Together... Yet Apart

Exploring the distribution of roles within collaborative commons

MASTER THESIS

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Dear reader,

Ten years ago, I started to climb the so-called educational ladder after graduating from lower general secondary education (MAVO). I learned a lot during the past ten years, grew as a person through experiences abroad and gained much valuable knowledge. This thesis was the final assignment on behalf of the Master Business Administration, specialization Strategic Management. Meaning an end has come to my time as a student, and new challenges are ahead.

The research that you are about to read is an explorative research on the distribution of roles within a new concept: the collaborative commons. I was given the opportunity to write this thesis in order to contribute to the PhD research of Moniek Kamm and was even able to discuss a lot with fellow students who were also contributing to this research. This made the process not only an individual but also a collective iterative process which was very educational.

I want to take the opportunity to thank Moniek Kamm, for her advice and guidance throughout writing this thesis. Furthermore, I owe gratitude to Jan Jonker, who was initially not my second examiner but agreed to read it all and came up with valuable feedback as well. Thanks to their availability and rapid replies, I was able to finish my thesis in time of which I am very grateful for.

I hope you will enjoy your reading,

Stefanie Hillenaar

Nijmegen, August 2020
Abstract

The urgency of regenerating earth’s resources is slowly becoming the consensus. Citizens want to undertake action and construct collaborative commons. In these collaborative commons, the community is consciously creating value, and together share the benefits of a local or regional business. To create a better understanding of commons, Ostrom drew the IAD Framework. Nevertheless, the interactions included in the framework were not elaborated upon. Understanding the interactions could contribute to more knowledge regarding the strategic decision-making process within collaborative commons.

To create this understanding, this research aimed to explore the interactions and roles within the concept of collaborative commons by examining two frameworks. Firstly, the degree of participation is determined with the participation ladder of Pröpper. Secondly, the power relation between actors is described with the Multi-Actor Perspective of Avelino and Wittmayer.

Analysing four cases, all based in the region Gelderland, it was found that the degree of influence the participants could practice, differs for each case and even differs per decision and could therefore not be concluded. This study has also shown that the governing board initiates the decisions. The board then interacts with its members/municipality for approval. These two parties need each other, which translates in a synergetic or cooperative relationship between actors.

Concluding, the collaborative commons who generally claim or are acclaimed to be for and by civilians operate together, yet apart.

Key Terms: Collaborative commons, NBMs, Roles, Decision-making, Synergy
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Chapter 1. Introduction

The development of the global economy has been driven by a linear model since the early days of industrialisation. A linear model is a model of resource consumption in which products are produced from raw materials, consumed and then disposed of as waste, a so-called take-make-dispose economy (MacArthur, 2013). In 1955, Life Magazine was even promoting disposable items as it would cut down household chores and called it “Throwaway Living” (Magazine, 1955). The Earth’s climate and ecosystem are increasingly influenced by these human activities (Rockström et al., 2009) resulting in rising temperatures, melting ice, land that will overflow and coral that is dying (Kirschbaum, 1995; Stocker et al., 2013). Besides global warming, we are also abusing Earth’s resources, creating an infinite linear increase in production in a world with finite resources (Bonviu, 2014). These societal problems (global warming and resource depletion) show there is an urgent need for the transition to sustainability because the environment and thus our life-support system has a time limit. We cannot create more “environment”. So we need to save the only environment there is and allow time for what we already have damaged to regenerate (Goodland, Daly, & El Serafy, 1993).

Unfortunately, we are still surrounded by organisations focused on the industrial model; transforming goods into products and making sure these particular products will only last for a determined time (Jonker et al., 2016). The resources are exhausted within this production model. In order to realise a different course of thinking, we need to (re)learn how to organise (Jonker & Faber, 2015). We need to escape the pathologies of the neoliberal economic order (an economic system based on the maximisation of profits and the minimisation of costs) (Bollier, 2014) and adapt a new economic narrative to sail away from this industrial civilisation (Rifkin, 2012).

This new way of organising requires new business models as well (Bollier, 2014; Jonker, 2012). But what is a business model? There are different definitions of the phenomena business model, but what these definitions all share is that a business model includes the organisational core to create (financial) value (Cantrell & Linder, 2000). A business model consists of three elements, as can be seen in Figure 1. The first element is the logic of created value: does the organisation create financial, material or social? Secondly, the organisation
model, how is this value proposition organised? Finally, the revenue model. In here, the costs come together with the profits realised by the value proposition (Jonker et al., 2016). Most organisations think organisation-centric (Jonker et al., 2016). Thinking organisation-centric focusses on realising the financial values. In these organisations, business and revenue models are often intertwined and become synonyms of one another.

New Business Models (NBMs) include all new forms of organising in which an organisation purposely focuses on collectively creating multiple economic, ecological and social values (Jonker, 2012). NBMs are business models in which collaboration stands central, and the organisations’ thoughts are organised around a circular economic perspective (Janssen & Jonker, 2014). The elements of the business model mentioned before are examined from a different perspective. Table 1 shows an overview of these changes in elements. First of all, the definition of value is broadened. Besides realising financial values, social and ecological values are now taken into account as well. This broader definition of the concept value is called multiple value creation (Simanis & Hart, 2011). Multiple value creation is more than a new way of working alone; it is a new collaborative ability (Jonker, 2012). Secondly, in NBMs, multiple parties are involved. Therefore, the organisation-centric is changing into a configuration of multiple parties with several perspectives (Janssen & Jonker, 2014) and changes the element of ‘Organisation Model’. Finally, the revenue model needs a different strategy in order to succeed in this new way of organising as well. It is important to define ‘profit’ differently, not in terms of money but in terms of how the community can benefit from the results that originate (Jonker et al., 2016).

<table>
<thead>
<tr>
<th>Elements of the model</th>
<th>Conventional Business Model</th>
<th>New Business Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logic of created value</td>
<td>Focus on financial values</td>
<td>Focus on multiple value creation</td>
</tr>
<tr>
<td>Organisation model</td>
<td>Organisation-centric perspective</td>
<td>Multiple perspectives</td>
</tr>
<tr>
<td>Revenue model</td>
<td>In terms of money</td>
<td>Beneficial results</td>
</tr>
</tbody>
</table>

Table 1. Overview of changed elements
Source: (Jonker et al., 2016)

New Business Models need to lead towards a ‘new’ economy, or rather a WEconomy. The WEconomy is operating on the principle of collaboration, and collective governance in which social open-sources is usually at the basis of those ideas and new models are necessary to redefine the definition of collaboration (Jonker & Faber, 2015). One of these NBMs are community-based business models (CBBM). The concept of CBBM can be compared to civic
or social entrepreneurship (Henton, Melville, & Walesh, 1997; Jonker & Faber, 2015; Leadbeater & Goss, 1998) or civil society, which stands for everything that is not market nor government (Avelino & Wittmayer, 2016). Regardless of the used term, the main characteristic is that it is a collaborative action of different individuals who are taking responsibility for improving the quality of life in a community (Bestuur, 2012; Goldsmith, 2010; Hurenkamp, Tonkens, & Duyvendak, 2006; Jonker & Faber, 2015). Citizens are becoming essential since they started to participate in economic life, creating their communities. Collaboratively they start energy cooperatives, knowledge platforms, think of new ways to organise health care and think of ways to reduce waste. Communities form a part of the sharing/collaborative economy (Bauwens & Kostakis, 2014; Ostrom, 1990).

Commons are interpreted as the concept of a community sharing resources (Basu, Jongerden, & Ruivenkamp, 2017). It became popular to define commons as shared resource term because Hardin, ecologist, wrote a very often cited article called: The Tragedy of the Commons (Hardin, 1968). In chapter 2A the content of this article is shortly explained. Ostrom (1990) drew on several studies of communities who were able to manage their commons for decades and sometimes even longer (Bradley & Pargman, 2017). The community-based initiatives that this thesis addresses differ from Ostrom’s (1990) natural resource commons, in that community members nowadays are not reliant on the resources they address for their immediate existence. The main aim of these communities is to make it easier for its users to collaboratively solve societal problems and make them less dependent on corporate and or state power (Bradley & Pargman, 2017). Bradley and Pargman (2017) referred to these commons as the 21\textsuperscript{st}-century commons but lacked information on what these commons contain. Rifkin (2014) described the modern common as collaborative commons. These collaborative commons democratise access to not only material resources but information too.

An extension of this definition is needed to understand the strategic decision-making process within communities and the roles that can be distinguished, which is the aim of this research. In this thesis, four different cases will be analysed, which will be referred to as “Collaborative commons”. Meaning, communities which aim to solve societal problems, make the users less dependent on corporate or state power, by sharing materials and information within the common through collaboration.
1.1 Research objective and main research question

Within the collaborative commons, ordinary people can deliberate with others and make their own rules for managing the resources on which they depend, set limits on overexploitation and abuse of Earth’s natural systems (Bollier, 2014). There are different concepts of NBMs, and the definition of these concepts are still not exhaustive. The aim of this research is not to formulate an exhaustive definition but exploring the interactions and roles within the concept of collaborative commons to create a better understanding of these new ways of organising.

