MacArthur Foundation [5], n.d. inspired by McDonough and Braungart)

Cramer (2017) created a useful prioritized overview of the manners how we should handle waste in a circular economy (see Figure 4). This overview fits in the characteristic 'elimination of waste' and shows us that refusing and reducing the use raw materials is the most circular option. Although recycling is often identified with circular economy, this is together with recovering the least sustainable option in terms of resource efficiency and profitability (Stahel, 2013 in Ghisellini, 2016).

Figure 4 Levels of Circularity (Cramer, 2017, grouping added by author)

2. Building resilience through diversity

"Modularity, versatility, and adaptivity are prized features that need to be prioritized in an uncertain and fast-evolving world." (Ellen MacArthur Foundation, 2013). According to the Ellen MacArthur Foundation (2013), systems with multiple connections and scales appear to be more resilient in to external shocks than simple systems built for efficiency and throughput minimization. An example is leveraging a range of suppliers in order to minimize supply risks. According to Braungart in Ellen MacArthur Foundation (2013) these diverse systems should be inspired natural systems that built resilience by adapting to their environments.

3. Use renewable energy

Renewable energy and circular economy are inseparably linked with each other. *"Systems should ultimately aim to run on renewable energy—enabled by the reduced threshold energy levels required by a restorative, circular economy."* (Ellen MacArthur Foundation[3], n.d.). This will decrease its reliance to market prices and supply of non-renewable resources, such as oil. In addition, it will also decrease the environmental impact of the economy, because the production of renewable energy is in general less polluting and less carbon-intensive than the production process of fossil fuels (Ellen MacArthur, 2015; Wijkman and Skånberg, 2015).

4. System approach

In a circular economy all parties in a value chain are linked to each other, also, multiple value chains can be related. For example, waste in value chain X can be a valuable nutrient to value chain

Y. Therefore *"the ability to understand how parts influence one another within a whole, and the relationship of the whole to the parts, is crucial."* (Ellen MacArthur Foundation[3], n.d.).

5. Think in cascades, waste is food and share values (symbiosis)

Cascaded use is the diversifying of reuse across the value chain. The Ellen MacArthur Foundation (2013) gives an example: *"as when cotton clothing is reused first as second-hand apparel, then crosses to the furniture industry as fibre-fill in upholstery, and the fibre-fill is later reused in stone wool insulation for construction – in each case substituting for an inflow of virgin materials into the economy—before the cotton fibres are safely returned to the biosphere"* (Ellen MacArthur Foundation, 2013, p 7).

2.2.3 Drivers for a circular economy

Capitalistic societies have been and still are extremely successful in increasing the material welfare of billions of customers through the provision of goods. This brings negative externalities for the natural environment (Tietze & Hansen, 2013). Competition between firms on developing innovative products have led to shorter time periods between old and new models. Planned obsolescence which may be defined as: *"the outcome of a deliberate decision by suppliers that a product should no longer be functional or desirable after a predetermined period"* (Cooper 2010, p.4) led to more frequent and faster dispose of products. Planned obsolescence is an important part of the linear economy and contributed to a shortening of the product life-time and increase of production of new products. In addition to that, the consumption level is increasing worldwide, which also contributes to the increasing waste flow and the natural resource depletion. In order to reduce these problems, environmental economists suggest that these environmental costs should be internalized in the economy. Circular economy is contemporary on the agenda of the international politics. What are the main incentives to start moving towards a circular economy?

Ellen MacArthur: drivers for a circular economy

The Ellen MacArthur Foundation identified four incentives for a circular economy: economic losses and structural waste, price risks, supply risks and natural system degradation.

Economic losses and structural waste

The linear economic model follows a take-make-dispose pattern. When a product has no longer purpose it is discarded (Ellen MacArthur Foundation, 2013). Research points out that in our current linear economy approximately 80% of the materials is discarded right after one single use (Sempels and Hoffmann, 2013).

Price risks

Exposure to risks and especially higher resource prices is increasing (Ellen MacArthur, 2013). The depletion of natural resources causes an enormous rise of raw material prices (Planing 2015). The Ellen MacArthur Foundation (2013) reports that a growing number of businesses feel stuck between rising and less predictable of resources and on the other hand a stagnating demand in many consumer markets on the other hand. The rising prices makes it more attractive to recover raw materials from products at the end-of-life stage (Planing, 2015).

Supply risks

Scarcity of resources causes besides resource price volatility also supply risks. This supply risks influence the capability of a company to perform their industrial activity in a sustainable and profitable way (Lieder and Rashid, 2015).

Natural system degradation

It is reasonable that the linear economy, with its increasing production leads to an increasing raw material extraction and an enormous amount of waste. Currently we are over using planet earth in a way that it is not able to recover. Rockström et al. (2009) published nine interrelated planetary boundaries as a basis for science-based analysis of the risk that human activity causes to the stability of the earth system (Rockström et al., 2009). Given that four of the planetary boundaries already have been trespassed due human activity. These planetary boundaries are: climate change, biosphere integrity, biochemical flows of nitrogen and phosphorus, and land-system change (Rockström et al., 2009).

Jonker et al.: incentives for starting a circular business

Jonker et al. (2017) identified three main incentives for companies to start with circular business models. The first incentive is the creation of social and ecological value, which enables businesses to create ecological and economic values at the same time. For example, create ecological value through the reuse of raw materials instead of using virgin raw materials and create at the same time economic profit through higher efficiency. The second incentive is the development of a durable business model. According to Jonker et al. (2017), this might indicate the growing awareness (or wish) to participate in the tendency towards social and economic sustainability (Jonker et al., 2017, p 70). The third main driver identified by Jonker et al. is the opportunity circular economy gives to innovate in the value chain.

2.2.4 Enablers for the circular economy

"Moving towards the CE will require a paradigm shift in the way things are made – putting sustainability and closed-loop thinking at the heart of business models and industrial organization." (Preston, 2012, p 2).

Adding to the drivers, the Ellen MacArthur foundation did also identify a few developments that enable the circular economy, namely: (1) regulatory trends, (2) advances in technology, (3) acceptance of alternative business models and (4) urbanization.

1. Regulatory trends

Over the last years a growing number of countries have set goals about the circular economy. For example, the European Union has implemented a circular economy action plan in 2015 (European Commission, 2017). Also the Netherlands proposed the ambition to have a circular economy by 2050.

Currently, however, governmental waste regulations are based on a linear economy and are sometimes restraining the development of a circular economy. This prevents discarded material for reuse as a resource. This legislation hinders the re-looping of materials and makes the costs higher than the reward (Pheifer, 2017).

2. Advances in technology

Over the last decade the development of technology and its application has been accelerated. Pheifer (2017) describes four data related topics which tremendously impact the economy and society: big data, advanced analytics, human-machine interfaces and additive manufacturing. These new information technologies enable the development of new business models (Planing, 2015).

Big data is generated by billions of internet users, which can be analyzed through advanced analytical software. Big data is often used through the e-commerce industry. The human-machine interface, also called the internet of things, refers to *"the interaction between humans and machines through software"* (Pheifer, 2017 p 6). An example of this interaction could involve feedback loops from sensors that are connected to a network that indicates which particular part of the lamppost needs replacement. Additive manufacturing or 3D printing allows easy prototyping, minimization and decentralization of stocking of spare parts as those parts can be printed on the spot (Pheifer, 2017).

3. Acceptance of alternative business models

Planing (2015) argues that there is a shift in consumer behavior which includes the preference for performance and access over ownership. The Ellen MacArthur Foundation (2015) supports this statement of the growing attention for leasing or pay-per-use models. In addition, those business models have the potential to improve assets utilization and to reduce waste (World Economic Forum, n.d.). Also, pay-per-use and lease contracts are an opportunity to intensify the customer-relationship which makes it easier to track the asset during its life cycle.

4. Urbanization

The urban population is increasing, it is expected that by 2050 70 percent of the world population will live in urban areas (Population Reference Bureau, n.d.). Due the increase of urbanization the associated costs of asset sharing services and the costs for collecting and treating end-of-use materials will decrease on account of the higher drop-off and pick-up density (Ellen MacArthur Foundation, 2014, p 30).

2.2.5 Reflection on the theory

The theory described above provides an overview of the origins and the current development of the circular economy. Jonker et al. (2017) and the Ellen MacArthur Foundation (2013) identified several drivers and enablers. The drivers will be used as guideline for the interview questions. It is expected that these incentives will also be mentioned by the participants of the research. The enablers are all aimed at a macro level. Therefore, it is expected that the enablers described in the literature, will not be identified as an enabler by the participants of this research.

3. Methodology

The most crucial decisions of a research are described in the methodology chapter. In this chapter, the main decisions related to methodology are discussed. Starting with the philosophical context of the research. Followed by a paragraph about research design and strategy. In the third paragraph, it is described how the data is collected and analyzed. Thereafter, paragraph 3.4 elaborates on the case selection in this research. Subsequently, the operationalization of the theoretical constructs is described in paragraph five. Finally, in paragraph six the reliability and validity is discussed.

3.1 Research paradigm

A paradigm is a way of thinking about the world. Guba and Lincoln (1985) identify a research paradigm as basic belief systems based on ontological, epistemological and methodological assumptions.

3.1.1 Ontology

Every research is build up on a certain ontology. Ontology relates to the nature of reality and it characteristics (Creswell, 2013). Ontological assumptions *"make claims about what kinds of social phenomena do or can exist, the conditions of their existence, and the ways in which they are related"* (Blaikie, 2009, p92). The concern of ontology is whether social entities should be considered objective entities that have a reality independent of social actors (realism), or whether social entities should be considered social constructions consisting of the perceptions and actions of social actors (subjectivism or constructionism) (Bryman, 2012).

To gain a better understanding about the common incentives that trigger companies to start with circular business models and start interorganizational cooperation's in this developing circular economy, it is necessary to look into the different incentives of individuals representing a company. Therefore, this research is conducted from a post-positivist ontological perspective. Post-positivism is founded on a critical realist ontology. Same as realism it is believed that a reality exists, however, it cannot be perfectly detected as due the flawed ways of finding it (Guba and Lincoln, 1994). Guba and Lincoln (1994) describe post positivism or critical realism as *"a 'real' reality but only imperfectly and probabilistically apprehendable"* (Guba and Licoln, 1994, p 109). This research aims to find certain patterns in the individual incentives and conditions of the participants.

3.1.2 Epistemology

Epistemology is the relationship between the researcher and the reality (Creswell, 2013). It is concerned with assumptions about what kinds of knowledge are possible, how we know these things and when is knowledge both adequate and legitimate (Blaikie, 2009). Epistemology is driven by ontological beliefs. Similar to the positivist paradigm post-positivist epistemology values objectivity, however, post-positivist researchers do not believe it is possible to maintain absolute distance from the researched (modified objectivism) (Guba and Lincoln, 1994). Potential influences through background knowledge are recognized and attempted to control. Searching for the incentives and conditions for interorganizational cooperation in a circular economy, the researcher attempts to find a pattern in the incentives and conditions that are replicated. It is assumed that it is likely true, but it is always open to be proven wrong (Guba and Lincoln, 1994).

3.2 Strategy and research design

The first core decision concerns the question whether the research is broad or in-depth (Verschuren and Doorewaard, 2007). The research is focused at exploring and understanding of the incentives and conditions for interorganizational cooperation in a circular economy. Therefore, the circular economy in the Netherlands as a whole is chosen as a case in this study (see Figure 5). In order to narrow the field of study, this research was conducted among participants of the coalition programs Nederland Circulair!, Zero Waste(d) Coalition and Green Deal Circulair Inkopen which were established by MVO Nederland. These coalition programs are aimed at developing the circular economy in the Netherlands. These coalition programs function as embedded units of analysis within the circular economy case (Yin 2013). The case study about the cooperation between Gispen and Alliander is used as an exemplary case for cooperation in a circular economy. By choosing for an embedded case study approach, the opportunity appeared to do in-depth research.

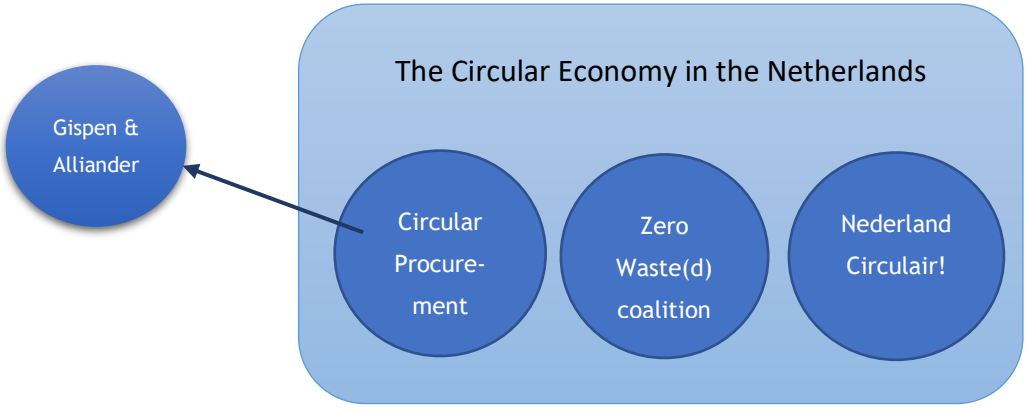

Figure 5 Visualization embedded case study research

The second core question Verschuren and Doorewaard (2007) ask: is the goal of the research to quantify results or to qualify results? Based on the subjectivist ontology and the interpretivist epistemology this research followed a qualitative approach. This approach intents to *"discover and describe issues in the field or structures and processes in routines and practices"* (Flick, 2014, p. 4) through the collection of data in natural setting conscious about the subjects being studied (Creswell, 2013). The aim of this research is to contribute to the scientific knowledge about incentives and conditions that enable companies to cooperate with each other in a circular economy and to make recommendations to MVO Nederland.

The research is a combination of a qualitative research by means of semi-structured interviews, observations and a short survey and a more in-depth case study. A case study is a research form in which an in-depth understanding is obtained about time-limited objects of processes (Verschuren and Doorewaard, 2007). In this case study it is about incentives and conditions for cooperation between Gispen and Alliander for the circular purchase of office furniture. The other part of the research is aimed at a more general understanding of incentives and conditions for interorganizational cooperation for the development of the circular economy.

The use of multiple data sources made data triangulation possible. De data collected in the field research, through semi-structured interviews, observations and a short survey, is compared with the results from the literature study. In this research a first exploration in the field of incentives and conditions for interorganizational cooperation in a circular economy is done. Based on this a first step is made in order to extent the theory related to motives and success factors of alliances between businesses with cooperation in a circular economy.

3.3 Data collection and analysis

The research was conducted between March 2017 and September 2017. The qualitative field study was executed between April 2017 and June 2017. The data was collected by means of 14 semi-structured interviews, 3 expert interviews, 3 observations during meetings and a short survey. Also, participation in the form of an internship at MVO Nederland helped to get to know the field of interest. This paragraph will elaborate on the research instruments.

3.3.1 Literature study

The literature study has been conducted in the preparatory phase of this research. Based on scientific articles and reports the theoretical framework has been written. When referring to the literature the full publication is mentioned in the bibliography. In addition to scientific sources, non-scientific sources have also been used, these sources are also mentioned in the bibliography.

The literature described in the theoretical framework about incentives and conditions concerning interorganizational collaboration provides the answer to sub-question B.

3.3.2 Interrogation of the coalition program members

The other data has been obtained through interviews, a short survey and observations. This information has been collected in the coalition programs focused at circular economy facilitated by MVO Nederland. The use of each of these research instruments will be described in the following section.