Literature, so far, does not offer empirical data in which the distinguishing of actors and the different levels and roles they fulfil are made explicit (Avelino & Wittmayer, 2016). This thesis will contribute to the literature by defining roles and performing actors within collaborative commons. This thesis will give insights into different interactions between different actors within and outside of the commons. The following research question helps to guide this research: *Which roles can be defined during the decision-making?* The first step is to gather information in order to understand how the community works and explore who the different actors are. The second step is to describe which frameworks are needed to explore how the community makes decisions. Formulated as questions, we now have a main question and sub-questions:

The main question:

- *What roles can be defined during the strategic decision-making process within collaborative commons?*

Sub questions:

- *Who are the actors within the collaborative common?*
- *How are the decisions made within the collaborative common?*

1.1.1 Scientific contribution

Little can be found in literature about collaborative commons. Researcher Kamm started to explore them more explicitly, and this research will contribute to this PhD by examining a part of the main research executed. This subpart covers the decision-making process. How decisions are made, what roles and actors can be defined but most importantly, how they collaborate. This research tries to contribute to the understanding of the concept of collaborative commons.
Furthermore, frameworks that are previously used in other research are used, which is testing the value of these frameworks and their relevance.

1.1.2 Practical relevance
Knowledge is power. Since there is not much known about the roles within a community, the practical relevance of this thesis is to give communities some insights in how they can divide specific roles and what is needed to make decisions successfully. Not only internal roles will be described, but also roles of external stakeholders, e.g., the government are included. This makes the outcomes practically relevant for governmental bodies engaged in governance of sustainability too.

1.2 Thesis Outline
This thesis is divided into five chapters. The first chapter is the introduction, followed by the theoretical framework in chapter 2. The theoretical framework helps to define and evaluate theories that are used in this research and show why these are relevant in order to answer the formulated research question. Chapter 3 discusses the methodology of the research. Concerning research methods utilised, limitations of the research are stated, and finally, attention will be spent to research ethics. The main findings are presented in chapter 4. Chapter 5 will conclude and will end with a discussion section that critically reflects on the research and researcher, as well as directives for future research.
Chapter 2. Theoretical Framework

In this chapter, relevant theories are discussed and evaluated. All theories discussed in this chapter will help to answer the main and sub-questions of this research and explain why a specific approach is chosen. The chapter is divided into two sections to create more overview.

2. A Background information on the commons

In this section, the framework needed to analyse the background information, which can be used for creating a better understanding of the commons, is described.

2. A.1. The tragedy of the commons

Imagine one lives in a small village and depends on the local fishpond in order to eat. This pond is shared with three other villagers. Within a day, 50% is regenerated. If the pond started with 120 fish, each villager should bring ten fish home. Meaning 40 fish will disappear but overnight 50% is regenerated (0.5 x 80 = 40) and the pond will be fully restocked. Hardin (1968) proposed that individuals who act independently and rationally will always try to maximise their benefit, positioning short term self-interest against the common good. This will end up badly for everyone. If one of the villagers takes more than ten fish, the regeneration rate drops, and the population cannot bounce back. This will eventually result in an empty pond. This is relatable to the societal problems described in the introduction: one car will not pollute the air, but billions do. One producer will not cause scarcity in Earth’s resources, billions do.

2. A.2 Attributes of the commons

As described in the introduction, Elinor Ostrom successfully drew on several studies of communities that were able to manage their commons for decades (Ostrom, 1990; Ostrom, Gardner, Walker, et al., 1994). These communities were able to prevent a tragedy as described above. The problem described within this tragedy is to tackle the problems that may arise when engaging into collective action such as participants becoming tempted to mainly act out of self-interest instead of moving to optimal collaborative outcomes. In other words, it is important to gain a co-operators dividend (Lichbach, 1996). Several structural variables affect the likelihood that a set of participants can achieve co-operators dividend such as; the number of participants, whether the benefits are subtractive or fully shared, the heterogeneity of participants, face-to-face communication and links between individuals (Ostrom, 2010). It is impossible to posit simple explanations solely based upon one variable, meaning it is not possible to conclude that
the size of a community makes the difference, or that the degree of heterogeneity alone makes the difference. The combination of the mentioned variables helps or hinders the participants of the community to affect reputation, trust and reciprocity. These, in turn, affect the degree of cooperation and mutual benefits (Ostrom, 2010).

2.A.2.1 The number of participants involved
According to Olson (1965), the size of a group affects its optimality and whether or not it is capable of achieving public good. Olson states that if the group is getting larger, this negatively influences the community due to two reasons. Firstly, if a group gets bigger, single inputs of individuals become less noticeable. If one individual feels more or less invisible, it can create the idea that their free riding will not be seen and not harm the provision of the public good. Second, within more substantial groups, it is harder to coordinate strategies and to come to an internal agreement, which in its turn causes higher transaction costs and thus diminish the number of mutual benefits. However, Chamberlin (1974) argues that differences in group size affect other structural variables, and therefore it depends on how these variables are affected to determine the likelihood of cooperation. As described above, it is not just one variable but the combination of several variables that affect the likelihood of cooperation.

2.A.2.2 Subtractive versus fully shared benefits
When the good that is being shared by the community has pure jointness of supply, the addition of more participants or individuals does not detract from the benefits enjoyed by others (Mueller, 2003). Goods that are subtractable from nature, better known as common-pool resources, have to deal with problems such as free riders, overharvesting and crowding. Therefore, if the group is getting bigger within these kinds of communities, an increase in the number of participants harms the probability of achieving social benefits (Mueller, 2003). While analysing the communities, it is needed to take into account to which category it belongs. The table below, Table 2, can help to determine what kind of good the community is sharing.

<table>
<thead>
<tr>
<th>Difficulty of excluding potential beneficiaries</th>
<th>Subtractability of use</th>
</tr>
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<tbody>
<tr>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>High</td>
<td>High</td>
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<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toll goods</td>
<td>Public goods</td>
<td></td>
</tr>
<tr>
<td>Private goods</td>
<td>Common-pool resources</td>
<td></td>
</tr>
</tbody>
</table>

*Table 2. Four basic types of goods*  
2.A.2.3 The heterogeneity of participants
Heterogeneity in assets, information and pay-offs are most likely negatively related to co-operators’ dividend. Olson (1965) states that if only one, or a small part, of the group has a different pay-off, it will increase the probability of a group, achieving public good. However, the literature contains several arguments that define heterogeneity as a severe threat to cooperation (Bardhan, 1993; Isaac & Walker, 1988; Johnson & Libecap, 1982; Kanbur & Mundial, 1992; Libecap & Wiggins, 1984; Press & Hardin, 1982; Seabright, 1993). The analysis in this thesis will seek if there is heterogeneity within the community.

2.A.2.4 Face-to-face communication
Communication, in this sense, is used to create suasion. Convincing each other to choose for the benefit of the group instead of immediate self-interest and gaining a sense of solidarity. Face-to-face communication tends to be substantially better than written communication means since it enhances the chance that individuals will keep their promises to cooperate (Kerr & Kaufman-Gilliland, 1994).

2.A.2.5 How individuals are linked
If A contributes resources to B, B to C and C back to A, it is more likely the individuals will contribute to each other’s welfare than individuals whose contributions go to a general pool of resources from which all participants obtain benefits. This, again, is because of the possible free-riders. If the participant is in a chain, the contributions of this participant are passed to someone in this chain, and this will eventually come back to the participant. Exchanging or contributing with other individuals in the network for mutual benefit is called reciprocity. “Sociologists and social psychologists have stressed the importance of how individuals may or may not be linked in a network when confronting various types of social dilemmas” (Boix et al., 2009, p. 159). If the structure is based on hierarchy, the dilemma will most likely disappear because of the exercise of command and control (Cook & Hardin, 2001; Granovetter, 1977).
The variables described will be taken into account while analysing the cases. By doing this, a broader theory of human behaviour is used. This includes the possibility that individuals/participants use reciprocity when they trust the other will do the same. The trust of the individuals/participants that others will be reciprocators is derived from the information about one’s reputation, and thus past actions. Reputation, trust and reciprocity are the inner core of individual variables and previously mentioned as the internal variables that affect the degree of cooperation and mutual benefits. These internal variables are affected by the external structural variables as they interact with each other to increase or decrease the likelihood of occurring. It is not possible to link all the external structural variables into one definite causal model, and the direction is not fixed. Consequently, while analysing the cases, the interaction of the structural variables will be analysed for each case individually. Figure 2 gives an overview of the structural variables linked to the core relationships in a general way.

Figure 2. Linking structural variables to the relationships in a focal dilemma arena
Source: (Boix, Stokes, & Ostrom, 2009; Pestoff, 1992)
2.B The theoretical gap
This section elaborates on the theoretical gap and the frameworks that will be used to conduct the research.

2.B.1 Decision-making process
The fundamental political and social question that needs to be clarified is: How do people make decisions in order to achieve the desired outcome (Hess & Ostrom, 2005)? The Institutional Analysis and Development (IAD) Framework provides insights into how decisions are made and who is involved. The IAD framework will serve as a base for this research.

The IAD framework can be seen in Figure 3. The core of this framework is the ‘Action Arena’. Within this arena, participants observe information, select actions, engage in patterns of interaction and realise outcomes from their interactions. These interactions are explained by the framework of Pröpper (2009) as described in paragraph 2.B.2 and Avelino and Wittmayer (2016) as described in 2.B.3.

The context of the action arena is determined by the first column, displaying three major exogenous variables (Ostrom, 1999). These have an external cause of origin. The *bio-physical/material conditions* describe how a community is influenced by its physical environment. How the physical environment influences the interactions and how the outcomes influence the physical environment. The *attributes of the community* are about; (i) the general acceptation of the values of behaviour in a community; (ii) the level of common understanding that potential participants share (or not) about the structure of particular types of action arenas; (iii) the extent of homogeneity in the preferences of those living in a community; (iv) the size and composition of the relevant community and (v) the extent of inequality of essential assets among those affected (Ostrom, 2005). These are described in paragraph 2.A.2. *Rules in use* refer to the possibility that rules are written down but not known by the participants. The patterns of interactions influence the outcomes which, on its turn, influence the external variables and makes a so-called feedback loop. Concerning the external variables, the attributes of the community will be the most important one for this research. The cases selected are all based in the same region: the province of Gelderland. This will eliminate at least one difference in the physical environment: decentralised, provincial, rules and regulations. To what extent the
participants are familiar with the rules in use is beyond the scope of this research. Related to the IAD framework, the main focus during the analysis will, therefore, be on; Attributes of the community, Action Arena and the Interactions during the decisions making process. All four are outlined in blue as visualised in Figure 3.

2.B.1.1 Action Arena

The concept of the action arena merely is the situation in which a particular type of action occurs. It is the black box where policy choices are made influenced by actors, for which interactions are required. As described previously, the context of the action arena is determined by the attributes of the common. The realisation of the choices made, and thus how people make decisions is different in each situation. The working components of an action situation specify the nature of the actors, resources and options that are relevant and faced. These working components are: “The participants in positions who must decide among diverse actions in light of the information they possess about how actions are linked to potential outcomes and the costs and benefits assigned to actions and outcomes” (Ostrom, Gardner, & Walker, 1994). When these working components become apparent, one knows which actions in the action arena box result in which outcomes in the outcomes box.

However, while describing the decision-making process the interactions are not included. Meaning roles within the decision-making process are not defined. This indicates a gap in the literature. Figure 4 visualises a conceptual model including this gap. The gap is emphasised as a red dotted square box with a question mark. This thesis aims to clarify what the interaction...
box contains and with whom the interactions within a community are often with in order to make strategic decisions.

Figure 4. Conceptual model of the theoretical gap

2.B.2 Degree of participation
When analysing the interactions, the first step is to measure the degree of participation for the individuals. In other words, how or if the participants can influence the decision-making process. Previous research used the participation ladder of Pröpper (2009) to measure the role of the government (Janssen & Jonker, 2014). This model, when adjusted, can be used to measure the level of participation of civilians in the collaborative common as well. Figure 5 is showing several degrees of participation. However, if the four cases have a different degree of participating, the framework will not contribute to this research.
2.B.2.1 Interactive
The facilitating, collaborative, delegating and participating style are interactive. Interactive means the participants can influence the decision-making process. Starting with the facilitating style, the community offers time, money, expertise, material means, or a space to bring everyone together. The participants are starting a project, make the policies and have the authority. Second, the collaborative style. In here, the governing board works together with all the participants and define themselves as equal, the participants are seen as a collaborating partner. In the delegating style, the governing board gives the authority to a participant to make decisions or to execute policies, which defines the participants as co-deciders. In the participating style, the governing board asks for open advice in which the participant can discuss or contribute a lot. This means the participant can come up with an own problem definition and indicate directions for solutions. In the participation ladder, this role is displayed as ‘set up consultant’.

2.B.2.2. Non-interactive
The other three directing styles are defined as non-interactive. Participants have little to no ability to influence the decision-making process. Starting with the consulting style, in here the
governing board consult the participants about an already chosen solution for a problem: the participant can express how they feel about the policy within a given problem definition which defines them as ‘wrap up consultants’. In the open authoritarian style, the governing board executes policies entirely independently and to announce these new policies to the participants they will share information about what is new. In order to succeed, the board needs to convince the participants. Finally, the closed authoritarian style. In here, the governing board conducts a completely independent policy without providing any information, the participants do not have a role.

2.B.3 Multi-Actor Perspective

Besides knowing what the power relations are within a community by determining the degree of participation, it is essential to know what the power relations are between the community and other actors. To do so, we first need to know what kind of actors become manifest within the collaborative communities, or to which category these actors they belong. The Multi-actor perspective (MaP) (Avelino & Wittmayer, 2016) is used as a heuristic framework in order to specify power relations between these different categories and within these sectors. This framework will help to answer the question who the different actors are that exercise power and help to understand what kind of actor communities are, building on prior work of Avelino and Wittmayer (2016). Furthermore, this framework adds to the participation ladder, describing power relations within the community.

2.B.3.1 Sector categories

The impediment of the lack of information on collaborative commons can also be seen in the conventional distinction between ‘market’, ‘state’ and ‘civil society’. Civil Society can be both informal entities such as families, as well as formal entities such as trade unions. This is causing an under- or overestimation of the relative power contrary to state and market (Avelino & Wittmayer, 2016). To develop the multi-actor perspective, Avelino and Wittmayer included the ‘Welfare Mix’ model (Evers & Laville, 2004; Pestoff, 1992). Based on this model, the

![Figure 6. The Welfare Mix](source: (Evers & Laville, 2004; Pestoff, 1992))
Multi-Actor Perspective distinguishes four actor categories: (1) state, (2) market, (3) community and (4) the third sector along three axes: (i) informal/formal, (ii) for-profit/non-profit, (iii) public/private. Within this model, the state is characterised as non-profit, formal and public; the market as formal, private and for-profit; the community as private, informal and non-profit. Important to draw attention to is that Avelino and Wittmayer (2016) defined communities as families, households etcetera which differs from the collaborative communities discussed within this research. The fourth category, however, does match the collaborative commons and is called the Third Sector. This category is conceptualising as an intermediary sector in between the first three categories. It includes the formal, private and non-profit sector, but it also includes organisations that cross the boundaries between informal/formal, for-profit/non-profit, public/private. This phenomenon shows similarities with the collaborative commons discussed in this thesis and includes other phenomena such as social entrepreneurship, not-for-profit’ social enterprises and cooperative organisations (Birch & Whittam, 2008), Figure 6 shows an overview of the categories. Both Third Sector and communities are usually subsumed in the category civil society; the MaP differentiates these two actors, which allows us to understand and analyse power relations and struggles between formal and informal entities.

2.B.3.2 Different levels of actors

Next to the different sector categories, there are three different levels in which the actors can be distinguished. The first is sectors, which is based on general characteristics and the logic of a sector (i.e. formal/informal, for-profit/non-profit, public/private). In each sector, individuals following the specific logic of the sector and fulfil different roles such as a neighbour, consumer, citizen etcetera. One individual can fulfil multiple roles in different sector logics, meaning one is a consumer in one sector and volunteer in another, which brings us to the next level; individual actors. Callero (1994) states that individual actors are both performing and using social roles. These roles are defined as ‘social constructions’ (Collier & Callero, 2005), and are ideal-type images related to agreed-upon activities, rights and responsibilities which are part of a sector logic and therefore replicate the logic as such. These roles can also be seen as a vehicle for an agency, used by the individuals to receive cultural, social or material resources (Callero, 1994). Finally, the level of organisational actors such as organisations, social entities or networks which can simultaneously operate in different sector logics as well. Appendix 1 shows the figures for the three different levels described.
2.B.3.3 Power relations between sectors

All four sectors harbour internal power interactions between top-down and bottom-up dynamics, niches and regimes, organisational and individual roles. The MaP helps to analyse these power interactions and identify the power relations between different sectors. As described, the collaborative commons researched within this thesis show comparisons with the Third Sector described by Avelino and Wittmayer (2016). They describe the Third Sector as a different articulation of the social into the economic life and not only include the under scaled or undercapitalised local initiatives, but also the more prominent powerful regime structures such as energy cooperatives for instance (Moulaert & Ailenei, 2005). The influence of the Third Sector is often underestimated, and modern-western societies are dominated by a two-sector state-market logic, or business and government (Salamon, 2010). However, as described in the introduction, this sector is essential to pay attention to and Avelino and Wittmayer (2016) state they observed a new surge of ‘community-based’ initiatives in which the state is increasingly calling upon these communities to take over public services. Raising the question: how, when, and why the communities should take over the world, a world that is dominated by state- and market-logics for decades (Avelino & Wittmayer, 2016). If we use the MaP and reflect on power relations, we see a retreat by the state to make room for the community implies the risk that the market logic takes over instead of the community logic, this can be seen in Figure 7 (Swyngedouw, 2005). In the past decades, the state has increased its outsourced services to this sector which resulted in a wide variety of Public-Private Partnerships (PPP). This indicates that the market logic applied to all dimensions of life and society.