Semi-structured interviews

The interviews in this research were semi-structured, which means a broad question list was made based on the theoretical findings about incentives and conditions for cooperation (see appendix 1 for the interview guide). This question list let enough room for further questions during the interviews. The interviewees were selected randomly from the lists of participants of the coalition programs provided by MVO Nederland. It was attempted to make an equal division between the three coalition programs. Also, an almost equal division is made between semi-governance organizations and private companies. In consultation with Pieter van den Herik (manager circular economy at MVO Nederland) the potential participants were approached by email (see appendix 2 for the invitation email). In this email the proposed-participants were invited to join an interview about cooperation in a circular economy. See appendix 3 for a list of the interviewees.

The interviews were conducted between the 9th of May and June 2nd 2017. In total four semi-structured interviews were done with participants of diverse coalition programs aimed at circular economy. The interviews lasted on average 60 minutes and were fully recorded with an audio recording program. The interviews were held face-to-face or by telephone, depending on the interviewees preference. The audio files of the interviews are transcribed word for word. Various intonations, moments of reflection or hesitations were not transcribed. One interviewee wanted to remain anonymous, therefore, the interviewees name is not mentioned in this research report or the accompanying documents. The transcripts are, due to the size, added in a separate appendix document. The voice recordings of the interviews are also handed in separately.

The interviews were aimed at certain themes, however, after the transcription the interviews were coded *inductively*. This showed the following common threads:

- Circular economy
    - Circular activities
    - Drivers to start with circular economy

    - Conditions for a circular economy
    - Barriers for a circular economy

- Cooperation in a circular economy
    - Forms of cooperation towards the circular economy
    - Drivers and benefits of cooperation in a circular economy
    - Conditions for successful cooperation in a circular economy
    - Barriers for successful cooperation in a circular economy

A network view of all codes has been made to visualize the links between incentives, conditions and barriers. This network view is, due to the size, added as separate appendix to this thesis.

Expert interviews

Besides the regular interviews with participants of the coalition programs, three expert interviews were held. The interviews with employees who work for MVO Nederland helped to get to know the context of the coalition programs. The interview with Jan Jonker helped to learn more about the concept circular economy and the current state of affairs of circular economy in the Netherlands. All interviews were audio recorded. Two of the three interviews were also transcribed. The transcripts and audio recordings are, due the size, added as a separate appendix.

Observations

In order to get a better understanding of the coalition programs in this research, three meetings were attended and observed. This were the following meetings:

- Green Deal Circular Purchasing, ICT working group meeting – April 5, 2017
- Zero Waste(d) meeting – April 20, 2017
- Green Deal Circular Purchasing event – May 11, 2017

During the meeting of the Green Deal Circular Purchasing at April the 5th the researcher had a role as transcriber of the meeting. The meeting with the members of the Zero Waste(d) coalition was observed in the role as intern at MVO Nederland. The Green Deal Circular Purchasing Event was a community of practice where experiences and knowledge was exchanged. As an intern at MVO Nederland the researcher had the opportunity to organize this event. During the meeting the researcher took the role of transcriber.

Survey among members of the Green Deal Circular Procurement

During the Community of Practice event of the Green Deal Circular Procurement a short survey, consisting of five questions, was handed out. The survey was made in Google Forms, but handed out hard-copy. Fourteen surveys were completed. This data is used to support of the interviews. The results were analyzed in Google Spreadsheets. See for the survey outline appendix 4, the results of the survey are, due the size, added as a separate appendix.

3.4 Case selection

Three cases have been selected, the Zero Waste(d) Coalition, the Green Deal Circulair Inkopen (Circular Procurement) and value chain innovation program Nederland Circulair!. These programs aim to contribute to the development of the circular economy in the Netherlands. The cases were selected by the researcher in consultation with MVO Nederland. The decision has been in favor for this cases because of the focus on circular economy and the degree of cooperation within these coalition programs. The case study focused on the cooperation between Gispen and Alliander has been chosen because both parties also participate in the coalition program Green Deal Circular Procurement. In this paragraph more details are described about the coalition programs.

3.4.1 Coalition programs facilitated by MVO Nederland

All interviewees are participating or have been participating in a coalition program focused on developing circular business activity by means of pilot projects and information exchange. Besides participation in the coalition programs, most interviewed companies seek for more cooperation opportunities. Different types and instruments of cooperation are considered: cooperation within the supply chain, with companies from other supply chains, with industry partners, based on the relationship with (regular) suppliers, informal partnerships, covenant between client and vendor about sustainability and market dialogues and consultations.

The coalition programs, facilitated by MVO Nederland, aim to stimulate businesses to start with circular economy. As you can see in Figure 6, all programs are aimed at a different phase within the economic value cycle.

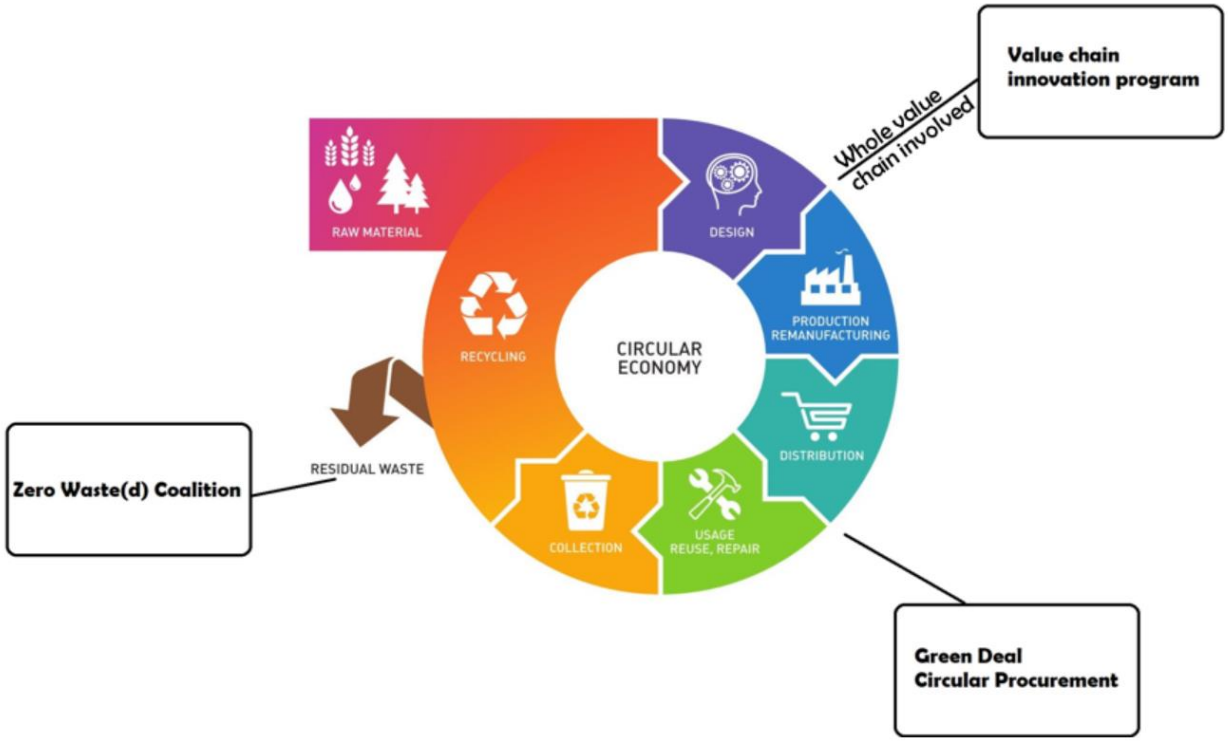

Figure 6 The circular economy (IAT Ecowaste, n.d., text boxes added by author)

Zero Waste(d) Coalition

The *Zero Waste(d) Coalition* is focused on high quality reuse solutions for the companies' waste. Companies who participate committed to the objective to have zero waste by 2030. Participants of the coalition program are both waste producers (i.e. Amsterdam Rai and AVRO TROS), waste recyclers (i.e. Van Ganzewinkel) and also consulting firms (i.e. Milrgo). As you can see in Figure 6 the zero waste(d) coalition is mainly focused on the end of the (linear) value chain. Members of the Zero Waste(d) Coalition are mainly focused on waste reduction and are searching for high quality recycling solutions for their waste flows (see Figure 7). The Zero Waste(d) coalition program is mainly used by the participants to work on high quality recycling solutions for their waste flows. Only in some cases companies focus on reducing their waste by decreasing the amount of raw materials they use. In general, the interviewed companies participating in the Zero Waste(d) Coalition are mainly focusing on end of pipe solutions and not yet working on re-using or refusing of raw materials by means of circular purchasing or circular designing of their products.

Green Deal Circular Procurement

The *Green Deal Circular Procurement* is, as the name suggests, aimed at circular purchasing. Purchasers of all kinds of business sectors from both semi-government and private, meet each other four times per year and work together in workgroups focused on a particular theme. Also a few market parties are represented in the Green Deal. The companies who participate in the Green Deal Circular Procurement are working on circular procurement, in particular focused on the purchase of facility or primary goods which often contain recycled materials. Sometimes, however, is the purchasing process also focused on the circularity of the design of the product. Every now and then combined with product-service contracts, which implies that companies do not buy the goods but pay for the use and maintenance or have a retour contract with the vendor. Nevertheless, circularity for most companies not a decisive factor in the procurement procedure and money (still) is. In addition, a lion's share of the circular goods is purchased during pilots, for example circular work clothes or circular office furniture.

Nederland Circulair!

Nederland Circulair! is a value chain innovation program, which aims to develop circular innovations with the whole supply chain involved (see Figure 6). In this program companies are implementing circularity in their product design. It is assumed that a transition towards a circular economy requires a system change that involves all parties in the value chain, therefore parties from all steps in the value chain were represented in the Nederland Circulair! program. The innovation program is mainly focused on recycling and re-using materials (see Figure 7). For example, the Twentse Kabel Fabriek designed, in cooperation with Alliander, a circular cable that is made of recycled plastic and is designed in a way that it can be easier recycled after the product life. Although the product is designed in a circular way it is still mainly focused on the optimization of the recycling process.

Level of circularity

In comparison with the levels of circularity introduced by Cramer (2017) most programs are focused on recycling and re-using materials (see Figure 7). When talking about the circular activities of the company, circular economy gets sometimes confused with recycling. Of course, recycling is part of a circular economy, but a circular business model cannot be based on recycling only (see Figure 7). Some - in this research participating - companies say they are working on circularity in their business, but in fact they are working on waste reduction and recycling of the existing waste (Interviews, see separate appendix for the transcripts).

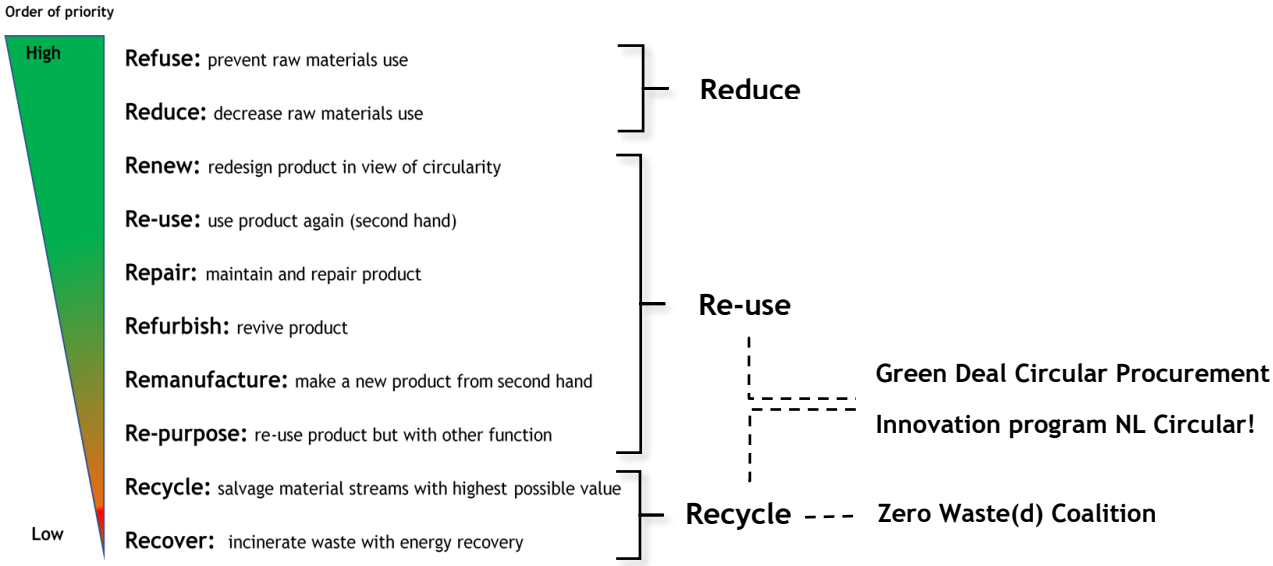

Figure 7 Levels of circularity (Cramer, 2017, grouping added by author)

3.4.1 Context: state of affairs of the circular economy in the Netherlands

A recent research on the status of the circular economy in the Netherlands shows that approximately fifty companies in the Netherlands have already developed a circular business model (Jonker et al., 2017). This corresponds to the results of this master thesis research. The majority of the interviewees are not working in a circular business model. The extent to which the participating companies and semi-public organizations have integrated the principles of circular economy in their daily business differs greatly. Most of the participating organizations are taking small steps to become more circular. However, in most cases it involves only a small part of their business activity. In addition, Jonker et al. (2017) measured that the majority of the companies that say they are busy with circular economy is in fact not or has not yet developed a fully circular business model (Jonker et al., 2017). The results of this master thesis research are in line with Jonkers' statements. Although, most of the participating companies are just starting with the circular economy, they are heading in the right direction and are aware of the necessity of the circular economy.

3.5 Operationalization of theoretical framework

Operationalization is the process of converting theoretical concepts into measurable constructs. The theoretical perspectives found in the scientific literature – about incentives for circular economy, incentives for interorganizational cooperation and conditions for interorganizational cooperation – were operationalized in the interview guide which covered the main and sub-

questions of the study. The interview guide was divided into four themes, including (1) incentives to develop a circular business model, (2) incentives to start with interorganizational cooperation, (3) conditions for interorganizational cooperation, and (4) the role of MVO Nederland in stimulating interorganizational cooperation for circular economy. These themes reflect the research questions of this study.

Figure 8 visualizes the operationalization process with an example. The theoretical perspectives found in the literature were matched with the sub-questions. Subsequently the theoretical perspectives were converted into theoretical questions. Lastly, the theoretical questions were translated into interview questions. See for the full operationalization scheme appendix 1 interview guide.