Furthermore, what can be of influence of this lack of power can lie within the unclarity of the concept ‘community’ (Ransome, 2011). Communities are often described these as informal, but when further specified these communities are also referred to as social enterprises, charities and voluntary groups which are formalised Third Sector entities (Avelino & Wittmayer, 2016).
Wittmayer, 2016). So, despite the intentions to increase the role of the informal community, the formal logic of the market and state remains more powerful.

2.B.3.4 Power relations between actors

The power between the different sectors is discussed, which is also visualised in Figure 7. Next to these power relations, there are some more complex dynamics to discuss. These are the power relations between the different actors, including the interdependencies and interactions between these types of power exercise. These are important for analysing the interactions within the community.

<table>
<thead>
<tr>
<th>Type of relation</th>
<th>Manifestation of power relations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power ‘over’</td>
<td>Mutual dependence: A depends on B but B also depends on A =&gt; A and B have power over each other</td>
</tr>
<tr>
<td></td>
<td>One-sided dependence: A depends on B but B does not depend on A =&gt; B has power over A</td>
</tr>
<tr>
<td></td>
<td>Independence: A and B do not depend on each other =&gt; A and B have no power over each other</td>
</tr>
<tr>
<td>‘More/less’ power to</td>
<td>Cooperation: A exercises more power than B, but A and B have similar, collective goals</td>
</tr>
<tr>
<td></td>
<td>Competition: A exercises more power than B, while A and B have mutually exclusive goals =&gt;</td>
</tr>
<tr>
<td></td>
<td>Co-existence: A exercises more power than B, A and B have independent co-existent goals</td>
</tr>
<tr>
<td>‘Different’ power to</td>
<td>Synergy: A’s and B’s different power exercises enable and support one another</td>
</tr>
<tr>
<td></td>
<td>Antagonism: A’s and B’s different power exercises restrict, resist or disrupt one another</td>
</tr>
<tr>
<td></td>
<td>Neutrality: A’s and B’s different power exercises do not (significantly) affect one another</td>
</tr>
</tbody>
</table>

Table 3. Typology of power relations within sectors
Source: Avelino and Wittmayer (2016)

There are three different types of power relations: A has power over B, A has more/less power than B to do X, A and B have a different kind of power. Each of these types can have multiple manifestations from mutual dependence, one-sided dependence and independence, to cooperation, competition and coexistence. These are all visualised in Table 3. Including this typology means that the shifting power, as described in paragraph 2.B.3.3, is not just a matter of analysing which sector has more or less power. It is also about the dependencies between, for instance, market and communities and if they should reconsider certain task divisions between these two sectors since they exercise a different type of power. Besides using the typology to further reflect on the power relations between sectors, it can also be applied while analysing the relations within these sectors between the individual and the collective actor roles.
This table then is an addition to the participation ladder described in 2.B.2. The MaP can help to (re)consider the intrinsic motivation individuals need to engage in an activity depending on their roles and context. Individuals are usually motivated when they have a sense of impact if they can add meaning or have a choice regarding that activity (Thomas & Velthouse, 1990), which also depends on the participation ladder. If decision-makers within the community want to empower their actors to be more pro-active or participatory, it does matter how they approach these individuals and what role they subscribe to them. For instance, it helps to encounter them as voters who contribute to the outcome instead of financial supporters.
**Chapter 3. Methodology**

This chapter will reflect on the quality and execution of measurements. First, the research design will be described, followed by the units of analysis, then the research methods will be presented. The theoretical lens will visualise how the frameworks from chapter two can be connected to the research. Then this chapter will pay attention to the operationalisation of the research and the data analysis. Furthermore, the limitations will be discussed, and finally, research ethics are included.

### 3.1 Research Design

The conducted research is a case study research. A case study is a preferred method since the researcher has no control over behavioural events and the focus of the study is a contemporary phenomenon. Furthermore, a case study can be defined as a study that investigates a contemporary phenomenon in its real-world context, which describes this research very well. There are variations in case studies; this case study will analyse multiple cases (i.e. comparative case study) using an explorative research design. This will enable the researcher to explore similarities and differences across the cases and this benefits the outcomes of the research (Yin, 2015).

Within the theoretical framework, several frameworks are conceived. These frameworks all are in some way applicable to this research, and the useful elements are further elaborated. These frameworks imply that there is an existing theory that can be used as a starting point and suggest the research approach is deductive (Bleijenbergh, 2015). However, this research is more focussed on looking for patterns in the data and working to develop an analysis to explain these patterns, which is an inductive approach with the theory as a starting point.

### 3.2 Units of analysis

Within research, a unit of analysis is that what will be studied (Yin, 2015). In this research, the units of analysis are decision making procedures in four collaborative commons. These communities are part of the 12 cases that are examined by researcher Kamm, as earlier described this research is a contribution to this overarching research. The four cases are selected because they all are focussed on sustainability, based in the same region, and they all are a mix of different social functions. In order to be able to detect patterns within collaborative communities, it was important to select cases who share similar characteristics. Since they are
all based in the same province, ‘Gelderland’, other local legal exceptions do not apply and are therefore not included within the analysis. The cases will be shortly introduced in the following paragraphs.

3.2.1 Fruitmotor

The Betuwe is a region within the province of Gelderland. This region is known as a fruit producing region and is now dealing with decreasing employment and low margins. Farmers are stuck in the system which means in order to survive they need to produce even more, which on its turn is something our ecosystem cannot bear as extensively described in the introduction and eventually will have consequences for the landscape, earth and quality of the products. *Fruitmotor* is a food cooperative that wants to disrupt the system, the industrial way of thinking. Fruitmotor is offering a fair price for the residual apples with an additional biodiversity bonus to the fruit growers. They use the residuals to create sustainable juices and ciders, which they commercially sell. The money raised creates space to invest in a healthy field, a thriving insect population, clean water in the creeks, enhancing the natural environment for pollinators and a flowerful landscape which anyone can enjoy. Furthermore, Fruitmotor operates as much as possible within the region to strengthen the regions social, ecological and economic values (Fruitmotor, 2020). Fruitmotor counts 197 members. As described different groups participate in this collaborative common (e.g. farmers). Each group is represented by two participants during general meeting.

3.2.2 Windpark Nijmegen Betuwe

*Windpark Nijmegen Betuwe* is an energy cooperative in the Nijmegen area founded for and by civilians. They are taking energy production into their own hands by deliberately creating local and sustainable energy initiatives. Members have invested in realizing a windmill park that opened in 2016. These members are part owner of the park, and in return, are provided with sustainable wind energy.

This collaborative common count 1013 members (2019); these members are all civilians that were able to participate in the decision-making process during the process of building the turbines. The supervisory board ensures that the common run smoothly, especially financially and guides the governing board in achieving their assignments and ensures it all goes well. This collaborative common is a common in which thousands of people from and around Nijmegen
have invested in, is supported by banks and where subsidies have been provided (Energiecoöperatie-WPN, 2020).

3.2.3 Cooperative Bommelerwaar

Cooperative Bommelerwaar is a regional cooperative founded by and operating for the inhabitants and entrepreneurs of the region of Bommelerwaard. The cooperative was founded in 2016. The main aim is to work towards sustainable energy within the region collaboratively. The collaborative common of Bommelerwaar counts around 200 members. The members are seen as co-owners and have an individual vote during general meetings and are essential to realising the transition towards a more sustainable region (Bommelerwaar, 2020).

3.2.4 Foundation Go Clean de Liemers

*Stg Go Clean de Liemers* is a data-driven national community that puts effort in making the Netherlands litter-free. The community was, initially place-based, founded in 2016 in a response to the high amount of litter on the streets and in nature. By using an app, all the collected pieces of litter are archived. The data is used to combat the litter source effectively. The community includes the volunteers and an organisation that consists of three members (GoClean, 2020). There are no general meetings with all participants, meaning participants do not have a vote within the decision-making process. The governing board discusses with each municipality individually.

3.3 Research methods

As mentioned in Chapter 1, this research is part of the overarching research done by PhD candidate Kamm of the Radboud University. Data was already available and consists of internal and public documents from all cases, semi-structured individual interviews with initiators, board members and/or stakeholders, and focus group interviews (on strategic decision making) with decision making bodies of all cases. Kamm provided access to the information of the collaborative commons to three students who all contribute to this overarching research. Together with these fellow Radboud University students, Dirk Brantjes and Julia van de Warenburg, all focus group interviews were coded. All transcripts were divided and coded individually, in which we all used the same dimensions. Subsequently, the coded interviews were divided to evaluate them and to allow debating the interpretation together and reach
consensus, this is called research triangulation (Verhoeven & Verhoeven, 2007). Triangulation means more than one method to collect the data is used (Yin, 2015), ensuring reliability by different sources. Research triangulation guarantees the interrater reliability of the research, meaning the extent more researchers agree (Boeije, 2016). The research conducted by Kamm is focussing on the decision-making process, which makes that the interviews conducted will be beneficial regarding this research which is focussing on the relationships within these decision-making processes. In June, a feedback session was scheduled with the respondents to present our findings and receive feedback from respondents in the research.