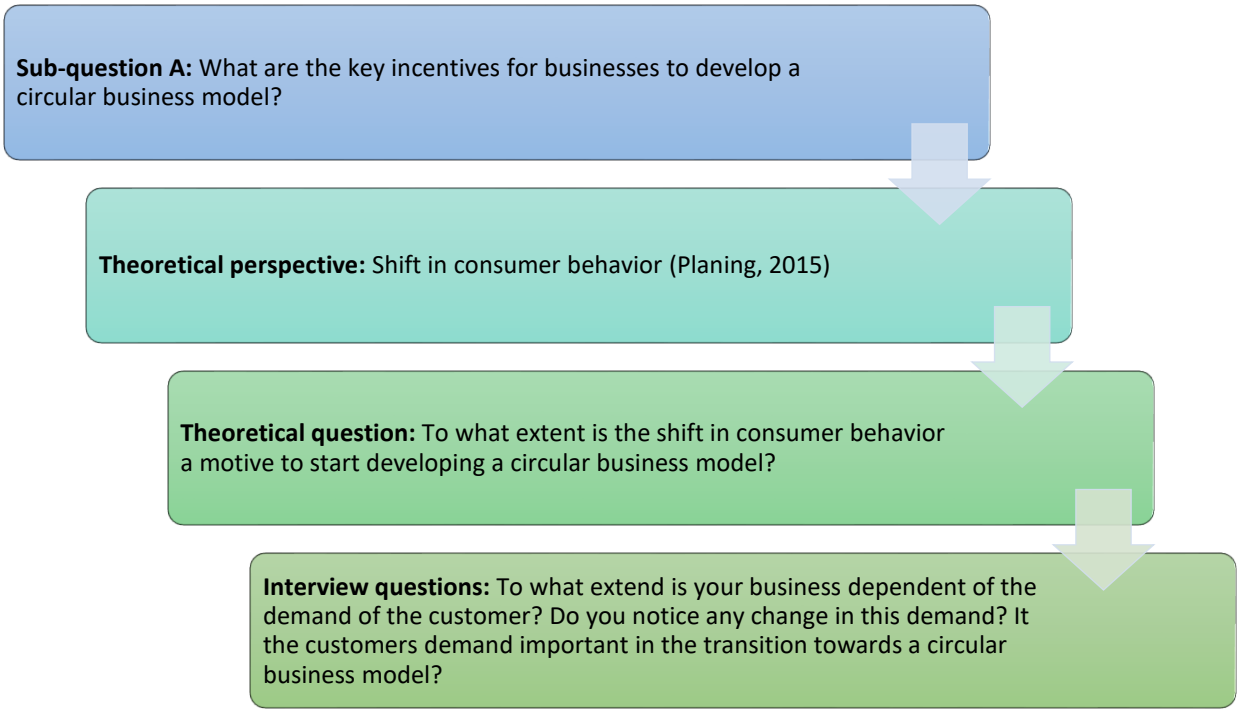

Figure 8 Example operationalization theoretical perspectives

3.6 Reliability and Validity

"Reliability is the degree to which the finding is independent of accidental circumstances of the research, and validity is the degree to which the finding is interpreted in a correct way." (Kirk and Miller, 1986). In other words, research is reliable when the same insights will be found when the research is reconducted by other researchers or at a different moment.

The reliability of this research is enhanced by minimizing flaws of interpretation. All interviews were audio recorded and transcribed precisely. Subsequently, the theory was critically

operationalized into research questions which in turn were converted into interview questions. In addition, in order to limit the possibility for miscommunication or misunderstanding during the interview, the interviewee and the organization was looked in to before the interview. For this, Google was used to search for newspapers, organizational documents and websites about the interviewee and organization.

Internal validity is the extent to which the methods used to collect data measure what the researcher intended to measure. In this research is about to explore the field of incentives and conditions for cooperation in a circular economy. Hence, it is the aim to measure the incentives and conditions being identified by the participants as secure as possible. In addition, once collected, the data will be analyzed in order to seek for patterns in the mentioned incentives and conditions. To enhance the internal validity interviewees were selected randomly from participants lists of the coalition programs. All interviewees were interviewed with the same interview guide, though slight differences with regard to the interview questions applied considering their membership of the different coalition programs. In addition, interviews were semi-structured, which ensured the ability to differ in focus per interview. Moreover, theoretical perspectives were converted into theoretical questions, which were then translated into interview questions (see paragraph 3.5).

Besides internal validity a research needs also be reflected on its external validity. External validity is the extent to which results can be generalized. The sample of this study is small and focused on participants of existing coalition programs. This limits the possibility for generalization across a wider population. However, since this is an explorative study, this is not a profound shortcoming. The study intends to obtain a better understanding of the incentives and conditions for interorganizational cooperation, rather than to establish casual relationships. As the governance of the circular economy is very much a new scientific topic, it is relevant to study what drives companies to cooperate with each other and how they can be stimulated to start with cooperation in a circular economy.

4. Case study: Alliander and Gispen

An inspiring example of circular purchasing is the building of Liander (part of Alliander) in Duiven. Based on the five existing office buildings RAU architects made one large office building. Over 80% of the materials from the obsolete existing buildings is reused. All used materials are described in a material passport, which is a document consisting of all materials that are used in a product or construction. This document can be used to identify reusable materials when the construction is being demolished. Gispen supplied the office furniture in a circular way. This implies that old furniture was upgraded and revised. The first and second paragraph of this chapter will elaborate on Alliander and Gispen separately. In the third paragraph the case study will focus on the collaboration between Alliander and Gispen in the office furniture project in Duiven. This chapter is written to illustrate results of the research, presented in chapter 5, with a practical example about cooperation in a circular economy.

4.1 Alliander: energy network company

Alliander is an energy network company which provides energy transport and distribution to a large part of the Netherlands. Alliander consists of multiple companies, among them Liander, Liandon, Kenter and Allego, which have expertise in energy networks, energy technology and technical innovations (Alliander[1], 2017). Together they have 7173 employees (Alliander[2], 2016). It is a semi-public organization which means they provide a public good and are funded by the government.

Mission

Alliander describes the following mission statement on their website: *"We stand for an energy supply that gives everyone equal access to reliable, affordable and sustainable energy. That is what we work on every day."* (Alliander[3], 2017). In order to stay reliable and affordable it is necessary to start with circular business (interview de Vries, 2017, see separate appendix).

Social Responsibility

Alliander has set three goals related to social responsibility and sustainability. The first goal is aimed at inclusivity. As a major employer Alliander wants to be a social employer who responds to key themes such as equal opportunities for women on the labor market and opportunities for people without qualifications. The second goal is aimed at the energy transition. *"By giving all customers access to renewable energy under equal terms and conditions."* (Alliander[3] , 2017).

The third goal is aimed at the circular economy, and therefore most relevant for this research. Alliander has set several objectives related to circular economy. By 2020, 40% of the in total

purchased primary assets (e.g. cables, transformers and smart meters). This 40% will be partly reached by the use of recyclates and partly through the use of recyclable materials in products (interview de Vries, 2017, see separate appendix). In addition, Alliander works together with multiple parties to have by 2040 a 100% circular material policy for the underground infrastructure (Pianoo, 2017). Besides their circular ambitions, Alliander wants to become a climate-neutral organization by 2023 (interview de Vries, 2017, see separate appendix). The ambition to become circular and climate neutral implies that Alliander's business operations will run completely on renewable energy and the waste that is produced will be converted into input for new materials. This goal demands for a transformation to their investment and procurement policy (Alliander[3], 2017).

Two examples of the circular projects Alliander is developing are the circular building in Duiven (see paragraph 4.3) and the Fair Meter. The Fair Meter is a smart measuring instrument for energy that all 7,5 million Dutch households will receive before 2020. Alliander started the procurement process together with Stedin (the other Dutch energy network company). Circularity, responsibility in the supply chain, transparency about the origin of raw materials, and the excluding of child labor were important criteria in the procurement process.

Incentives to start with circular economy

Hendrik de Vries, working at Alliander as consultant sustainable and circular economy, explains that their position as semi-public organization enables the organization to think beyond commercial incentives. Following their mission statement Alliander wants to give everyone equal access to reliable, affordable and sustainable energy, now and in the future. Primary goods, such as cables and transformers, contain lots of raw materials.

Recently, Alliander experienced an increased price of copper, also they experienced some delivery problems. This price and supply risks contributes to De Vries' believe that in order to use affordable primary goods, it is necessary to work on circular economy. Besides these strategic organization incentives, Alliander sees it as their social responsibility to have as less negative environmental impact as possible. The funding by the government and their customers independency ensures a unique position. This position enables Alliander to act socially responsible, be innovative and trigger the market to develop circular products and services. De Vries describes: *If we were dependent on the customer's demand it would be more difficult to start with circular business activity. Just because we are not dependent on the customer's demand we are the right party to start with circular economy* (paraphrased, see quote 25, appendix 5).

Personal incentives

Hendrik de Vries and Hendrik van Zantvoort, both participants of the innovation program Nederland Circulair!, describe different motives to work on sustainability and in particular circular economy. De Vries was inspired by the words of Thomas Rau, architect and entrepreneur who focuses on what is needed in the future instead of what is possible in the present. Van Zantvoort was triggered through a more practical reason. When a colleague asked him every three months why there were plastic cups used for the coffee machine he looked into it, and this process was an eyeopener (Circulair Ondernemen, 2016).

Incentives and benefits to start with interorganizational cooperation for circular business

"Cooperation is the key to circular economy. Technical issues are not the problem. I am convinced that cooperation is the greatest challenge." (Paraphrased, Hendrik de Vries, see quote 26, appendix 5). Alliander signed the Green Deal Circular Procurement and participated in the associated coalition program. Next to that, Alliander also participated in the value chain innovation program Nederland Circulair!. During the interview Hendrik de Vries was asked about the incentives to join these coalition programs.

In 2015, Michel Schuurman, program manager circular economy and climate at MVO Nederland, asked Alliander to join the innovation program Nederland Circulair!. In that time Alliander had an advisory board specialized in circular economy. This board challenged the board of Alliander to integrate circular economy in the organization goals. Michel Schuurman was a member of this board, he pointed out that MVO Nederland would start soon with innovation program. Alliander is seen as a leader in sustainability with great ambitions on circular economy, therefore, they were asked to join the program.

A benefit of cooperation in a coalition program was the intensified number of meetings with suppliers. In addition, the conversation is different. Hendrik de Vries describes: *The conversation is more open and honest about possibilities and the suppliers' skills* (paraphrased, see quote 27, appendix 5). De Vries points out that thanks to this cooperation some activities accelerated. For example, the contact between cable suppliers and QCP, a polymer recycling company, has led to the use of recycled polymers in the cables.

Conditions and barriers in the transition towards circular business

During the interview Hendrik de Vries pointed out that interorganizational cooperation will be the greatest challenge of the circular economy. Cooperation requires transparency which is limited. Especially in the raw material market is a high level of enclosure. Companies with the traditional linear business models have nothing to gain with transparency about margins and used

materials in the supply chain. De Vries indicates that sentiments from the past are involved. Negative experiences led to lack of trust in suppliers and vice versa. For this reason the tendering procedures have always been worked out in detail, with little space for another interpretation. Purchasing in the circular economy requires more space for innovation, therefore trust, transparency and cooperation are essential.

4.2 Gispen: furniture for office, school and healthcare

Gispen is a furniture producer that is known for its modular design. Long before the term circular economy gained attention Gispen started with revising, repairing and upcycling old furniture for their clients. When attention for circular economy increased they linked the term circular economy to their services. Gispen decided to build on their core business and to set the goal to develop a fully circular business model.

Mission

Gispen's mission is as follows: "*Gispen wants to inspire and motivate people through smart furnished spaces and well-designed products.*" (Translated, Gispen[1], n.d.). Gispen wants to have and positive influence on people, by means of designing inspiring, sustainable products and spaces. The main objective is to stimulate sustainable use of the furniture (Gispen[1], n.d.).

Social responsibility

Social responsibility implies for Gispen working in a certain way which is best for people, planet and profit. Gispen has several certificates and self-declarations that prove evidence, such as the ISO 14001- and 9001 norms and the lean and green logistic star. These social responsibility standards do not only apply to Gispen's own organization, but are also mandatory for their suppliers.

Gispen is focusing on circular economy and created a strategy towards 2025. Rick Veenendaal, circular economy manager at Gispen, explains that they set up measurable goals towards 2025. On their website Gispen presents five main principles in the transition towards the circular economy. The first principle is aimed at fulfilling the clients' needs with life time extension of the furniture as long as possible. The second principle is aimed at the reuse of materials for wishes that can be fulfilled with existing furniture. With these first two principles Gispen wants to reduce the output of CO2 for their clients with 30%. Thirdly, Gispen has developed a circular design framework, which they will use to make circularity of a design measurable. In this framework products can be measured with several circular criteria. Per criteria points can be scored, which will in the end lead to one (circular) rating for a product. A goal related to this perspective is that 25 top-selling products need to have four out of five points from the circular design framework by

2020. The fourth perspective is aimed at closing material loops. Therefore, products, components and materials will be reused in next products, taking the environmental effects into account. Rick Veenendaal explains their goal: "*in 80% of the total propositions – so also when clients ask for a linear proposition – we want to do a circular offer*" (paraphrased, see quote 28, appendix 5). The fifth principle in the strategy towards 2025 is the importance of profit. In order to ensure continuity, it is necessary to generate profit (Gispen[2], n.d.)

Incentives to start with circular economy

Since the 1970s Gispen offers the option to revitalize or maintain their clients' furniture, which ensures life-time extension. However, only since the project for Alliander in Duiven a few years ago, the link to circular economy was made. Alliander asked specifically for circular office furniture which stimulated Gispen to look into the concept circular economy. Gispen was doing almost all aspects of the circular economy, however, it had no name. Circular economy forms the overall framework which Gispen is now using to set their business proposition. Nowadays, the demand for circular products is growing, this makes it commercially interesting to use the term circular economy. Clients ask for circular products because of their ambition to act socially responsible, but also in order to save money.

Incentives and benefits to start with interorganizational cooperation for circular business

Gispen participates in multiple coalition programs and networks related to circular economy or sustainability. During the interview Rick Veenendaal points out that Gispen sees itself as innovation leader and wants to take a leading role in the supply chain, towards their customers and suppliers. They want to create awareness, due to their size Gispen can have impact in the Netherlands. The reason why Gispen chose to join the Green Deal Circular Procurement was to share knowledge about the possibilities with circular purchasing. The ability to produce and organize your business model in a circular way is also dependent on the customers demand. Veenendaal hopes to gain more insight in the purchasers' needs, so Gispen can provide solutions for that needs. Gispen joins also the coalition program 'Duurzaam Gebouwd', a knowledge network for construction and real estate. The reason to participate in this program is the attendance of architects who also make a proposal for the interior. Therefore, it is interesting to maintain contacts with the architects.

Conditions and barriers in the transition towards circular business

Gispen sees interorganizational cooperation as is essential in a circular economy. Veenendaal gives an example which illustrates the need for cooperation: *"A few competitors offer the same products as Gispen. When a (new) client asks for revitalizing their old furniture it can be the case*

that it is furniture of the competitor. If so, how do you get the right components? This is what the market is now exploring. How can we help each other instead of bothering each other?" (Paraphrased, see quote 29, appendix 5). Although, the sales department is more reluctant in sharing such information and cooperation with competitors, afraid to lose competitive advantage.

4.3 Cooperation between Alliander and Gispen

Alliander and Gispen, both signatories of the Green Deal Circular Procurement, worked together on the procurement of circular office furniture. Alliander has refurbished their office building in Duiven (see Figure 9). Eventually it became an iconic project in the Netherlands, with 80% circularity (i.e. reuse of toilets, ceiling tiles, existing buildings and furniture). Part of this project was the office furniture procurement. Gispen won the tender and delivered circular office furniture. A process with scanning and trying went ahead.

Figure 9 Circular building of Alliander in Duiven (RVO, 2016)

Procurement process

Alliander kept their procurement question open and asked the market to come up with solutions. The first selection was based on an ambition document instead of an in detail described specification document. In addition, only submissions in a consortium of partners were allowed (Pianoo, 2017). Gispen won the tendering procedure and executed their ambition document together with Alliander. In cooperation, the two parties developed a circular measurement instrument, which includes various sustainability criteria which can be rated (Hamstra and Verploegen, 2016). Hamstra and Verploegen (2016) describe one barrier they experienced: existing accounting rules. They explain that existing accounting rules restrict the possibilities for circular business models. These accounting rules are aimed at a linear business model and do not work for a circular business model. According to the accounting rules a high waste value is an economic risk.

Waste value model

The 750 workplaces are purchased with use of the waste value model. Gispen suggested to use the waste value model. A waste value model is an earnings model that is focused on the creation of a market for waste (Stegeman, 2015). This implies that Gispen will buy the furniture back for a set percentage at the end of the contract period. Hamstra and Verploegen (2016) working at Alliander and Gispen explain that the percentage is set at a maximum of 20%, which is very ambitious. This triggers Alliander to be careful with the furniture and it gives Gispen incentive to deliver good maintenance. A possible plus or minus is shared (Hamstra and Verploegen, 2016).