3.3.1 Interviews
The interviews are already conducted, and access is provided to the students involved, as described above. Since the interviews are transcribed already and the students who will use this data cannot influence the questions nor the output, and thus will be seen as secondary data (Bleijenbergh, 2015). Kamm conducted semi-structured interviews with decision-makers as well as focus interviews with multiple actors in different roles. The most significant advantage of working with semi-structured interviews is that the questions are all formulated and serve as a guideline during the interviews. There is always an opportunity to deviate from these questions to deep dive into specific topics or resolve vagueness and unclarity. This can be done by asking follow-up questions (Yin, 2015), which also happened during the conducted interviews. However, interviews are susceptible to bias due to misunderstanding of questions, response bias and rhetoric answering (Yin, 2015). The focus groups are used to verify and discuss the outcomes of the individual interviews and can help to misinterpreted information gained during the interviews. These focus groups also enable the researcher to get a better understanding of the Action Arena since it enlightens the collective view.

3.3.2 Documents
While analysing the decision-making process, not only the transcribed interviews are used but different documents as well. Most of these documents are all gathered by Kamm and shared with the MT students. These additional data include notes from meetings, relevant mailings received and project information. Many collaborative commons communicate about their actions through social media. Consequently, relatable internet and social media networks will be scanned to get a better understanding of the collaborative common: their goals, their mission and vision, their communication within and outside of the common, their planning, the
decisions made and the ones realising these decisions. This will contribute to the recognition of patterns within the decision-making process and the distribution of roles.

3.3.3 Available data per case

Different methods are used to analyse collaborative commons. These methods are the documents, transcribed individual interviews and the interviews conducted with the focus groups. Kamm provides access to this information in a secured folder. Table 4 shows an overview of the relevant available data per case.

<table>
<thead>
<tr>
<th>Case</th>
<th>Documents</th>
<th>Individual interview</th>
<th>Focus group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruitmotor</td>
<td>Notes, mailings and (social) media</td>
<td>Exploratory interview with the initiator</td>
<td>With the board (2)</td>
</tr>
<tr>
<td>Windpark Nijmegen</td>
<td>Notes, mailings and (Social) media</td>
<td>Exploratory interview with coordinator, in depth interview with initiator</td>
<td>With incomplete board (2/4)</td>
</tr>
<tr>
<td>Betuwe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bommelerwaar</td>
<td>Statues, notes, media and internal report</td>
<td>Exploratory interviews with board members</td>
<td>With an incomplete board due to internal conflict (2/6)</td>
</tr>
<tr>
<td>Foundation Go Clean de Liemers</td>
<td>Policy plan, year plan, (social) media and website</td>
<td>Exploratory interview with partial board (2/3)</td>
<td>With the board (3)</td>
</tr>
</tbody>
</table>

Table 4. Available data per case

3.4 Theoretical Lens

This study uses three different theories in order to describe how the distribution of roles is organized within a collaborative common to make decisions. These are; Ostrom’s principles, the IAD Framework, the participation ladder and the multi-actor perspective. Table 5 illustrates an overview of the used theories.

<table>
<thead>
<tr>
<th>Framework</th>
<th>Contains</th>
<th>Relation to this research</th>
<th>Sub question</th>
<th>Developed by</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Structural variables</td>
<td>Variables to analyse the cooperative and joint benefits of a community</td>
<td>Sub question: Who are the actors within the collaborative common?</td>
<td>Ostrom, 2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Create an overview of the context within which participants face social dilemmas is important to explain the level of collective action.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAD Framework</td>
<td>A conceptual overview of the research</td>
<td>Links the different frameworks to the action situation</td>
<td>Framework that is used as a base</td>
<td>Ostrom, 2011</td>
</tr>
</tbody>
</table>
Participation ladder
Different degrees of participation
Describes the influence of participants within the decision-making process
Q2: How are the decisions made within the collaborative common? (Pröpper, 2009)

Multi-Actor Perspective
What the power relations are between the actors
Helps to define the role the community fulfils vis-à-vis market and state and provides a table to see what the power relations are within a community
Q2: How are the decisions made within the collaborative common? (Avelino & Wittmayer, 2016)

Table 5. Overview of used theories

3.5 Operationalization

The operationalization of this research is stated in Table 6 and 7. These empty tables are based on the theoretical framework, which consists of applicable variables. During the analysis, these tables will be filled and used to conclude.

The operationalization starts with the structural variables, the attributes of the community. The five structural variables conceived in chapter 2 are assessed. The first column contains the structural variable, the second state different indicators, the third describes the situation within the collaborative commons and the last is the column formulates the precise fragment, whether applicable. Referring to Figure 3 the IAD framework, the attributes influence the action situation and therefore are essential to include.

<table>
<thead>
<tr>
<th>Attributes of the common</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structural variables</strong></td>
</tr>
<tr>
<td><strong>The number of participants</strong></td>
</tr>
<tr>
<td><strong>Subtractive vs. fully shared</strong></td>
</tr>
<tr>
<td><strong>Heterogeneity of participants</strong></td>
</tr>
<tr>
<td><strong>Face-to-face communication</strong></td>
</tr>
<tr>
<td><strong>How individuals are linked</strong></td>
</tr>
</tbody>
</table>

Table 6. Operationalization of the attributes of the common

The second operationalisation table, Table 7, depends entirely on the action arena and the relations that exist and evolve around the decisions made, in other words, the interactions. The action arena and interactions are two dimensions of the IAD Framework, Figure 3, and
are intertwined within this operationalisation table. Frameworks that can be used analysing these relations are the participation ladder and the multi-actor perspective. Starting with the decisions made (analysing two decisions made per case), the degree of participation that can be defined, the different roles involved and finally the different power over/to.

<table>
<thead>
<tr>
<th>Action Arena</th>
<th>Interaction</th>
<th>Degree of participation</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision 1</td>
<td></td>
<td>Influence, vote,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>information,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>interactivity,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>transparency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision 2</td>
<td></td>
<td>Different actors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>involved</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision 1</td>
<td></td>
<td>Who participates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision 2</td>
<td></td>
<td>Permission needed,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>controlled,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>guided,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>executed by</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7. Operationalization of the action arena and interactions

3.6 Data analysis
The ultimate goal is, to make sense of the gathered data by doing data analysis (Bleijenbergh, 2015). As described previously the gathered data exists of various documents and individual as well as collective interviews, thus ensuring triangulation of data. The purpose of this research is eventually to gather different views and perspectives on the concept of collaborative commons, which hopefully results in useful insights that can be used to contribute to a better understanding of the commons explored.

Creswell (2014) developed a framework that can be useful to achieve this sense making. The steps formulated start after the data is obtained, which is why it can be a useful tool to see how to proceed. Creswell mentioned it is an interactive model, meaning one can go back, and forward and the process within is not linear (Creswell, 2014). After data collection the first step would be to organise and prepare the data.
for analysis. Secondly, the data needs to be read, followed by coding the data by computer. This will be done according to the operationalisation tables described above and with consensus with the other two MSc students. As can be seen, these operationalisation tables include themes and a description. The codes are elaborated within a codebook and can be found in Appendix II. After coding, these themes/descriptions will be interrelated, and the meaning will be interpreted in Chapter 4, followed by the conclusions in chapter 5. This is not included in the framework of Creswell, as can be seen in Figure 8.

3.7 Limitations
Since the concept of the collaborative commons is new, the scope is limited. This research will only look at the distribution of different roles within a community and ought to contribute to an overarching research which is conducted by Kamm. Much research still needs to be done to create a better understanding of this concept, which means the results of this thesis will contribute however will not produce an exhaustive definition of this concept. Furthermore, the data analysis was initially planning to work with secondary data and, if needed, add primary data conceived during meetings and gathering. Unfortunately, this could not be realised since the coronavirus outbreak (COVID-19) caused the cancellation of all these events.

3.8 Research Ethics
In order to fulfil research ethics, Buchanan (2012) formulated virtue ethics. These virtues imply that ethical research practice includes an apprenticeship in establishing methodological norms and a commitment to the establishment of these norms. These norms are associated with the investigation of phenomena and the theories around them. An ethical sensibility arises when taking on such standards from independent practical reasons. Therefore, I acknowledge the dependency on Kamm, the collaborative commons she gathered her information from and the relationship of dependence with fellow MSc students to guarantee a fair outcome. I will elaborate on the most relevant virtues below. Furthermore, the guidelines of the American Psychological Association (APA, 2003) were used throughout this research. These guidelines were followed to guarantee authorship, evidence, data, findings and conclusions are not falsified.
3.8.1 Virtue ethics

Within this research, I used consistent language. This is a pragmatic awareness that concepts and signifiers need to be used carefully and consistently, with an awareness of how these might be interpreted by others (Buchanan, 2012). This research addresses a novel and still vague concept. Misunderstanding of this concept can have consequences for the outcomes. The coding of the data will be done with two fellow MSc students, and therefore the concepts and indicators need to be consistent and understood to prevent false outcomes.

Within this research, I sensitively dealt with participant relationships and data. Participants were informed about the purpose of the research being proposed, the level of their expected involvement and duration and the possible effects and effects of any involvement should be discussed (Buchanan, 2012). PhD researcher Kamm shared the gained information about the commons with the three MSc students that will further deep dive into this data after she got the approval of the communities. The data is shared within a secured environment provided by Saxion University of Applied Sciences, which can only be accessed by the four of us. The anonymity of all participants will be guaranteed.

Dishonesty and deception might work in some context; for this research discloser of the intentions towards the participants is agreed. The practice of this research is partly defined by realizing the fullest disclosure of facts to achieve an improved understanding of the collaborative commons. Dishonesty is counteractive to this aim and therefore seen as unethical.
Chapter 4. Research Results and Analysis

The conceptual model that will be used to analyse the cases, as described in chapter 2 and visualised in Figure 4, is now further elaborated. To do so, the operationalisation Tables 6 and 7 will be used. Starting with Table 6, the attributes of the common, assuming that these attributes will influence the action arena. Table 7 will help to gain more information in the gap between the action arena and interactions, using the input from the theoretical framework. These tables will be filled with the results of the analysis for each case individually.

4.1 Results of GoClean

The attributes of GoClean are analysed with structural variables drawn up by Ostrom (1990). The results of the attributes can be found in Appendix III. In 4.1.1, a summary of these variables is formulated. 4.1.2 is describing the theoretical gap supported by the results in Table 8, and 4.1.3 is visualizing the results within a conceptual model, Figure 10.

4.1.1 The attributes of GoClean

For GoClean, it is hard to determine how many participants the common counts. The results show that volunteers come and go. Most presumably because they feel unseen, there is a need that they can show where they walked and what their contribution is. As previously described in 2.A.2.1, Olson (1965) mentioned the negative influence of a group that is large and formulated two reasons. The first one applies to the community of GoClean: single inputs of individuals become less noticeable. However, Olson adds that the participants take advantage out of their invisibility which is not the case for the participants of GoClean, they seem to encounter the invisibility as if it is not worth it and therefore quit participating. The second reason Olson mentioned was the hard coordination and internal agreement. To tackle this hurdle, GoClean communicates with the municipalities and collaborate with each municipality individually. The governing board consists out of three members. One of these members has a background in business. Therefore, this member is taking care of a specific focus and guidance of the community. This common is seen as a common-pool resource (Mueller, 2003), meaning the distribution of cleaning needs to be well planned in order to prevent crowding. They deal with this threat by developing an application. This application tracks which participants walked which route on which day and helps participants to see where to walk and where not. To launch this app, the common needs financial support. Since the common goal and benefits that can be
the output of the community are the same for the participants, the heterogeneity of participants is not further elaborated. Figure 9 visualises how the individuals within the common GoClean are linked. GoClean is represented as A, the municipality as B and the volunteer as C. The model starts by A giving B the tools, B gives C the tools and C gives A data by entering the collected items of waste. With this data, A can give B insights in how clean the surroundings are, and B can communicate the results to C. It is crucial that C feels visible and therefore A will launch an application once they have the financial means. Appendix III shows the results of the attributes of GoClean.

![Conceptual model of the linkages between the individuals](image)

**Figure 9.** Conceptual model of the linkages between the individuals

4.1.2 Analysing the theoretical gap

To be able to analyse the action arena, two decisions are enlightened and further elaborated with input out of the theoretical framework. The first decision, Decision 1, is that the governing board decided to include an extra team member. The two initiators had started GoClean to clean the municipality of Duiven, but they took it one step further. GoClean decided to start a private company alongside the foundation. The up and foremost reason was that financials were a burden and could not be borne by the foundation. To do so, they were well aware they needed someone who took the lead since due to the growing workload the current members of the board were often all over the place. They needed someone who could draw up a business plan and help to realise taking this next step. They included someone who had experience with businesses and knew how to handle financial obligations.
The second decision, Decision 2, is one that lies in the future, but the organisation is determined to realise this once they have become bigger. It is about an even bigger step: working with ambassadors for each city who will do the monitoring and communication with the municipality. The municipality will assign the ambassadors, and all responsibilities will lie on the ambassador and the municipality of that particular city. GoClean will offer specialised training but is no longer involved and will not be accountable to the municipality. The municipalities will also have the option that GoClean remains a little involved, meaning it will walk along with the volunteers once in a while or they are answering questions of volunteers, but that is an option. Table 8 shows the results of GoClean for both decisions. The full version of the table, which includes the fragments, can be found in Appendix IV. The conceptual model, Figure 10, will give a clear overview of the power and shows how to deal with the gap concerning both decisions.

<table>
<thead>
<tr>
<th>Theoretical gap</th>
<th>Decision made</th>
<th>Degree of participation</th>
<th>Indicators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision 1</td>
<td>The open authoritarian style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>Participants have little to no influence on the decision-making process. The governing board needed someone who can help them to write a business plan and hired someone that could fulfil this role. This is something that has been shared on their website, but participants were not included while making this decision or selecting the right person.</td>
<td></td>
</tr>
<tr>
<td>Decision 2</td>
<td>Delegating style</td>
<td>The governing board gives the authority to a participant, in this case the municipality, to direct their own teams. They are not involved in this process. They do offer them expertise and materials (the compass and trainings)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power to/over</th>
<th>Indicators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision 1</td>
<td>One-sided Power ‘over’</td>
<td>Permission needed, controlled, guided, executed by, depend on</td>
</tr>
<tr>
<td></td>
<td>Synergy ‘Different’ power to</td>
<td>GoClean states the municipality will determine who the ambassadors are going to be, decisions will be made together but GoClean is not accountable to the municipality. In other words, GoClean gives power to the market, and they both exercise different power within the organisation which enable and supports another</td>
</tr>
</tbody>
</table>

Table 8. Results based on decisions made
4.1.3 Conceptual model of the gap
Within D1, the participants are observers, and GoClean is directing the common with an open authoritarian style. This decision does not include interactions with the participants and is seen as one-sided dependence. D2 is a decision that needs to be made together with the municipality. Therefore, interactions with the municipality are needed. During the second decision, the participants are seen as co-deciders. The results of Table 8 conclude there is a synergy between GoClean and the municipality. GoClean and the Municipalities different power exercises enable and support one another (Avelino & Wittmayer, 2016).

![Diagram](image)

**Figure 10.** Conceptual model of the gap within GoClean

4.2 Results of Bommelerwaar
The attributes of Bommelerwaar are analysed with structural variables drawn up by Ostrom (1990). The results of the attributes can be found in Appendix V. In 4.2.1 a summary of these variables is formulated. 4.2.2 is describing the theoretical gap supported by the results in Table 9, and 4.2.3 is visualising the results within a conceptual model, Figure 12.
4.2.1 The attributes of Bommelerwaar
Bommelerwaar counts around 200 members. This is, according to the board, not sufficient to achieve the goals of the cooperative, among which the prioritized goal of establishing an energy cooperative. The ultimate aim is that all inhabitants are eventually involved, which would be 50,000 members, as stated in the statues. A high number of participants is needed for this cooperative since the more members, the more investors and thus, the more means to realise ideas. Crowding, overharvesting or other problems that can be seen in common-pool resources will not from a threat for this common since the type of good is seen as public. The good has pure jointness of supply, and the addition of participants does not detract from the benefits enjoyed by others (Mueller, 2003). Since the common goal and benefits that can be the output of the community are the same for the participants, the heterogeneity of participants is not further elaborated. Participants need to approve strategic and operational decisions before they can come to an outcome. These are discussed during face-to-face meetings three or four times a year. Figure 11 visualises how the individuals within the common Bommelerwaar are linked. The board is represented as A, the participants as B and the energy cooperative, which is considered by the current board as the main activity, as C. As can be seen A is the linkage between C and B. C provides the energy needed for the households of B. These households are members of A. They contribute by approving or rejecting decisions suggested by the board and a financial contribution. A communicates with B whenever they come up with an idea and want the approval of their members. Appendix V shows the results of the attributes of Bommelerwaar.

Figure 11. Conceptual model of the linkages between the individuals
4.2.2 Analysing the theoretical gap

The two decisions that will be further elaborated for Bommelerwaar will now first be shortly introduced. Decision 1, the founders (Antje and Onno) started wrong according to the current board. They started to build the cooperative without a solid base. That is what the board is trying to establish now, a solid base. Meaning they need to let go of some projects and see what is essential now. This is important to sharpen the focus, and these organisational decisions are guided by the board, consisting out of six members. Although it was not mentioned during the focusgroup interview, it is clear that the current board is not fond of the decisions made by previous board members and founders. The participants within this decision are seen as set-up consultants, and the directing style Bommelerwaar is executing is the participating style. The power of interactions is seen as cooperation as the results of Table 9 show.

The second decision concerns the structure of a new governing board and the employment of new members, including a new chairman, a secretary and the need for a new chamberlain. These new members are needed to give the first decision guidance. The secretary is already found and approved. The secretary is already working for the common but still needs to be approved, and during the interview the members of the board claimed they still search for a chamberlain. The participants are a collaborative partner within this decision, using the collaborative style. The power between these two is described as synergy as the results of Table 9 indicate. The full version of this table, which includes the fragments, can be found in Appendix VI. The conceptual model, Figure 12, will give a clear overview of the power and shows how to deal with the gap concerning both decisions.