The result

In total Gispen revitalized and updated 750 existing workplaces (desk and office chair), of which the majority is merged into duo-workplaces, in order to use less cables. Also, other furniture was given a new purpose, for example the high table in Figure 10 is made of old lockers. Another example of the repurpose of furniture are cabinets remade as workplaces. With the ongoing digitalization lots of cabinets became unused, hence, Gispen remade it into benches which extended the life-time of the materials. Another example which illustrates circularity in furniture is the chairs in the restaurant, which were made of recycled PET-bottles.

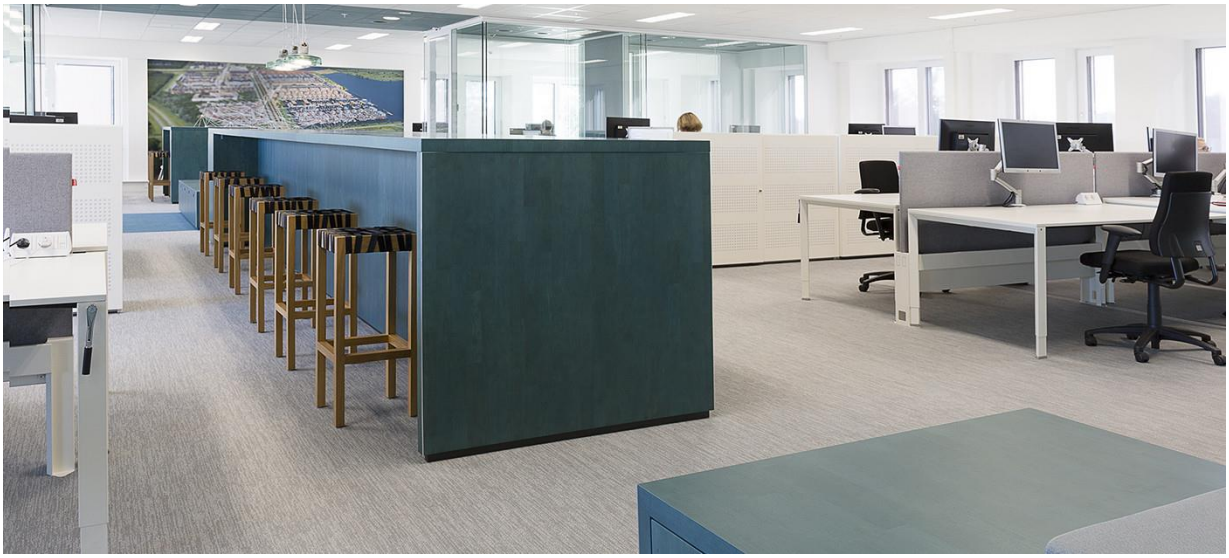

Figure 10 Workplaces created by Gispen at Alliander Duiven (Gispen[3], n.d.)

Lessons learned

Alliander described in the factsheet about their circular projects the following lessons learned (Pianoo, 2017):

- Circular procurement starts with asking other questions and requires a change in culture.
- You need to have ambassadors in the organization.

- Chemistry between supply chain partners is essential.
- Technique is not the biggest challenge, but cooperation, processes and seeing and doing things differently are the greatest challenges. You need to have the courage not to be halted by practical concerns.

4.4 Analysis: case study Alliander and Gispen

The case study of Alliander and Gispen illustrates the importance of cooperation and trust in a circular economy. Circular business models ensure long term dependency. Trust and transparency - in the form of open communication - are necessary to start such an interorganizational cooperation.

Gispen and Alliander both use their position in the market to stimulate the circular economy. Alliander has the unique position to be independent of the market demand, as semi-governmental organization and uses this position to act socially responsible. Gispen uses its position as market leader in the Netherlands, and its years of experience with modular design to push the circular economy forward. Both interviewees, de Vries (Alliander) and Veenendaal (Gispen), are intrinsically driven to enhance the circular business activities of their organizations. Therefore, both decided to participate in the Green Deal Circular Procurement. This is in line with the statement of Jonker et al. (2017) who propose that the desire to create social and ecological value can be a driver for the start with circular economy.

They found each other in their ambition to bring the circular economy forward. Gispen discovered that the term circular economy fits their business activities very well and decided to use the concept for marketing purposes.

Both parties identify cooperation as the key towards a successful circular economy. This should not only be cooperation with suppliers and clients, but also with competitors on a certain level. Alliander sees transparency about material compositions and profit margins as necessary in a circular economy. Gispen, however, stresses that closeness about margins and material compositions is sometimes necessary in order to keep competitive advantage. Trust is through both parties emphasized as essential for a successful cooperation. New business models, focused on usage instead of ownership, require long term contracts between user and supplier. Therefore, trust between these parties is imperative. Hunt et al. (2002) describe that shared values and shared goals can help to gain trust between cooperating partners.

The long-term contract and the ambitious goal to have 20% waste value after the contract period shows that there is sufficient trust between Alliander and Gispen.

5. Results

The results of the qualitative research will be presented in this chapter. The research results were collected from three network/coalition programs facilitated by MVO Nederland: 'Nederland Circulair!' (value chain innovation programs), 'Green Deal Circulair Inkopen' (circular procurement) and the 'Zero Waste(d) Coalition'. All coalition programs aim to stimulate the circular economy in the Netherlands.

As described in the methodology chapter both semi-public organizations and private companies were interviewed. Five large semi-public organizations (Alliander, ProRail, Waternet, Meerlanden and UMC Utrecht) and one small (AVROTROS) semi-public organization were interviewed. In total eight private companies were participating in this research varying in size.

The semi-structured interviews were focused on the circular activities of the organizations, the motives to start those circular activities, the conditions necessary to develop those circular activities. Considering the importance of collaboration in a circular economy the interviewees were asked about their motives to start participating in the coalition program, their experiences with the coalition program, benefits of the coalition program and cooperation in the circular economy in general. Although it was not explicitly asked, barriers for developing circular activities and barriers for cooperation with other businesses were also discussed. All of these focus points will be elaborated on in this chapter, beginning with the incentives and thereafter the conditions for the development of the circular economy and interorganizational cooperation within the circular economy.

5.1 Incentives

This paragraph elaborates on the incentives for companies to start developing circular business models or circular products and the incentives to start collaborating with each other in order to develop a circular business model. The following sub-questions will be answered: *"What are the main incentives for companies to start circular business activities?"* and *"What are the main incentives motivating companies in a circular economy to start an interorganizational cooperation?"*

During the interviews there appeared to be a difference between the incentives for semi-public organizations and the incentives for private companies to start cooperating on circular economy. If relevant, the results of both groups will be discussed separately.

5.1.1 Incentives to start with circular economy

During the interviews participants were asked about their company's incentives to start taking steps towards a circular business model. Noticeable is the difference in incentives from semi-public organizations and commercial organizations, therefore, this is described separately. The following sub-question will be answered: *"What are the main incentives for companies to start circular business activities?"*

Semi-public organizations

Semi-public organizations perform tasks that are legally regulated and are in favor of the public interest. Another feature of a semi-public organization is the funding by the government. This governmental funding seems to an incentive to act socially responsible and therefore start with circular economy.

Social responsibility

Feeling responsible for a good spending of the public-money is an important incentive for semi-public organizations to start with circular economy. Katja Nelissen, sustainability policy advisor at ProRail describes the responsibility to spend public money right: *We are not a governmental organization, however, we do get funding from the government and therefore we are responsible to spend the money in a socially responsible way* (paraphrased, see quote 1 appendix 5 for original quote). They intent to reduce their negative impact on the environment. Therefore, the large organizations have set goals for sustainability and circular economy is part of these goals. Jonker et al. (2017) also describe social and ecological value creation as a possible incentive to start with circular business models, although their study is mainly focused on businesses.

In the right position to take responsibility

Semi-public organizations right position to act up on their feeling of responsibility. The governmental funding ensures that the organizations are less dependent of the competitive commercial market. This makes that they are in the right position to take their social responsibility and to experiment in pilots to get experience with the circular economy. Hendrik de Vries, consultant sustainable and circular economy at Alliander, describes: *commercial parties may also want to develop circular products, but they are dependent of the question of the client. We are not dependent of the clients' question, therefore, we are the designated actor to do this* (paraphrased, see quote 2, appendix 5). With their circular purchasing, semi-public organizations are able to trigger the market to start developing circular products or services.

Durability of the business model – scarcity of resources

The government-funding allows the organizations to look at economic developments on the long term. Scarcity of raw materials is not yet a problem, however, some interviewees noticed a price inflation of copper and experienced some delivery problems. The organizations acknowledge the limited durability of the extraction of raw materials. Katja Nelissen, ProRail points out that the scarcity in the future is a reason to work towards a circular business model: *...the Ellen MacArthur Foundation says copper will be depleted in about 57 years. While this is, at the moment, a very important raw material in our business. So, we need to find ways to reuse and ways to substitute copper* (paraphrased, see quote 3 in appendix 5). In general, the organizations acknowledge the necessity to become less dependent of those raw materials in the future in order to guaranty a stable price for their services. In the literature supply risk and price fluctuation are identified as incentives to start with the circular economy (see Ellen MacArthur Foundation, 2013; Planing, 2015; Lieder and Rashid, 2015).

The ambition of the government

The Dutch government has set the ambition to become 100% circular in 2050. Hence, the government provides guidelines, however the activities and ambitions of Alliander, Waternet and ProRail are far more ambitious than the current governmental guidelines require.

Commercial companies

The interviews show that most companies are driven by incentives related to economic interest. Related incentives for the circular economy are: marketing opportunities, customers that demand circular products, expected long term benefits and opportunities for innovation. Besides the economic opportunities companies see, they also point out that they feel responsible to take care for the ecological impact their business activities have.

Marketing

The attention for sustainability and circular economy is increasing. This results in a marketing opportunity for companies that offer circular products or services. Especially when competitors do not offer circular products, circular economy is seen as a unique selling point. Xander van Hoof project developer at Delta Development EU describes the reason why they decided to work with a circular economy concept: *In Hoofddorp there are lots of office buildings, so we searched for a sustainable concept that we could use for our design* (paraphrased, see quote 4, appendix 5). In their search for a sustainable and unique concept they found the cradle-to-cradle concept, which is now their unique selling point. In the literature, growing acceptance of new business models is

identified as an enabler for the circular economy (Planing, 2015), this could be a reason why the term circular economy works for marketing purposes.

Market demand

In some cases the client demands a sustainable or circular product. The interviewees point out that an increasing number of (semi-) government organizations and a few, often large private companies ask for circular products. These statements are consistent with the reasoning of the interviewed semi-government organizations, who pointed out that they are working on circular purchasing. They operate as a launching customer in order to develop the circular economy. In addition, the interviewees do also notice a slight growth in the demand for circular products of large commercial companies. However, this is not common and usually not a strict requirement. Rick Veenendaal circular economy manager at Gispen mentions that the purchase of circular furniture helps the client to achieve their sustainability goals. *A party like Alliander, but also UMC Utrecht, ABN AMRO, NS, UWV and similar parties ask for circular products, because of their social responsibility goals. It helps them to reach their goals* (paraphrased, see quote 5 appendix 5).
This finding is in line with Planing's (2015) statement that there is a shift in consumer preferences towards circular business models. However, Planing does not identify the government's role as launching customer, as this differs per country.

Long term benefits

Participants who invest in the development of a circular business model hope for benefits on the long term. The participants foresee financial benefits on the long term by means of cost reduction through re-use and the more efficient use of raw materials. However, the participants mention that expected delivery problems and an increasing price of raw materials due scarcity in the future is not an incentive to switch to a circular business model. This finding is in line with the statement of Jonker et al. (2017): the transition towards circular business models is seen as a possibility to develop a future proof business model.

Innovation

The interviewees do also expect the circular economy to be an opportunity to accelerate technical and organizational innovations. Intensified cooperation within the supply chain can lead to more innovation and efficiency. Through reorganizing chains, you are able to deliver products with a higher quality than products produced in a linear model. Xander van Hoof project manager at Delta Development EU gives an example: *If you let the company who is responsible for the toilet water cleaning think about the engineering of the whole toilet water system they will probably come up with a more efficient and workable system* (paraphrased, see quote 6 appendix 5).

Opportunities for innovation are also identified in the literature as a driver for the development of circular business models. The circular economy offers multiple opportunities to innovate in the value chain, i.e. process optimization (Jonker et al., 2017)

Customer relationship

Working on the relationship with a customer is one of the reasons companies participate in the coalition programs, however, the participants did not mention it as an incentive to start with circular business models. Nevertheless, Michel Schuurman, program manager circular economy at MVO Nederland observes the contrary. He certainly sees that customer relationship is an incentive to start with circular business models and in particular with product-as-service contracts. Product-as-a-service models ensure several contact moments with customers, for example when sending the invoice. This contact moments can be used for personalized offers.

5.1.2 Incentives and benefits of cooperation on a circular economy

This paragraph elaborates on the incentives and benefits of cooperation between organizations towards a circular economy. The interviewees were asked about their reasons for participation in one of the coalition programs facilitated by MVO Nederland. The following sub-question will be answered: *"What are the main incentives motivating companies in a circular economy to start an interorganizational cooperation?"*

Learning benefits

The most common motives for participating in one of the coalition programs of MVO Nederland have to do with learning benefits. The interviewees see participation in the programs as an opportunity to broaden their knowledge about circular economy and to share experiences and knowledge. This result is in line with the outcome of the questionnaire held among Green Deal Circular Procurement participants (see separate appendix). The type of knowledge that is being shared differs per program. For example, in the Green Deal Circular Procurement people are participating because they want to learn more about circular procurement and share experiences with each other. Josieke Moens production manager at Rai is participating in the Zero Waste(d) Coalition. She mentions that she wants to have more technical information about recycling processes of plastic. This is one of the reasons she is participating in the Zero Waste(d) Coalition. *Plastic has a high-tech recycling process, which takes place in a complex market. I do not know anything about that, however I want to learn about this process. That is why I joined the coalition program of MVO Nederland* (paraphrased, see quote 7 appendix 5).

Knowledge exchange and transparency about the activities and added value of all actors in the value chain is seen as an important condition for the development of circular economy. Xander van den Hoof, project developer at Delta Development EU, argues that more knowledge is necessary if you want to broaden the circular economy and the number of parties that are working with circular business models. He advocates for more companies participating in knowledge exchange programs and coalitions. *Not everyone has knowledge about circular economy, certainly smaller companies do not know what a project developer expects… and vice versa I also do not know what those companies do. It is important to have more parties participating in these knowledge exchange programs, so you can explore multiple solutions and work towards these solutions together* (paraphrased, see quote 8, appendix 5). The cooperation programs are also useful to learn more about the processes and system changes that a circular economy requires. Michel Burggraaff (Engie) points out*: Looking back, it has taught us how we should handle these processes* (paraphrased, see quote 9, appendix 5).

These findings about knowledge exchange are in line with the findings of Sampson (2002) who identifies 'obtaining greater learning benefits' as an incentive for interorganizational cooperation. Jonker et al. (2017) underline the business' desire for knowledge exchange in networks about circular economy. Jonker's critical observation is that there is a considerable difference between participation in a knowledge network, which stays superficial, and in-depth interorganizational cooperation. The latter is necessary for the development of the circular economy.

Network opportunities

Interviewees do also point out that the programs give them network opportunities such as expanding network, more insight in the value chain, contacts with like-minded people from other companies and sectors. Nanda Pleging procurement advisor at GP Groot is able to use the contacts from the network to connect her colleagues with the right employee of the companies she met in the coalition program. *A benefit is the possibility to connect people from my own organization with people from other organizations within the coalition network. That makes it interesting.* (paraphrased, see quote 10, appendix 5). Josieke Moens mentions that it is nice to meet like-minded people (see quote 11 appendix 5). Network opportunities as incentive to start with interorganizational cooperation is not identified in the literature.

Cooperation contributes to overcome barriers and to reach goals

Cooperation allows companies to solve problems together. Hendrik de Vries (Alliander) argues that the cooperation in the Nederland Circulair coalition has accelerated developments: *You are part of a group, so, problems and barriers can be discussed and solved directly. It is noticeable that a more standalone supplier, which tries to solve problems independently, is not able to get any*

further. Thanks to this cooperation some processes accelerated (paraphrased, see quote 12, appendix 5)

Katja Nelissen (ProRail) says that you need partnership with your suppliers in a circular economy, because you need to develop the best solution together. *You need partnership with someone who understands your movements and has the same knowledge about circular economy. That person or organization will probably not have the perfect solution, but should say 'I would like to start the conversation and search together for the best solution'* (paraphrased, see quote 13, appendix 5)

Customer relationship

Participating together in a coalition program can strengthen the customer relationship. By way of illustration: this was one of the reasons Michel Burggraaff (Engie) decided to participate in the Nederland Circulair! program. *We had the opportunity to invite our customer and start the development process together in the supply chain program. This was interesting, because in this way we can work on our customer relationship by giving it an extra dimension* (paraphrased, see quote 14, appendix 5).

To have more influence as purchasers

Participants of the Green Deal Circular Procurement would like to have more influence on suppliers. This is one of the reasons they joined the Green Deal. Their goal was to form an alliance and create a uniform request towards the market (GDCI questionnaire see separate appendix).
This finding is in line with the statements of Andersen and Buvik (2001). Who state that dealing with uncertainty and turbulence of the market can be an incentive to start cooperating in an alliance. In the case of the Green Deal Circular Procurement, members cooperate because they want to have more impact on the market.

Inspiring and stimulating others

Other incentives mentioned by some interviewees are 'sharing their knowledge and experience with circular economy and therewith inspire others' and 'use the role of launching customer to stimulate companies to participate in one of the coalition programs'. This was mainly an incentive for organizations who already set goals for the development of circular business models.

5.1.3 Analysis: incentives and benefits

Analysis: incentives and benefits for starting with circular economy

The Ellen MacArthur Foundation identified four drivers for a circular economy: economic losses and structural waste, price risks, supply risks, and natural system degradation.

In addition, Jonker et al. (2017) do also describe three main motives for circular businesses: the creation of social and ecological value, development of a durable business model, and opportunities to innovate in the value chain.

First of all, it is important to mention that there is a noticeable difference between incentives for semi-public organizations and incentives for private companies to start developing a circular business model.

Semi-public organizations feel responsible to act sustainable and to develop the circular economy further. This is consistent with the incentive Jonker et al. (2017) identified: the creation of social and ecological value. The participating semi-public organizations fulfill the role of a launching customer which stimulates private companies to start designing and delivering circular products and services. This is in line with the finding that private companies are driven by marketing aspects such as customer demand, distinctiveness of their product or service and opportunities for innovation in the value chain. The latter is also identified by Jonker et al. (2017) as an incentive for a circular business model.

The participating semi-public organizations also foresee price risks and supply risks of raw materials in the near future. This is an incentive to start with closing material loops and developing circular business models. This finding is in line with the incentives identified by the Ellen MacArthur Foundation. However, contrary to this statement is that the participating private organizations do not notice supply and price risks of raw materials and therefore this is not seen as a reason to start with circular economy.

Analysis: incentives and benefits for interorganizational cooperation on a circular economy

Theory about alliances identifies several reasons for companies to start cooperating with each other: gaining access to new markets can be a reason to set up alliances (Varadarajan and Cunningham, 1995), resolving competitive conflicts (Anand and Khanna, 2000), developing innovative products (Grenadier and Weiss, 1997), obtaining greater learning benefits (Sampson, 2002), improving technical skills (Eisenhardt and Schoonhoven, 1996) and dealing with the uncertainty and turbulence of the market (Andersen and Buvik, 2001).

The results of this research show that companies do mainly join coalition programs to gain and share knowledge and information about circular economy, also making new contacts appeared to be an incentive. Also, to have a greater influence on suppliers is one of the reasons to participate in a coalition program, particularly in the Green Deal Circular Procurement project. So, incentives are mainly related to obtaining greater learning benefits and dealing with the uncertainty of the market or rather to overcome barriers and to work towards a circular economy. Which is

complementary to the theory of Sampson (2002) and Andersen and Buyvik (2001). Developing innovative products (Grenadier and Weiss, 1997) is also an incentive to join one of the coalition programs. According to some interviewees the participation in coalition program has accelerated some innovations of circular products.

Other incentives found in the literature: improving technical skills (Eisenhardt and Schoonhoven, 1996), gaining access to new markets (Varadarajan and Cunningham, 1995), resolving competitive conflicts (Anand and Khanna, 2000), were not identified as incentives for interorganizational cooperation in this research.

It must be said that participation into knowledge exchange networks and temporary coalition programs differs from long term inter-organizational cooperation in alliances. Therefore, incentives to participate in a coalition program could probably differ from incentives to start an inter-organizational cooperation.

5.2 Conditions and barriers

The interviewees experience a few barriers that restrain them from cooperation on a circular economy: lack of trust, transparency and different goals. At the same time these barriers form the key conditions that are necessary for a successful cooperation in and between value chains. Therefore, this paragraph will elaborate on both the barriers and conditions for both, development of the circular economy and cooperation in a circular economy. The following sub-question will be answered: *"What are the main conditions facilitating a successful cooperation between companies in a circular economy?"*

5.2.1 Conditions and barriers for a circular economy

The interviewees discussed necessary conditions for the transition towards a circular economy. Cooperation with other companies was mentioned as one of the main conditions for the development of a circular economy. Other conditions that were mentioned are largely intertwined with interorganizational cooperation. Besides these conditions highlighted by the participants they mentioned also several barriers in the transition process towards circular economy. Sometimes those barriers can exonerate companies to further invest in a circular business model or start a cooperation. In this section, the conditions and barriers will be discussed, beginning with cooperation.

Cooperation

In line with the theory, cooperation is acknowledged by both private and semi-public organizations as a necessary condition for the circular economy. Optimization, reduction and the re-use of raw materials is only possible together with others. Rick Veenendaal circular economy manager at Gispen describes the transition towards a circular economy as a system change and you can only change a system if all parties contribute. Therefore, it is also important to identify and manage risks together. *You need to be vulnerable, flexible and dare to identify and manage risks together with other companies* (Paraphrased, see quote 15, appendix 5). Circular economy implies a change in the distribution of revenues and a reposition of economic values and ecological values. Veenendaal points out the importance of transparency and trust and the necessity to handle this together. *The basis of this story is transparency and trust. Which are lost in the linear world. If you want to succeed the circular economy, you need these conditions. And I belief that we can only do this together* (paraphrased, see quote 16, appendix 5).

Edwin van Stralen waste manager at UMC Utrecht does also acknowledge the importance of cooperation in a circular economy. He describes a work situation that illustrates the necessity of interorganizational and intra-organizational cooperation. *Recently we got a new contract with a waste disposal company. One of our purchasers noticed this and asked this waste disposal company to give advice in the purchasing project of disposable gloves. The waste disposable company informed the purchaser about which materials they can easily recycle and which not (paraphrased, quote 17, appendix 5).*

However, despite the broad acknowledgement of the necessity of cooperation in and between supply chains, participants admit that cooperation is difficult and brings many barriers. Two of these barriers are limited transparency and limited trust within the value chain.

Transparency

Transparency within the value chain is identified as one of the main conditions for a successful circular economy. It is important to know what raw materials a product contains if you want to retain those raw materials after the product life time. Thus, all materials used by different chain partners need to be clear. Also, because of the new business models that the circular economy brings, it is important to know what the added value is of all links in the chain. Xander van den Hoof project manager at Delta Development EU describes why transparency about the revenue models between co-members of the value chain is important: *If you are clear about your revenue model, you can make a comparison for the client between what you spend normally (in a linear economy) and the costs of a circular service-contract. This is not done yet, there is too less information available* (paraphrased, see quote 18, appendix 5).

Although the interviewees do acknowledge the importance of transparency, the interviewees all agree on the fact that currently the transparency within the value chain is limited. Afraid for another's competition advantage, companies are reluctant to share information with each other. Companies do sometimes not know what raw materials the semi-manufactured products, which they use for their products, contain. Michiel Burggraaff works as commercial manager at Engie explains during the interview that Engie Services has a turnover of 1 billion euros, of which 250 to 300 million is spend on materials. He responds to the question if Engie services is dependent scarce materials: *We are not aware of all the raw materials our materials contain. So, it is a need to provide insight. This means a change four ourselves to start asking this question to our suppliers. But it requires also commitment from our subcontractors and our suppliers to be able and wanting to answer this question. As long as we do not know what raw materials are used, we cannot provide an answer to the question if the continuity of our business depends on raw materials and how we can find substitutions for these materials* (paraphrased, see quote 19, appendix 5).

This barrier needs to be overcome for a successful development of the circular economy. Cooperation and conversations with co-value chain members can help to create more insight and understanding of the activities of co-members of the value chain.

Transparency is closely related to communication, especially open communication. Kaats and Opheij (2012) identify linguistic confusion as a barrier for interorganizational cooperation. They state that this barrier is caused by difference in norms, values, culture and language, diffusions about the interests at stake and other contextual factors. Although this applies to regular cooperation, in a linear economy. It is uncertain if this is also applicable to cooperation in a circular economy.

Trust

Trust between parties is mentioned as one of the most important conditions for a circular economy. Trust is important when conducting long term interorganizational relationships. However as described earlier in this document there is limited trust between parties within the supply chain. This has been evolving over the years and thus is difficult to change. Some interviewees argue that there is limited trust between competitors and between the buyer and supplier. Hendrik de Vries consultant sustainable and circular economy at Alliander gives an example that illustrates the lack of trust between suppliers and buyers: *... our technicians say: 'in the past we were disadvantaged by that party' therefore specifications are described in detail* (Paraphrased, see quote 30, appendix 5). De Vries (Alliander) added that he thinks that if we want to make a success of the circular economy trust and cooperation the most important conditions. The interviewees indicate that trust is important because of the interdependence between parties

in the supply chain in a circular economy. Michiel Burggraaff commercial manager at Engie explains (paraphrased): *In a circular economy you need to start the conversation with suppliers. This conversation needs to be about what raw materials a product contains and if they can be taken back and reused, the design if it is easy to disassemble, other business models such as lease constructions… that kind of questions. Transparency, trust and working from the same objective is very important. Those are changes against the linear economy, we need each other to transform.*

Hunt et al. (2002) describe the importance of effective communication for trust between firms. According to them it will positively influence trust which will positively influence the willingness for cooperation. Opportunistic behavior, however, has a negative effect on trust and the willingness for cooperation.

Internal support in the organization

Besides interorganizational cooperation it is also important that the transition towards a circular business model is broadly supported within the organization. The development of the circular economy and circular business models is relatively new. This ensures that not everyone is well informed about ins and outs of the concept and how their company can contribute to the circular economy. A system change is necessary to develop a circular economy. The closing raw material loops demands other agreements between companies within the value chain and cross over cooperation between different sectors or value chains. Interviewees admit that it requires also a change in the internal organization structures. Circular economy goes hand in hand with innovation. Which leads to a certain uncertainty of the continuity of the company's service delivery. Therefore, the person that is responsible for that continuity of the service may be rather reticent.

Shared goals

Another barrier interviewees experience in the coalition programs is that it is difficult to set shared goals. Members of the coalition programs do not have the same organization goals with circular economy and the role of the cooperation in this process. and companies experience differences in the organization culture. Also, not every participant pays equal effort in it, which can make cooperation difficult.

Kaats and Opheij (2012) identify the creation of shared goals as important for successful cooperation. In addition, Morgan and Hunt (1994) also underline the importance of shared values and norms for successful alliancing.

Other financial models

New business models, often aimed at product-as-a-service and return after use contracts, ensure more responsibilities for businesses in order to make sure that goods return and re-enter the value chain. In addition, the existing linear economy is built on selling products and services which comes with short-term earnings and brief contacts between vendor and buyer. In contrast with the linear economy, circular business models such as a pay-per-use and product as a service contracts ensure that earnings will be distributed over a long term. This implies that the financial benefits or consequences of the circular economy will become visible after a long time. Regarding the recent emergence of circular economy the financial results of the concept remain uncertain.

It also entails dependency between buyers and suppliers. Xander van den Hoof project manager at Delta Development EU explains that those long-term contracts have an impact on the cooperation partners they choose. *A service provider needs to be a steady party, because long term commitments are made. A small installing company may go bankrupt within a year or five. If this happens you have a break in your commitments. So, you really want to have a steady party* (paraphrased, see quote 20, appendix 5).

Van den Hoof also points out that investors are reluctant to invest in goods that are provided by circular business models, he indicates that this is due the unclear value proposition of circular buildings. *The market is not ready yet. However, this is due to the fact that we are not able to explain our proposition* (paraphrased, see quote 21, appendix 5). What is for example the economic value of CO2 reduction? Or how do we know how the used materials will be valued over ten years? Those externalities are not internalized in the market price of the product.

This is due to the fact that commercial companies say they are dependent on the question from the market. With a limited demand for circular products, commercial companies do see barriers in investment of time and money. Jan Jonker professor corporate sustainability at Radboud University sees this argument also in his study about new circular business models in the Netherlands. *There is repeatedly claimed that the consumer or the client is not ready for the circular economy. With other words 'we are not circular or are not starting with circular organizing as long as the customer is not ready'* (paraphrased, quote 22, appendix 5).

Law and regulations

On the one hand the Dutch government has set the goal to have a circular economy by 2050 and is stimulating companies to develop a circular business model. On the other hand, however, some interviewees argue that certain law and regulations restrain them from developing a circular product or business model.

Cees Oldenburg (Waternet) indicates that he experiences countervailing regulations. For example, the European law forbids to reuse copper pipes as water pipes. Oldenburg argues that water companies are obliged to use new copper for their waterpipes and can therefore not respond to the scarcity problem of copper.

Jan Jonker professor Corporate sustainability at the Radboud University explains during the expert interview how existing law and regulations can form a barrier for the development of a circular economy. He underpinned his statement with an example about a coffee machine from recycled plastics. As a producer you need to apply for a license per part of the coffee machine in order to use these plastics. In addition, it is not cheaper and the customer does not even notice you have used recycled materials. This gives no incentives to use reused materials (paraphrased, see quote 23, appendix 5).

Quality and price of recycled materials

As mentioned in the previous section, another barrier is the uncertainty about the quality and price of recycled materials. Not infrequently are virgin materials cheaper than recycled materials. Yme Bosma sales manager energy at Twentse Kabel Fabriek explains: *We are able to offer an outer covering of a cable from recycled materials. But you need to know that the quality of the covering is assured over the years it is located in the soil. It need to approach the quality of virgin materials* (paraphrased, see quote 24, appendix 5).
Jan Jonker described during the interview also that virgin materials are still cheaper than recycled materials. Since consumers do not want to pay more for recycled materials there is no incentive for a producer to use recycled materials in his product.

5.2.2 Analysis: conditions and barriers for a circular economy

Conditions and barriers for a circular economy

The Ellen MacArthur foundation did identify a few developments on macro-level that enable the circular economy, namely: regulatory trends, advances in technology, acceptance of alternative business models and urbanization. Jonker et al. (2017) explain three activities on a meso-level that companies find important in order to develop circular business models: insight into the degree of sustainability of the own organization, collegial support, and a network for knowledge exchange per sector. Also, cooperation between organizations and supply chains is seen as an important condition for the circular economy. In addition, Jonker et al. (2017) did also found three barriers which restrain the development of the circular economy: obstructing regulation, the client and the parties within the value chains are not ready yet for the transition, and lack of financing. However, one could ask when the supply chain is ready, do companies and clients become ready automatically? What should happen to trigger this?