<table>
<thead>
<tr>
<th>Theoretical gap</th>
<th>Degree of participation</th>
<th>Indicators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision 1</td>
<td>Participating style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>The board wants to do it all different now. They slowly need to let go of some projects to restore the focus. They do have the power to make some decisions themselves, the member will always be asked for approval or advise during the general meeting. The participants can come up with their own problem definition and indicate directions for solutions. This is why the participating style fits best.</td>
</tr>
<tr>
<td>Decision 2</td>
<td>Collaborative style/ Delegating style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>Participants are seen as co-owners. The governing board has to ask for approval on certain decisions and therefore the participants can be seen as co-deciders. However, the board is not delegating or giving the authority to execute policies or making decisions but rather collaborating with the participants towards an outcome. Therefore the</td>
</tr>
</tbody>
</table>
Table 9. Results based on decisions made

<table>
<thead>
<tr>
<th>Decision 1</th>
<th>Power to/over</th>
<th>Indicators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperation</td>
<td>Permission needed, controlled, guided, executed by, depend on</td>
<td>Within the organisation of Bommelerwaar, (A) exercises more power than B, but A and B have similar collective goals: a well-organised cooperative. B can influence choices of A.</td>
<td></td>
</tr>
</tbody>
</table>

| Decision 2 | Synergy ‘Different’ power to | Bommelerwaar depends on its members. Members need to approve decisions and members are needed as investors. On the other hand, to get sustainable energy or make work of initiatives, the members need Bommelerwaar as well. The mutual goal is to make the region more sustainable. To achieve this new members are needed in the board. This is why A’s and B’s different power exercises enable and support another. |

4.2.3 Conceptual model

The conceptual model visualises the decisions made within Bommelerwaar. These decisions are formed in the action arena by the board and need to be approved by the members. The interaction with members differs per decision. The first decision, D1, can be defined as cooperation. The organisation or reorganisation of the cooperative is dealt with by the board. Nevertheless, it does need approval by the community on some actions. The board exercises more power in the reorganisation than the members but they both have a collective operational goal: a well-organised cooperative to become a more sustainable region. To achieve this goal and to enable the reorganisation, new members are needed on the board. These need to be approved by the members. One does not have more power than the other but exercises a different kind of power. These different powers enable and support the other which is described as synergy (Avelino & Wittmayer, 2016).
4.3 Results of Fruitmotor

The attributes of Fruitmotor are analysed with structural variables drawn up by Ostrom (1990). The results of the attributes can be found in Appendix VII. In 4.3.1, a summary of these variables is formulated. 4.3.2 is describing the theoretical gap supported by the results in Table 10, and 4.3.3 is visualizing the results within a conceptual model, Figure 14.

4.3.1 The attributes of Fruitmotor

Fruitmotor counts 197 members (2019). The members are divided into different categories: friends, civilians, farmers, processors, sellers and organisations. Together they form the chain cooperative. To prevent one group is outgrowing the others, only two members of each group participate in the general meeting. This is how they handle the group size preventing that the number of participants not of negative influence. The subtractability of use is low. If more civilians become part of the cooperative, this means more products can be sold, which will lead to more profit, and this will eventually benefit the region in becoming healthy. Since there are multiple categories, the difficulty of excluding potential beneficiaries is high, which makes the goods of this community public goods type.

Regarding the heterogeneity, it is not one benefits the cooperative more than the other, but there are different kinds of categories and different kind of pay-offs. The mutual benefit is a healthy region. The farmer has less waste than he had before since he can sell the residuals. The farmer and processor are earning more since the cooperative is selling the products within the region and using ingredients that were previously seen as waste. Part of the profits are
invested in healthy soil, cleaner ditch water, flower fields, and pollinating insects. In order to directly involve the community in decision making, the board wants to organise a general meeting for the council of members two times a year. Figure 13 visualises how the actors within the common Fruitmotor are linked. Fruitmotor (A) includes farmers (B), processors (C) and civilians (D) whom all have a role in this chain cooperative. B is selling their residuals or waste to C, which they formerly had to sell cheap to foreign countries. C is processing these into products and sells them to A. A is selling these to civilians via intermediates that sell food such as shops, cafes and restaurants. The profits are used to support B with money plus a bonus for biodiversity and to invest in a healthy region. The healthy region is creating an impact, which is why A is provided with subsidies. While everything is done within the region, this is creating job opportunities for D.

![Conceptual model of the linkages between the individuals](image)

**Figure 13.** Conceptual model of the linkages between the individuals

4.3.2 Analysing the theoretical gap

The two decisions that will be further elaborated for Fruitmotor are shortly described. Decision 1, the governing board included “Hoedsteraandelen” (English translation: guardian shares) in the statutes. Guardian shares are used to protect the goals of the cooperative. The board felt
they needed something to be able to steer whenever deviating from the original goal of the cooperative. The solution they implemented were these guardian shares. During the general meeting, the members of the council could express how they feel about these shares, which describes the members as wrap up consultants and the board is using a consulting style of directing as described in 2.B.2.2 accompanied by the participation ladder of Pröpper (2009). The power relation is cooperation as the results in Table 10 show.

The second decision concerns the destination of profits over the year 2019. Together with the members, the board works on an outcome of this decision and define themselves as equal in the decision-making process. This style of directing is called collaborative, and thus the members are seen as collaborating partner. The power relation between board and members is synergy. Table 10 is showing the results of the analysis. The complete table, which includes the fragments, can be found in Appendix VIII. Furthermore, the conceptual model visualises a clear overview of the power and shows how to deal with the gap concerning both decisions.

<table>
<thead>
<tr>
<th>Decision made</th>
<th>Degree of participation</th>
<th>Indicators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision 1</td>
<td>The consulting style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>“Hoedsteraandelen” translated this will be guardian shares. Guardian shares are used to protect the goals of the cooperative. These were already included in the statues but brought up on both general meetings. Meaning in here the board of directors consult the participants about an already chosen solution for a problem: the participant can express how they feel about policy within a given problem definition. The first meeting the chairman mention the existence of these shares. The second meeting questions arise and the need for these shares is questioned. The outcome is that once every 5 years the statues will be evaluated to have another look at it.</td>
</tr>
<tr>
<td>Decision 2</td>
<td>The collaborative style</td>
<td>The board of directors proposed what to do with the profits of 2019. Together with the members the board works on an outcome and define themselves as equal. The outcome is that the Council of Members agrees to add the profit of 2019 to the reserves.</td>
<td></td>
</tr>
<tr>
<td>Power to/over</td>
<td>Indicators</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Decision 1</td>
<td>Cooperation ‘More/less’ power to</td>
<td>Permission needed, controlled, guided, executed by, depend on</td>
<td>Fruitmotor depends on its members. Members need to approve decisions and members are needed as they form the chain cooperative. To succeed they need a direction who steers them into the right direction every now and then which is why the shares were introduced in the statues. Meaning the</td>
</tr>
</tbody>
</table>
4.3.3 Conceptual model

The conceptual model visualises the decisions made within Fruitmotor. These decisions are formed in the action arena by the board and discussed during the general meeting with the council of members. The interaction with members differs per decision. The first decision, D1, can be defined as cooperation. The board wanted to build in some guarantee formed as a guardian share and needed to share this with the council of members. Even though they have similar collective goals, the guardian shares were written down into the statues before they had the approval of the members, which makes the board more powerful. This is also due to the fact the statutes were drawn up before the first general meeting. However, Fruitmotor depends on its members. The interaction between the board and the council of members is described as cooperation within the first decision. For the second decision, deciding whether or not adding the profits of the year 2019 to the reserve, one does not have more power than the other but exercises a different kind of power. These different powers enable and support the other which is defined as synergy (Avelino & Wittmayer, 2016).

| Decision 2 | Synergy | The profit for the year 2019 will be added to reserve. The board of directors thinks this will be crucial since the subsidy of foundation DOEN is dropped. This is approved by the council. The board can come up with such an idea and explain why, the members can approve or disagree with this idea since it is their profit too. The different power they exercise is used to enable and support one another and therefore seen as synergy.
---|---|---
| Synergy | “Different” power to | board of directors exercises more power than the council of members, but they both have similar collective goals.

Table 10. Results based on decisions made
4.4 Results of Energiecooperatie WPN
The attributes of Windpower are analysed with structural variables drawn up by Ostrom (1990). The results of the attributes can be found in Appendix IX. In 4.4.1, a brief summary of these variables is formulated. 4.4.2 is describing the theoretical gap supported by the results in Table 11, and 4.4.3 is visualising the results within a conceptual model, Figure 16.

4.4.1 The attributes of Energiecooperatie WPN
Energiecooperatie WPN counts 1013 members, including donors this number is 1700. The cooperative contributes to a sustainable transition in energy. This sustainable energy is for the entire region, not only for its members. There is no subtractability of use, and no need to exclude members. Anyone can become a member of the cooperative itself by becoming a general member. These members have a vote during general meetings and can sign in for upcoming shares in energy producing projects. The members, who own a share in the energy project, are seen as co-owners as stated on their website. The cooperative chose to have limited the number of shares, to prevent a group size that negatively influences the common. If civilians want to own a share, the only way is to buy shares from others. This made they could easily regulate the number of participants or how to divide the profits within projects.