Theory shows that law and regulation can both stimulate and restrain the circular economy (Ellen MacArthur Foundation, 2013; Jonker et al., 2017). When developing a circular product or service, the interviewees experience in particular regulatory barriers. There is a noticeable contradiction between the role of launching customer of the government and the regulations implemented by the same government that obstruct companies to develop circular products.

The acceptance of alternative business models is an enabler for the circular economy. However, customers and clients are often rather reluctant to invest in goods that are provided by circular business models. New business models based on product-service contracts bring dependency between buyers and suppliers, which implies not only change in the organization of supply chains, but does also require more trust and transparency. In line with Jonker et al. (2017) the reluctance of both, suppliers and customers for the production of circular goods and services is also connected with lack of financing through among other things difficulties to spread the risks equally within the value chain and long payback times. Companies say this hesitation of customers withhold them from starting with circular business models and circular products. With the government taking the role of launching customer this vicious circle is gradually opened.

Likewise, the findings of Jonker et al. (2017) internal or collegial support is acknowledged as important by the interviewees. However, this is sometimes difficult to manage. For example, staff responsible for the continuity of the production process or service will not encourage the innovation and change sustainability and circularity requires.

In accordance with the theory cooperation is by all participants valued as important for a circular economy. Optimization, reduction and the re-use of raw materials is only possible together with others. However, the participants admit that cooperation is difficult and demands several conditions for success. These conditions are described in the following section.

Conditions and barriers for interorganizational cooperation for a circular economy

Theory about interorganizational cooperation and alliances describe several conditions for success. The resource-based view advocates the importance of complementary idiosyncratic resources for a successful cooperation (Hunt et al., 2002). The competence-based view is focused at the alliance experience, the alliance manager development capability and the partner vigilance capability of the alliance partners (Spekman and Hunt, 2000). The relational factors view is aimed at the commitment, shared values and trust between alliance partners (Hunt et al., 2002; Kaats and Opheij, 2011). Lastly, the competitive advantage view encourages that cooperation needs to create an advantage over competitors (Alderson, 1957).

The conditions and barriers identified by the participants of this research fit mainly in the relational factors view. The interviewees acknowledge the importance of trust and shared goals and values. At the same time they admit there is a lack of trust and a lack of shared goals, often due sentiments from the past. Trust is a dilemma that withholds the development of the circular economy, while trust is one of the necessary conditions for successful cooperation and is important in a supply chain system where risks and benefits are shared. Hunt et al. (2002) advocate for effective communication in order to create more commitment and trust. However, Kaats and Opheij (2012) state that lack of or miscommunication is often the problem in an interorganizational cooperation.

Transparency within the value chain, and between cooperation partners is seen an important condition for successful cooperation. Noteworthy is the participants urge for more transparency in the value chain. The interviewees describe a lack of transparency in the current linear model. This needs to change in order to successfully develop the circular economy. Kaats and Opheij (2011) do also describe this problem and encourage an open dialogue to overcome this barrier and find shared values and goals. Cooperation and conversations with co-value chain members can help to create more insight and understanding of the activities of co-members of the value chain. On the other hand, however, too much transparency will decrease the company's competition advantage. A balance between transparency and competition should be carefully scrutinized.

6. Conclusion and recommendations

The previous chapters made clear that the number of businesses working with circular business models in the Netherlands is modest. Although, there are several private companies and semi-public organizations who join coalition programs in order to develop circular business activities or even circular business models. The aim of this research was to identify both the incentives to start with circular economy and the incentives to join the coalition program.

The Ellen McArthur Foundation (2013) identified several incentives for the development of the circular economy. In addition, Jonker et al. (2017) found reasons for companies to start with circular economy. These theoretical findings were compared with the results of the semi-structured interview research among participants of the coalition programs: Green Deal Circular Purchase, NL Circular! and the Zero Waste(d) Coalition. All programs were led by MVO Nederland, a Dutch foundation who stimulates corporate social responsibility of Dutch companies.

Hunt et al. (2002) described four views on incentives for cooperation. The resource-based view, the relational factors view, the competence-based view and the competitive advantage view. The semi-structured interviews and questionnaire were based on these theoretical perspectives. Kaats and Opheij (2012) advocated the importance of open and effective communication between partnering companies. Linguistic diffusion is often the cause of failing interorganizational cooperation.

In this last chapter the most important findings of the research will be presented and a conclusion will be drawn. Based on this conclusion, recommendations will be made. Subsequently the theory, research methods, results will be critically discussed in the discussion paragraph.

6.1 Conclusion

The previous chapter shows the incentives, conditions and barriers for interorganizational cooperation in a circular economy experienced by coalition program members. This information ensures that the main question of this research can be answered:

"What are the main incentives for companies to start cooperating with each other on a circular economy and what are the necessary conditions to make a cooperation successful in a circular economy?"

6.1.1 Incentives

The first part of the research question *'what are the main incentives for companies to start cooperating with each other on a circular economy?'*, is answered in chapter 4.1 Incentives, which

elaborates on the incentives for circular economy and incentives for cooperation in a circular economy. The incentives are pointed out by the interview participants and survey respondents.

Incentives for starting with circular economy

The Ellen MacArthur Foundation identified four drivers for a circular economy: economic losses and structural waste, price risks, supply risks, and natural system degradation. In addition, Jonker et al. (2017) do also describe three main motives for circular businesses: the creation of social and ecological value, development of a durable business model and opportunities to innovate in the value chain.

This research shows that price and supply risk, however acknowledged, are not seen as a direct driver to start with circular economy. Natural system degradation and the wish to create social and ecological value is especially an incentive for semi-public organizations. Economic losses, structural waste, development of a durable business model and opportunities to innovate in the value chain are mainly incentives for commercial companies to start with circular economy. In summary, this research has shown that there is a difference in the incentives for starting with circular economy between semi-governmental organizations and private companies. Semi-governmental organizations are mainly starting with circular activities, because of their independency of market demand and lack of competition and their goal to use public money socially responsible. In addition, they want to play the role of the launching customer. Private companies, on the other hand, want to act socially responsible and use the term circular economy also for marketing purposes.

Incentives to cooperate in a circular economy

Cooperation is acknowledged by both, the literature and by the interviewees, as the key to a circular economy. Incentives to start with an interorganizational cooperation in a linear economy are described by various scientists. Incentives found in the literature are: gaining access to new markets can be a reason to set up alliances (Varadarajan and Cunningham, 1995), resolving competitive conflicts (Anand and Khanna, 2000), developing innovative products (Grenadier and Weiss, 1997), obtaining greater learning benefits (Sampson, 2002), improving technical skills (Eisenhardt and Schoonhoven, 1996) and dealing with the uncertainty and turbulence of the market (Andersen and Buvik, 2001).

The results of this research show that mainly 'obtaining greater learning benefits' is an incentive for companies to join the coalition programs of MVO Nederland. However, also sharing knowledge and inspiring others about circular business models and circular procurement is a driver. In addition, 'having a greater influence on suppliers as an alliance' is also a reason to participate in a

coalition program. This is comparable to 'dealing with the uncertainty of the market' (Andersen and Buvik, 2001). Developing innovative products (Grenadier and Weiss, 1997) is also an incentive to join one of the coalition programs. According to some interviewees the participation in a coalition program has accelerated some innovations of circular products. In addition, also 'network opportunities' and 'work on customer relationship' are mentioned as incentives to join the coalition programs of MVO Nederland. This incentive is not mentioned in the literature.

6.1.2 Conditions and barriers

The second part of the main question in this research "*what are the necessary conditions to make a cooperation successful in a circular economy?*" is answered in chapter 4.2 Conditions, which elaborates on the conditions for both the circular economy and cooperation in a circular economy. The conditions for the circular economy are mainly aimed at organizing and governance, rather than technical conditions. The research results showed that conditions for the circular economy are often also barriers that need to be overcome.

Conditions for a circular economy

The Ellen MacArthur Foundation identified the following developments on macro-level that enable the circular economy: regulatory trends, advances in technology, acceptance of alternative business models and urbanization. Jonker et al. (2017) explained three activities on a meso-level that companies find important in order to develop circular business models: insight into the degree of sustainability of the own organization, collegial support, and a network for knowledge exchange per sector. In addition, cooperation between organizations and supply chains is seen as an important condition for the circular economy. Subsequently, Jonker et al. (2017) also found three barriers which restrain the development of the circular economy: obstructing regulation, parties and value chains are not ready yet, and lack of financing. However, one could ask when the supply chain and clients are ready? And what should happen to trigger this? Answers to these questions remain unclear.

The Ellen MacArthur (2013) Foundation describes a growing acceptance of alternative business models, which is a stimulus for the development of new business models. These new business models are often based on product-as-a-service contracts, which implies a higher dependency between buyers and suppliers. In this research, trust between parties within the supply chain has been identified as important for circular economy. However, the interviewees describe that there is often a lack of trust. New business models imply also a change in the earnings models of companies, therefore, existing accounting models can form a barrier. Also, ideally, ecological and social values are monetized in a circular economy. As Jonker et al. (2017) describe, due the

changes in revenue models conventional investors are not willing to invest, which leads to a lack of financing.

In line with the findings of Jonker et al. (2017), some interviewees acknowledge that existing law and regulations are sometimes obstructing the development of circular business models. For example, regulations for recycled plastics are stricter than regulations for virgin plastics. On the other hand, the government is stimulating the circular economy by playing the role of launching customer, this stimulates their suppliers to start with circular economy.

In addition, price and quality of circular materials are sometimes also restraining the circular economy. For example, the quality of some recycled plastics over the years is not proven yet, also quite often the price of recycled materials is higher compared to virgin materials.

Also, support from the internal organization is also perceived as important for the development of the circular economy (Jonker et al., 2017). The results of the interviews are in line with this statement, however, interviewees point out that they do not always feel supported by their colleagues to implement circularity in their organization. For example, production managers responsible for the continuity of production are often afraid for innovations that could affect the continuity of the production process.

Lastly, maybe the most important condition for a circular economy: interorganizational cooperation. All interviewees acknowledge the importance of cooperation within the value chain in order to develop a circular business model. Also, the importance of cooperation between value chains is mentioned. This is in line with the statement of Jonker (2016) that the transition towards a circular economy requires a shift from organization-centric thinking towards network-centric thinking. All parties in the supply chain are dependent on each other. Despite the importance, cooperation is difficult and it demands several conditions for a success.

Conditions for interorganizational cooperation a circular economy

Several conditions for successful interorganizational cooperation and alliances are described in the literature. The resource-based view advocates the importance of complementary idiosyncratic resources for a successful cooperation (Hunt et al., 2002). The competence-based view is focused at the alliance experience, the alliance manager development capability and the partner vigilance capability of the alliance partners (Spekman and Hunt, 2000). The relational factors view is aimed at the commitment, shared values and trust between alliance partners (Hunt et al., 2002; Kaats and Opheij, 2011). Lastly, the competitive advantage view encourages that cooperation needs to create an advantage over competitors (Alderson, 1957).

Cooperation in a circular economy differs from cooperation in a linear economy. Due to new business models, focused on servitization of goods, interorganizational cooperation within a circular economy implies a long-term agreement between businesses. Both profit and risks should be equally divided within the value chain (or rather: cycle). The conditions and barriers identified by the participants of this research fit mainly in the relational factors view.

Transparency and trust are seen as essential elements for a successful cooperation. However, in the current linear economy trust and transparency between buyers and suppliers is often absent. In addition, shared values and goals are also acknowledged as important, at the same time, participants admit that creating shared values and goals is difficult and is not always possible. In their research article Hunt et al. (2002) point out the importance of shared goals, commitment and trust. Effective communication is seen as necessary in order to create these conditions. Also, Kaats and Opheij (2012) state that lack of communication or miscommunication is often the problem in an interorganizational cooperation.

Noteworthy is the participants wish for more transparency in the value chain. The interviewees describe a lack of transparency in the current linear model. The circular economy requires transparency in profit margins and the contents of materials. Kaats and Opheij (2011) do also describe this problem and encourage an open dialogue to overcome this barrier and find shared values and goals. Cooperation and conversations with co-value chain members can help to create more insight and understanding of the activities of co-members in the value chain. On the other hand, however, too much transparency will decrease the company's competition advantage. A balance between transparency and competition should be carefully scrutinized. Further research needs to be done to get a better understanding of the terms 'transparency', 'trust' and 'shared goals' in a circular economy, and what are the keys to create these conditions between organizations.

6.2 Recommendations

The main incentives and conditions for interorganizational cooperation in a circular economy are now identified. Hence, it is time to answer the question *"How can MVO Nederland create conditions that stimulate companies to start new (supply chain) collaborations to enhance the circular economy?"*. Also, based on the previous described research recommendations for further research can be made.

6.2.1 Recommendations for MVO Nederland

The research was conducted on behalf of MVO Nederland. Therefor the recommendations will be made to MVO Nederland, however, most recommendations are also applicable to civil society organizations in general.

The results of this research show that *sharing knowledge, network opportunities* and *form an alliance to have a greater influence on suppliers* are the main incentives to join a coalition program facilitated by MVO Nederland. Therefore, it is recommended to focus on these incentives when requiting new participants. Lots of businesses want to start with circular economy but do not know how to begin, those companies want to obtain knowledge. On the other hand, businesses who already started with circular economy want to exchange knowledge and experiences with companies who are also busy with developing a circular business model.

Based on the results about the conditions for a circular economy it seems wise to focus the coalition programs at *cooperation in a circular economy, new financial models* and *how to handle obstructing regulation.*

Since this research was aimed at cooperation in a circular economy only recommendations will be given for a coalition program aimed at this theme. Based on the results about the conditions for interorganizational cooperation in a circular economy it seems to be legit to focus the coalition programs on *relational factors* that influence the successfulness of interorganizational cooperation in a circular economy. This implies to aim attention at *trust*, *transparency* and *shared values and goals*. The first two concepts remain vague and require further investigation. However, shared goals is a specific theme that needs to come back in future innovation supply chain innovation programs. The theoretical framework *'lenzen op samenwerking'* by Kaats and Opheij (2011) could help finding shared goals and create an open communication between the partners.

Influencing the government

The transition towards circular economy requires a totally different governance and organizing than the current linear economy. An active role of the government is identified as important in this research. Currently, the government and semi-government organizations are starting to take the role as a launching customer, which implies that they stimulate the market to develop circular products by means of their procurement. Companies that participated in this research identified the demand of a large (semi-) government organization as an incentive to start developing circular products and services. It is expected that a change in the demand of a large private company with a large group of suppliers will have the same effect. Therefore, in order to start the shift towards the circular economy, commitment of large private-companies and (semi-) public organizations is necessary.

By the end of this year, MVO Nederland is going to merge with De Groene Zaak. This ensures that MVO Nederland will get a new activity: lobbying. This new focus could be used to convince the government to extend their role in enhancing the circular economy. First they should intensify their role as a launching customer, by involving circularity in all tendering processes. Second, a barrier for companies is the lack of investors that want to invest in their circular products. This brings the government (at least) two options: (1) a form of insurance that covers (a part of) the risks of investors, or (2) subsidies that stimulate the development or redesign of circular products. Thirdly, the government should acknowledge that the transition towards a circular economy requires strong interorganizational cooperation. Where - in contrast to the current situation - trust and transparency between partners is at stake. Circular economy programs that work on this interorganizational cooperation, such as Nederland Circulair! should be facilitated more.

6.2.2 Recommendations for further research

In this research, focused on the members of the coalition programs facilitated by MVO Nederland, several incentives and conditions for interorganizational cooperation were identified. This first exploration in the field of governance for the circular economy, raises many new questions. Especially, the identified conditions for cooperation require further inquiry. It is recommended to do further research into the condition '*trust*' and *'transparency'*: how could you regain trust between supply chain partners in a competitive world? In what way can be more openness created between supply chain members?

6.3 Discussion

Looking back on this research a number of things stand out. In this paragraph there will be reflected upon the used literature, methods and results.

6.3.1 Reflection on the used literature

The main focus of this research was interorganizational cooperation in a circular economy. Since there is no theory developed yet about interorganizational cooperation in a circular economy, traditional theories about alliances in a linear economy were used as a framework for this research.

Several incentives for interorganizational cooperation are identified in the literature. Mainly the incentive described by Sampson (2002) '*obtaining greater learning benefits*' corresponds to the results of this research. Also, the incentive outlined by Andersen and Buvik (2001) *'dealing with the uncertainty of the market'* is more or less an incentive for interviewees to participate in a coalition program. However, interviewees point out they want to have more influence on the

market and therefore aim to form an alliance. The incentive '*developing innovative products*' (Grenadier and Weiss, 1997) is also found in this research as a reason to participate in the coalition programs. Other incentives found in the literature: improving technical skills (Eisenhardt and Schoonhoven, 1996), gaining access to new markets (Varadarajan and Cunningham, 1995), resolving competitive conflicts (Anand and Khanna, 2000), were not identified as incentives for interorganizational cooperation in this research.

The theory about *alliance success* by Hunt et al. (2002) appeared to be a good starting point for this research. Prior to the research it was expected that pioneers in the circular economy who are starting to cooperate with each other are not only driven by profit and competition advantages, but also by their engagement and their mission to create a more sustainable world. Engagement and mission related conditions were not included in the theory of Hunt et al. (2002) who describe four views on analysis. The results of this research are in line with the expectations. Most findings of the research are complementary to the 'soft-side' of the theory: the *relational factors view*. However, the importance of transparency in the supply chain for interorganizational cooperation was not described in the theory of Hunt et al. (2002). The *competence-based view, resource-based view* and *competitive advantage-based view* seem less applicable according to the results of this research. However, since the circular economy is just starting and cooperation still need to be formed, the first steps might be mainly aimed at gaining trust and creating shared goals and values. When the circular economy is developed, other conditions may appear also important for interorganizational cooperation.

The transition towards a circular economy requires a radical system change. The newness of the circular economy developments cause that there is not much evidence yet about how to organize this transition. Hence, a suggestion for further research is to look into literature about radical innovations. The results from these studies might be applicable in the transition towards a circular economy. However, the transition towards a circular economy is more extreme and has the goal to change the discourse of the economic system.

6.3.2 Reflection on the methods

In this qualitative research interviews, observations and a short survey were used to collect data. This qualitative approach was helpful to explore the relatively new field of interorganizational cooperation in a circular economy. The interviews ensured an in-depth understanding of the incentives and conditions for cooperation. The data collected through this method are helpful: MVO Nederland can create new strategies, with the help of the found incentives for cooperation, to stimulate participation of their coalition programs. In this way, the research contributes to the stimulation of the circular economy in the Netherlands.

6.3.3 Reflections on the role of the researcher

Axiology is the assumption that every researcher brings their own values to a study, therefore it is important to make those values known (Creswell, 2013). In this research, the researcher has an above average knowledge about circular economy. These existing insights served as a basis to develop new knowledge through the interactions in the researched field. The outcomes of the research were unpredictable. Therefore, it was important to be open and focused on understanding before interpreting. While participating in the field feelings and thoughts about the interactions were reported and were not ignored.

The research was conducted on behalf of MVO Nederland. The research was combined with an internship at MVO Nederland. The interviewees were invited on behalf of the researcher, however, the invitation e-mail was send from an MVO Nederland-email address. Therefore, there is a chance that the research is unintentionally colored. The researcher has attempted to limit this stain by giving interviewees the opportunity to stay anonymous. One interviewee has made use of this possibility.

6.3.4 Reflection on the results

The results of this research are collected and analyzed with great accuracy and provide an explorative view in the incentives and conditions for interorganizational cooperation in a circular economy. However, the results of this research have certain limitations.

First of all, the research was mainly focused on cooperation within the coalition programs of MVO Nederland. This resulted in a sample of respondents who all join or joined a coalition program focused at circular economy. Therefore, it is difficult to generalize the results to a broader perspective, e.g. to the National level not related to the coalition programs of MVO Nederland. The results are limited to the coalition programs of MVO Nederland. Secondly, incentives to start participating in these coalitions were sometimes mixed up with actual benefits experienced during participating in the coalition program. Therefore, it is difficult to make a distinction between what drives companies to become a member and the benefits they experience during their memberships.

To conclude, this thesis has provided an insight in the incentives for companies to start with interorganizational collaboration on circular activities, which are in short: obtaining and sharing knowledge, network opportunities and having a greater influence on suppliers as an alliance. Also, the conditions for cooperation in a circular economy have been identified. Which are in general, trust, transparency and shared goals. It is recommended to do further research on how these conditions can be created.

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Appendices

Appendix 1 – Interview guide

Research question	Theoretical perspectives	Theoretical questions	Aanvullende interview vragen[2]
A. What are the key incentives for businesses to develop a ***circular business model****?*	**Hoofdvragen topic A:** - Is uw bedrijf bezig met circulariteit? Zo ja, hoe? - *Waarom bent u begonnen met de ontwikkeling hiervan?* - Wanneer bent u hiermee begonnen en wat is de reden dat u juist op dat moment bent begonnen? - Wat is uw doel op het gebied van circulair ondernemen? - Heeft dit geleid tot een ander business model?		
	Depletion of natural resources	To what extent is the depletion of natural resources or the increasing price a motive to start developing a circular business model?	- In hoeverre bent u afhankelijk van schaarse grondstoffen? - In hoeverre speelt de schaarste van die grondstoffen mee in uw overweging circulair te ondernemen?
	New information technology that enables the development of new business models	To what extent is access to information technology a motive to start developing a circular business model?	- In hoeverre maakt u gebruik van nieuwe technologie en welke rol speelt deze nieuwe technologie in de ontwikkeling van het circulaire aspect?
	Shift in consumer behavior	To what extent is the shift in consumer behavior a motive to start developing a circular business model?	- In hoeverre bent u afhankelijk van de wens van de klant? Merkt u een verandering in deze wens? - Houdt u bij het veranderen van uw business model rekening met de wens van de klant?
	Ecologische en sociale waarde creatie (Jonker et al., 2017) - grondstoffenreductie - eco-efficiency	To what extent are ecological and social value creation, such as resource efficiency and eco-efficiency a driver to start with a circular business model?	- Heeft uw bedrijf een doelstelling op het gebied van milieu/duurzaamheid? - In hoeverre was deze doelstelling een motief bij het implementeren van circulariteit in het bedrijf?
	Ontwikkelen van een houdbaar businessmodel (Jonker et al., 2017)	To what extent is the urge for a durable business model a driver to shift to a circular business model?	- Heeft u het idee dat uw organisatie een businessmodel heeft dat nog lang houdbaar is?

[2] Deze vragen zijn bedoeld als een soort topic-lijst die gebruikt kan worden om door te vragen op antwoorden op de 'openingsvragen'.

			- Zo nee, is dit een reden om te veranderen naar een circulair businessmodel?
	Kansen om te innoveren in de waardeketen, ook op gebied van procesoptimalisatie en ketenintegratie (Jonker et al., 2017)	To what extent do businesses see the development of a circular business model as an opportunity to innovate within the value-chain in order to reach process optimizing?	- Werkt u veel samen met uw keten-partners, zo ja hoe? - Op welke manier draagt deze ketensamenwerking bij aan procesoptimalisatie?

*B. What are the main **incentives** motivating companies in a circular economy to start with **interorganizational cooperation**?*	**Hoofdvragen topic B:** - Waarom heeft u besloten deel te nemen aan/aan te sluiten bij de ****? Wat motiveerde u? - In hoeverre werkt u samen met andere deelnemende bedrijven in ****? Kunt u deze samenwerking beschrijven? - Wanneer is de samenwerking voor u succesvol? Heeft u een gezamenlijk doel?		
	Learning benefits (Sampson, 2002)	To what extent are increasing learning benefits a driver businesses to seek for cooperation within a circular economy?	- In hoeverre hoopt u iets te leren van uw samenwerkingspartners? En wat hoopt u te leren? - Is dit een motief om deel te nemen?
	<u>Competitive advantage:</u> - Improving technical skills (Eisenhardt & Schoonhoven, 1996) - Developing innovative products (Grenadier & Weiss, 1997) - Gaining access to new markets (Varadarajan & Cunningham, 1995) - Resolving competitive conflicts (Anand & Khanna, 2000; Hunt et al., 2002) - Dealing with the uncertainty of the market (Andersen & Buvik, 1995)	- To what extent do companies cooperate in a circular economy in order to improve their own technical skills? - To what extent do businesses use an alliance to develop innovative products? - To what extent is gaining access to new markets a motive to start an alliance in the circular economy? -To what extent is the alliance used to solve competitive conflicts? - To what extent uses the company the alliance to deal with the uncertainty of the market?	- In hoeverre hoopt u de technische vaardigheden van uw organisatie te verbeteren? - in hoeverre bent u van plan nieuwe producten en diensten te ontwikkelen samen met uw samenwerkingspartners? - Wilt u door middel van de samenwerking nieuwe marktsegmenten ontwikkelen/betreden? - In hoeverre werkt u samen met uw concurrenten? - Heeft u het idee dat u door de coalitie vorming beter om kan gaan met de veranderingen in de markt?

	Unsuccessfulness of the company in developing a circular business model	To what extent is the unsuccessfulness of a company a driver to seek for cooperation within a circular economy?	- In hoeverre heeft u samenwerking met andere bedrijven nodig om te overleven als bedrijf? - Is samenwerking met andere bedrijven noodzakelijk voor een succes in de circulaire economie denkt u? En waarom?
	Resource-based: - Access to complementary resources (Das and Teng., 2000)	To what extent is access to complementary resources a driver to cooperate with other companies in the circular economy?	- Wisselt u grondstoffen/materialen uit met andere partijen in het samenwerkingsverband?

C. What are the main conditions facilitating a successful cooperation between companies in a circular economy?	**Hoofdvragen topic C:** - Hoe ervaart u de samenwerking met andere bedrijven in de ****? - Ervaart u een toegevoegde waarde van de samenwerking? Zo ja, wat voor? Draagt de samenwerking bij aan het ontwikkelen van een circulair business model? - Wat gaat goed? Wat gaat minder goed? Hoe komt dit denkt u?		
	Alliance competences (Spekman & Hunt, 2000) - experience - manager development capability - partner vigilance capability	To what extent do your alliance partners have *alliance competence*?	- Heeft u ervaring in het samenwerken met andere bedrijven? Ervaart u verschillen in het samenwerken aan een circulaire economie ten opzichte van een lineaire economie? Welke? - In hoeverre bent u op de hoogte van de doelstellingen m.b.t. circulaire economie van uw samenwerkingspartners? - Wie in uw bedrijf is verantwoordelijk voor de deelname aan het samenwerkingsverband?
	Relational factors (Morgan & Hunt, 1994) - commitment - trust - shared values - effective communication - opportunistic behavior	To what extent is *relational factor* at stake in the alliance?	- In hoeverre voelt u zich verantwoordelijk voor het slagen van de samenwerking en het behalen van het gezamenlijke doel? - In hoeverre heeft u vertrouwen in het succes van de samenwerking en de inzet van uw partners? - Komt u meer halen of brengen in de coalitie? - In hoeverre helpt u partijen in de coalitie zonder dat u hier iets voor terug krijgt? En wat vindt u hiervan?

E. How can MVO Nederland create conditions that stimulate companies to start new (supply chain) collaborations to enhance the circular economy?	**Hoofdvragen topic E:** - Hoe ziet u de rol van MVO Nederland in deze samenwerking? - Wat is de meerwaarde van MVO Nederland? - Hoe kan MVO Nederland samenwerkingen tussen bedrijven stimuleren? - Wat gaat goed in uw huidige contact met MVO Nederland? Wat kan beter?

Appendix 2 – Invitation mail

Beste [name],

Ik mail u naar aanleiding van uw deelname aan het ketenproject voor Kunststof en Rubber in de Ondergrondse Infrastructuur van [coalition progam] namens de [name company].

Ik wil mij graag even kort aan u voorstellen, mijn naam is Lisa Bakker, student Environment and Society Studies aan de Radboud Universiteit. Ter afronding van deze studie doe ik een onderzoekstage bij MVO Nederland. In opdracht van Pieter van den Herik en Michel Schuurman onderzoek ik de drijfveren van organisaties om te gaan samenwerken met andere organisaties in de circulaire economie. Ook kijk ik naar de omstandigheden die een dergelijke samenwerking tot een succes maken. Dit doe ik onder andere door interviews af te nemen bij deelnemers van verschillende netwerken en coalities, zo ook de ketenprojecten van [coalition program].

Mijn vraag aan u
Ik heb uw gegevens ontvangen van Pieter van den Herik. Hij heeft mij onlangs veel verteld over de projecten binnen [coalition progam], dit heeft er voor gezorgd dat ik dit project graag wil onderzoeken. Mijn vraag is daarom aan u: *wilt u deelnemen aan een (telefonisch)interview over de samenwerking binnen het [coalition program] en uw drijfveren om aan dit project deel te nemen?*

Praktisch
Het vraaggesprek zal naar verwachting 45 minuten tot een uur duren en vindt bij voorkeur plaats tussen 8 mei en 2 juni 2017. Mocht u binnen deze termijn niet kunnen, maar wel open staan voor een (telefonisch)interview, dan is een ander moment ook bespreekbaar.
Tot slot, uw privacy wordt natuurlijk te allen tijde gewaarborgd. De interviews worden daarom, indien gewenst, anoniem verwerkt en gebruikt voor mijn scriptie.

Ik kijk uit naar uw reactie. Mocht u nog vragen of opmerkingen hebben dan kunt u altijd bellen naar 06-52232202 of mailen naar l.bakker@mvonederland.nl. Alvast bedankt.

Met vriendelijke groet,

Lisa Bakker
Tel. 06-52232202
Stagiaire bij MVO Nederland
Afdeling Circulaire Economie & Klimaat

Appendix 3 – Overview participants

Green Deal Circulair Inkopen

Company	Organization type	Person	Date
Waternet	Semi-overheid	Cees Oldenburg	9-5-2017
GP Groot	Commercieel	Nanda Pleging	10-5-2017
Gispen	Commercieel	Rick Veenendaal	12-5-2017
Meerlanden	Commercieel	Edwin Bergman	30-5-2017
ProRail	Semi-overheid	Katja Nelissen	17-5-2017

14 completed questionnaires among participants of the Community of Practice 11-5-2017

Nederland circulair!

Company	Organization type	Person	Date	
Delta Development EU	Commercial	Xander van Hoof	10-5-2017	Klimaatinstallaties
Anonymous	Commercial	Anonymous	10-5-2017	Klimaatinstallaties
Engie	Commercial	Michiel Burggraaff	16-5-2017	Klimaatinstallaties
Alliander	Semi-public	Hendrik de Vries	16-5-2017	Ondergrondse infra
Twentse Kabel Fabriek	Commercial	Yme Bosma	15-5-2017	Ondergrondse infra
UMC Utrecht	Semi-public	Edwin van Stralen	23-5-2017	Zorgeloos Afval

Zero Waste(d) Coalitie

Company	Organization type	Person	Date
Milgro	Commercial	Guido Broek	12-5-2017
Rai	Commercial	Josieke Moens	31-5-2017
AvroTros	semi-public	André Key	2-6-2017

Expert Interviews

Company	Organization type	Person	Date
MVO Nederland	Foundation	Marloes Gerritsen	19-4-2017
Radboud Universiteit	Semi-public	prof. Jan Jonker	2-5-2017
MVO Nederland	Foundation	Michel Schuurman	23-5-2017

Appendix 4 – Survey Green Deal Circular Procurement

Korte vragenlijst ten behoeve van master scriptie onderzoek

Beste deelnemer Green Deal Circulair Inkopen (GDCI),

Voor u ligt een korte vragenlijst over de samenwerking binnen de GDCI (Z.O.Z). Deze vragenlijst is opgesteld voor mijn afstudeeronderzoek voor de studie Environment and Society Studies aan de Radboud Universiteit te Nijmegen. Ik richt dit onderzoek op samenwerking tussen bedrijven en overheden binnen de circulaire economie. Om dit onderzoek uit te kunnen voeren loop ik stage bij MVO Nederland en onderzoek ik onder andere de Green Deal Circulair Inkopen.

Wilt u mij helpen met mijn onderzoek door de achterzijde van dit blad in te vullen? De antwoorden op de vragen zullen anoniem worden verwerkt in een totaaloverzicht.

Alvast bedankt voor uw medewerking!

Met vriendelijke groet,

Lisa Bakker

Stagiaire bij MVO Nederland

l.bakker@mvonederland.nl

Z.O.Z. voor de vragenlijst

1. ***Ik ben sinds 20____ ondertekenaar van de Green Deal Circulair Inkopen.***

2. ***Waarom heeft u zich in eerste instantie aangesloten bij de Green Deal Circulair Inkopen? (kruis maximaal 3 opties aan)***

Ik wilde…
- ☐ deelnemen om de organisatie doelstelling te halen
- ☐ meer informatie over circulair inkopen
- ☐ op de hoogte blijven van de ontwikkelingen van circulair inkopen
- ☐ leren hoe je een circulair inkooptraject opstart
- ☐ ondersteuning bij het opstarten van een circulair inkooptraject, het lukt niet alleen
- ☐ een bestaand circulair inkooptraject verder vormgeven
- ☐ met andere partijen samenwerken aan circulair inkopen
- ☐ in contact komen met andere inkopers
- ☐ kijken wat concurrenten doen op het gebied van circulaire economie
- ☐ Een alliantie vormen en daardoor meer invloed op aanbieders/producenten uitoefenen
- ☐ Iets anders, namelijk:_____

3. ***Kunt u aangeven in hoeverre de onderstaande stellingen van toepassing zijn voor uw organisatie?*** (1=totaal niet mee eens, 5=helemaal mee eens)

	1	2	3	4	5
Ik neem circulariteit mee in alle inkooptrajecten	O	O	O	O	O
Mijn organisatie heeft als doel over te stappen op een circulair business model	O	O	O	O	O

4. ***Wat is voor op dit moment de belangrijkste toegevoegde waarde van de samenwerking met andere partijen binnen de Green Deal Circulair Inkopen?***

_____
_____
_____

5. ***Kunt u aangeven in hoeverre de onderstaande aspecten van toepassing zijn voor u binnen het samenwerkingsverband Green Deal Circulair Inkopen (GDCI)?***
(1=totaal niet mee eens, 5=helemaal mee eens)

	1	2	3	4	5
Ik werk veel samen met andere partijen uit het GDCI netwerk	O	O	O	O	O
Ik heb vertrouwen in de mede-deelnemers van het GDCI netwerk	O	O	O	O	O
Ik deel dezelfde visie over circulair inkopen met mede-deelnemers	O	O	O	O	O
Ik kan mij geheel vinden in het doel van de GDCI werkgroep waarin ik participeer	O	O	O	O	O
Ik kom meer halen dan brengen in de GDCI en GDCI werkgroep	O	O	O	O	O
Ik ben bereid tijd vrij te maken om anderen binnen het GDCI netwerk te helpen	O	O	O	O	O
Zonder de GDCI was het mij niet gelukt om circulair in te kopen	O	O	O	O	O
Ik voel mij verantwoordelijk voor het slagen van de GDCI en de werkgroepen	O	O	O	O	O

Eventuele opmerkingen/vragen/feedback/tips:
_____
_____

Hartelijk dank voor uw medewerking.

Appendix 5 – Dutch Quotes

Drivers to start with circular economy

1. Katja Nelissen sustainability policy advisor at ProRail describes the responsibility to spend public money right: "*We zijn geen overheid maar worden wel gefinancierd vanuit de overheid en hebben dus ook een verantwoordelijkheid om op een goeie maatschappelijke manier met overheidsgelden om te gaan*."
2. Hendrik de Vries, consultant sustainable and circular economy at Alliander, describes: "*Een leverancier, een commerciële partij die wil dat misschien ook wel, maar die heeft een vraag, een klant nodig en wij zijn volgens mij in de uitgelezen positie om die vraag te stellen. Wij hebben wel wat dat betreft klein beetje de ruimte om te innoveren en onze maatschappelijke rol op te zoeken. Als wij ook afhankelijk waren van een vragende klant dan werd het weer veel ingewikkelder. Juist omdat wij die positie hebben zijn wij de uitgelezen partij om dit te doen."*
3. Katja Nelissen, ProRail points out that the scarcity in the future is a reason to work towards a circular business model: *…de Ellen MacArthur Foundation zegt over 57 jaar is koper gewoon op. En dat is voor ons op dit moment nog een belangrijke grondstof. Dus we moeten manieren vinden om koper te hergebruiken en we moeten alternatieven vinden."*
4. Xander van Hoof project developer at Delta Development EU describes the reason why they decided to work with a circular economy concept: *"Er staan best veel kantoren al in Hoofddorp. We zochten eigenlijk iets wat duurzaam was en waar we het aan op konden hangen."*
5. Rick Veenendaal circular economy manager at Gispen mentions that the purchase of circular furniture helps the client to achieve their sustainability goals. *"Een partij zoals Alliander, maar nu ook UMC Utrecht, de ABN AMRO, NS, het UWV en dat soort partijen vragen het ook vanuit een stukje maatschappelijk verantwoord ondernemen. Het helpt ook hen weer in hun eigen doelstellingen."*
6. Xander van den Hoof, Delta Development: "*Dat degene die het toiletwater gaat reinigen dat die nou bekijkt hoe het systeem het beste geëngineerd kan worden. En dat die dan dus ook kijkt hoe zo'n systeem werkt in plaats van dat hij alleen een pompje levert. De circulaire economie kun je door die ketens anders te organiseren kun je veel meer innovatie er uit halen en veel betere kwaliteit uiteindelijk halen dan dat je met het voorgeschrevene lineaire model kan."*

Drivers to start cooperating

7. Josieke Moens manager production at Rai is participating in the Zero Waste(d) coalition. She mentions that she wants to have more technical information about recycling processes of plastic. *"Plastic heeft een behoorlijk hightech recycle proces en een behoorlijk complexe markt. Dus daarom zit ik bij MVO Nederland om daar meer over te weten te komen want daar heb ik ook geen verstand van."*
8. Xander van den Hoof, project developer at Delta Development EU, argues that more knowledge is necessary if you want to broaden the circular economy and the number of parties that are working with circular business models. *"Niet iedereen heeft die kennis, zeker als het wat kleinere bedrijven zijn, die weten niet wat zo'n projectontwikkelaar wil… En andersom ook, ik weet niet wat zij doen. Ik denk dat het belangrijk is om veel meer partijen in dit soort kennisdeling te hebben, zodat je ook de oplossingsrichtingen beter in beeld kunt krijgen en daar naar toe kunt werken."*
9. Michel Burggraaff (Engie) points out that the cooperation programs are usefull to learn about processes and system changes*: "Achteraf gezien heeft het ons wel geleerd hoe wij moeten kijken naar dit soort trajecten."*

10. Nanda Pleging procurement advisor at GP Groot is able to use the contacts from the network to connect her colleagues with the right employee of the companies she met in the coalition program. Een voordeel is.. *"dat ik mensen uit ons bedrijf weer kan koppelen met mensen binnen een ander bedrijf binnen het netwerk, dat is interessant."*
11. Josieke Moens mentions that it is nice to meet like-minded people: *"je zit met mensen die op dezelfde manier al aan het denken zijn zit je om tafel. Dat is erg prettig."*
12. Hendrik de Vries (Alliander) argues that the cooperation in the Nederland Circulair coalition has accelerated developments: *"Je maakt deel uit van een groep, dus als er barrières zijn of problemen dan kun je dat meteen bespreken en oplossen. Je merkt toch dat als je met een leverancier praat die wat meer stand-alone is en het zelf allemaal probeert op te lossen dat die soms toch niet een stap verder komen. Dankzij deze samenwerking is er een aantal dingen versneld."*
13. Katja Nelissen (ProRail) says that you need partnership with your suppliers in a circular economy, because you need to develop the best solution together. "*Je hebt wel partnership nodig en iemand die snapt wat jij wil en die er ongeveer hetzelfde in zit. Want ook die partij zal ook lang niet altijd het pasklare antwoord in de kast hebben liggen. Die kan ook zeggen van ik ga graag het gesprek aan en dan gaan we samen zoeken naar wat is nou de beste oplossing."*
14. Michel Burggraaff (Engie) decided to participate in the Nederland Circulair! program. "*We hadden de mogelijkheid om daar onze klant ook voor uit te nodigen en dus samen met hen een ontwikkeltraject in te stellen en mee te doen aan zo'n ketenaanpak. Dat was voor ons interessant omdat je de klantrelatie daardoor ook extra inhoud kunt geven."*
15. Rick Veenendaal circular economy manager at Gispen describes the transition towards a circular economy as a system change and you can only change a system if all parties contribute *"Kwetsbaar en flexibel opstellen en risico's samen identificeren, beleggen en managen."*
16. Rick Veenendaal points out the importance of transparency and trust and the necessity to handle this together. *"De basis in het hele verhaal is transparantie en vertrouwen. En in die lineaire wereld is die echt zoek. Om een circulaire wereld te laten slagen heb je dat nodig. En volgens mij kun je dat alleen maar samen doen."*
17. Edwin van Stralen waste manager at UMC Utrecht does also acknowledge the importance of cooperation in a circular economy. "*We gaan nu bijvoorbeeld handschoenen aanbesteden en onze inkoper vroeg dan aan onze nieuwe afvalverwerker van kun je even meekijken want dit en dit zijn de grondstoffen waar we onze handschoenen van kunnen maken maar wat zijn nu de beste om die dingen het beste recyclebaar te krijgen."*
18. Xander van den Hoof project manager at Delta Development EU describes why transparency about the revenue models between co-members of the value chain is important: *"Dan kun je ook zeggen van dit is wat je normaal uitgeeft aan die en die kosten en dit is wat je bij een service contract uitgeeft aan die en die kosten. Dan kun je het toetsen. Die slag is er nog niet, er is nog te weinig informatie."*
19. Michiel Burggraaff, commercial manager at Engie, explains:*"… we weten niet van alle materialen wat de grondstoffen zijn. Dus daar zit nog heel erg een behoefte om daar überhaupt inzicht in te krijgen. Dat betekent een verandering voor onszelf om die vraag te gaan stellen. Maar ook een vraag aan onze onderaannemers en ook de leveranciers om die vraag te kunnen beantwoorden en te willen beantwoorden. En ja zolang we dat niet weten kunnen we eigenlijk niet eens een goed antwoord geven op die vraag of we daar [red: schaarse materialen] nu wel of niet afhankelijk van zijn en wat eventuele alternatieven kunnen zijn."*
20. Xander van den Hoof project manager at Delta Development EU explains that those long term contracts have an impact on the cooperation partners they choose. "*als je een serviceprovider hebt moet dat een stevige partij zijn want je hebt langdurige verplichtingen en een niet zo'n*

grote installateur kan zo binnen een jaar of 5 weer failliet gaan en dan heb je weer een breuk in je verplichtingen. Dus je wilt eigenlijk dat er een stevige partij zit."

21. Xander van den Hoof: *"De markt is er nog niet echt aan toe. Maar dat heeft er ook mee te maken dat we de propositie nog niet heel goed kunnen uitleggen."*
22. Jan Jonker professor corporate sustainability at Radboud University sees this argument also in his study about new circular business models in the Netherlands. *"…er wordt bij herhaling gezegd, de consument of de klant is nog niet toe aan circulaire economie. Met andere woorden 'wij zijn nog niet circulair of we beginnen nog niet met circulair organiseren zolang de klant daar nog niet aan toe is'."*
23. *Jan Jonker: "Als je in de koffiezetapparaten zit, en alle wet en regelgeving is gericht op het maken van een nieuw apparaat. En je moet je extra inspannen om gerecycled plastic te gebruiken in je koffiezetapparaat. Je moet daar speciaal een vergunning voor aanvragen en dat is maar voor een bepaald onderdeel van je koffiezetapparaat ten gelde en het wordt er geen cent duurder of goedkoper door en de klant ziet het niet eens... …bedrijven kunnen wel zeggen dat ze circulariteit een belangrijke factor vinden, maar in de praktijk zegt ook gewoon hun eigen klant, doe mij maar virgin want dan zijn we van dat gezeik af."*
24. Yme Bosma sales manager energy at Twentse Kabel Fabriek explains: "*We zijn nu al in staat om een buitenmantel van een kabel, dus de buitenste schil, om die van gerecycled materiaal aan te bieden. Maar ja je moet dan wel zeker weten dat die buiten mantel in al die jaren dat zo'n kabel wordt toegepast in de grond, dat die al die jaren ook goed blijft. Dat de kwaliteit van de gecyclede materyalen minstens de kwaliteit van de virgin materialen moet benaderen, want anders kan het niet."*

Case-study Alliander - Gispen

25. Hendrik de Vries, consultant sustainable and circular economy at Alliander: *"Als wij ook afhankelijk waren van een vragende klant dan werd het weer veel ingewikkelder. Juist omdat wij die positie hebben zijn wij de uitgelezen partij om dit te doen."*
26. Hendrik de Vries, consultant sustainable and circular economy at Alliander: *"Samenwerking is het allerbelangrijkste. De techniek is het probleem niet, oplossingen zijn het probleem niet. Samenwerking is de allergrootste uitdaging, daar ben ik van overtuigd."*
27. Hendrik de Vries, consultant sustainable and circular economy at Alliander: "*Met name een aantal mensen van de kabel leveranciers heb ik nu veel vaker gezien dan twee drie keer per jaar in de reguliere gesprekken. Je hebt een ander gesprek. Je bent voor mijn gevoel wat opener en eerlijker in wat je kunt."*
28. Rick Veenendaal, circular economy manager at Gispen: *"80% Van onze proposities willen we als mens en lineaire vragen ook een circulaire aanbieding doen."*
29. Rick Veenendaal, circular economy manager at Gispen*: "Je hebt natuurlijk een paar concurrenten die hetzelfde totaalpakket zijn zoals Gispen is. Daar beginnen we nu voorzichtig met elkaar af en toe elkaar op te zoeken. En dan met name als wij gaan revitaliseren en producten van onze klanten terugkrijgen, zitten daar ook producten bij van onze concurrent. Dus hoe krijg je als het bijvoorbeeld een bureaustoel van een concurrent is, hoe krijg je een nieuwe armlegger. Dus daar begint de markt nu langzaam aan te verkennen van hoe kunnen we elkaar daarin helpen. In plaats van dwarszitten*."
30. Hendrik de Vries, consultant sustainable and circular economy at Alliander: "*…onze techneuten zeggen 'ja we zijn al eens genaaid door die' dat is natuurlijk aangedikt, maar het is wel hoe er soms naar wordt gekeken. Specificaties worden helemaal dichtgetimmerd, omdat ze anders bang zijn dat de leverancier je een oor aan probeert te naaien."*