The role of members is contributing financially to the projects. Once they own shares, they benefit from the profits made by these projects. The main aim is to gain sustainable energy and start projects to realise this. One will not benefit from the outcome of these projects more than the other. There can be a difference in payoffs once the members have a share in the project or multiple shares. The number of shares will be the payoff of the member.

For personal interaction by community members, the cooperative is having general meetings. Figure 15 visualises how the actors within the common Energiecooperatie WPN are linked. Different organisational constructs were realised. The cooperative itself consists of the governing board (A) and its members (B) and donors. They decoupled the energy projects (C) from the cooperative to create an overview. The projects are providing sustainable energy to the region. Members have shares of these projects, meaning they invested in the project and earn some whenever the project is making profits. Part of these profits is used to support local initiatives. These members pick these projects. There are inhabitants of Nijmegen who do profit the sustainable energy but protest against projects. The state can decide whether or not a project is declined or accepted.
4.4.2 Analysing the theoretical gap

Energiecooperatie WPN needed to publicly decouple to clarify the collaboration within the common (Decision 1). To create an overview of the roles of the different actors and know who is responsible for what. The cooperative needed to create a detailed profile. This process is for the ones who initiated the cooperative a hard and emotional process. It became clear, for the board, that they needed to take the lead. The pressure to operate as a collective is significant, which confused. The board has its responsibility which they took by initiating creating intelligibility.

Energiecooperatie WPN decoupled. The cooperative now had different divisions and considers the project bureau running the wind turbine park a partner. These divisions are the projects, the shareholders and the foundation that supported local initiatives. The cooperative needed a new name and logo to clarify the differences between these divisions (Decision 2). The board decided to form a workgroup, who was in charge of formulating a new name—this new name needed to be approved during the general meeting. A lot of potential names were denied. Eventually, the new name of the cooperative became: Energy cooperative WPN. Table
11 is showing the results of the analysis. The complete table which includes the fragments, can be found in Appendix X.

<table>
<thead>
<tr>
<th>Theoretical gap</th>
<th>Decision made</th>
<th>Degree of participation</th>
<th>Indicators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Decision 1</td>
<td>The open authoritarian style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>The governing board executes policies, detangle the cooperative entirely independently. They shared information about what was new. They needed to convince the participants of the purpose, and things such as the name needed to be decided by the collective.</td>
</tr>
<tr>
<td></td>
<td>Decision 2</td>
<td>The delegating style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>The governing board directors gives the authority to the participants to choose the name.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power to/over</th>
<th>Decision 1</th>
<th>Cooperation ‘More/less’ power to</th>
<th>Indicators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Decision 1</td>
<td>Cooperation ‘More/less’ power to</td>
<td>Permission needed, controlled, guided, executed by, depend on</td>
<td>The board has more power during this trail. The board independently decided to disentangle. They still need to convince the members because they do have similar collective goals.</td>
</tr>
<tr>
<td></td>
<td>Decision 2</td>
<td>Cooperation ‘More/less’ power to</td>
<td>Concerning the name, the members have more power than the board, but they both have similar collective goals.</td>
<td></td>
</tr>
</tbody>
</table>

Table 11. Results based on decisions made

4.4.3 Conceptual model

The decisions are analysed with the help of Table 11. The conceptual model displayed in Figure 16 visualises the results of this analysis. Both decisions are formed in the action arena. The interaction of D1 is defined as cooperation. The board is disentangling the organisation. It has more power than the members do, but they both have similar collective goals. Due to this detangling, a different name needs to be selected (D2). In here, the members have more power than the board has. During the general meeting, they can refuse proposals until they agree with a name they do like. Individually, both decisions are seen as cooperation. However, seen together, they both exercise a different kind of power. One that is enabling support one another in order to achieve collective goals. This type of power relation is described as ‘Synergy’ (Avelino & Wittmayer, 2016).
4.5 Cross-section analysis

The results of the individual cases are now formulated. The next step is to compare the cases with each other and see if patterns arise. Table 12 is an overview of the attributes of the cases. How individuals are linked differs per case and is not included in this table but elaborated in 4.5.3. The governing board is an addition to the number of participants since all cases showed that a form of governance is present. Table 13 shows an overview of the gap and the roles of the members and the board. Furthermore, it shows the power relation between these roles.

4.5.1 Results of attributes of the commons combined

<table>
<thead>
<tr>
<th>Attributes of the common</th>
<th>GoClean</th>
<th>Bommelerwaar</th>
<th>Fruitmotor</th>
<th>WPN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td>x</td>
<td>200</td>
<td>197</td>
<td>1700</td>
</tr>
<tr>
<td>The governing board</td>
<td>Three members. Including a chairman, chamberlain and secretary</td>
<td>Five members. Including a chairman. Looking for chamberlain</td>
<td>Two members</td>
<td>Four members. Including a chairman and chamberlain</td>
</tr>
<tr>
<td>Subtractive vs. fully shared</td>
<td>Common-pool resources</td>
<td>Public good</td>
<td>Public good</td>
<td>Public good</td>
</tr>
</tbody>
</table>
Participants of the communities consists in all cases of a number of participants and a governing board. The board consists ultimately of a chairman and a chamberlain. Olson (1965) described why it negatively influences the community when a group is getting bigger. He named two reasons: free-riding and coordinating strategies. Most cases analysed are public goods, meaning the free-riding effect does not apply. Members participate by supporting financially or voting during general meetings, but the common does not depend on individual input. Second, the coordinating strategies. All four cases handled this differently. Fruitmotor made different categories for its members (4.3.1), WPN disentangled the organisation and initiated different organisational constructs (4.4.1) and GoClean is not communicating with participants individually but with the municipalities (4.1.1). The common Bommelerwaar did not coordinate strategies as the other three did. Since Fruitmotor made different categories for its members, the pay-offs differ per category. The farmer benefits from the common different than the civilian does. The other commons do not differ in there pay-off; they all benefit the common equally. However, WPN is working with shares that members can buy. This means the financial profit is divided over the shareholders, which accounts for a different pay-off. All commons perform face-to-face communication during meetings.

4.5.2 How the collaborative common is linked to other sectors
The linkages for each collaborative common are visualised in Figure 9, 11, 13 and 15. The linkages between each individual case show some similarities. Based on these similarities Figure 17 is drawn.

Avelino and Wittmayer (2016) characterize the community as private, informal and non-profit. None of the cases is focussing on financial values solely. However, some cases show to gain profits within the collaborative common. For this reason, there is some overlap with the market, and a small part of the value creation of the collaborative common is profit. This accounts especially for the case Fruitmotor, who is commercially selling ciders, and WPN who makes a shareholder profit with the wind turbines.
Furthermore, all cases deal with legal entities which is why state overlaps the community. The community fulfil a functional role since they all contribute to a healthier or cleaner region; this is why a big part of the community is public. Besides these contributions, most of the cases add social value. They ask civilians to volunteer, which increases social activities, educate them and providing sustainable energy to the household; this part is private.

The role of the relationship changed in these modern collaborative commons. Communities are informal because all members are equal and there is no hierarchical structure. However, they are formal too since they have the aim to continue for a long time. Interaction between governing body and community members is more structured than in informal organisations (Saunoris & Sajny, 2017). Table 12 shows that all cases organise meetings in order to communicate and deliberate, which means the communication channels are pre-defined. The formal-informal separation line from the original multi-actor perspective (Avelino & Wittmayer, 2016) was left out since the community is not one or the other. To separate market, state and the common the lines non-profit/profit, public/private and one line without text are added. Figure 17 is from the perspective of collaborative commons, and to stand out this triangle is made yellow.

![Figure 17. Power relations between sectors](image)
4.5.2 Results of the theoretical gap combined

Based on the results of Table 8, 9, 10 and 11, the following overview is created. The colours are added to visualise the similarities and differences. The decisions made were in all cases initiated by the governing board. The municipality, members and council of members were the interactors in all cases. Unfortunately, the degree of participation differs a lot like the colours below show. Five different roles out of the seven roles proposed by the participation ladder (As described in 2.B.2) arise from the results of eight decisions analysed. The power relation, on the other hand, does show resemblance. It is either cooperation or synergy and only once it is one-sided dependence.

<table>
<thead>
<tr>
<th>The theoretical gap</th>
<th>The collaborative commons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The initiator</strong></td>
<td>GoClean</td>
</tr>
<tr>
<td><strong>D1</strong></td>
<td>Open authoritarian style</td>
</tr>
<tr>
<td><strong>D2</strong></td>
<td>Delegating style</td>
</tr>
<tr>
<td><strong>The interactor</strong></td>
<td>Municipality</td>
</tr>
<tr>
<td><strong>D1</strong></td>
<td>Observer, information receiver, informer</td>
</tr>
<tr>
<td><strong>D2</strong></td>
<td>Co-decider</td>
</tr>
<tr>
<td><strong>The power between the board and interactor</strong></td>
<td></td>
</tr>
<tr>
<td><strong>D1</strong></td>
<td>One-sided dependence</td>
</tr>
<tr>
<td><strong>D2</strong></td>
<td>Synergy</td>
</tr>
</tbody>
</table>

Table 13. Results of the theoretical gap
Chapter 5. Conclusion and discussion

The fifth and final chapter of this research is divided into two parts. The first part formulates the answer to the main research question based on the results of Chapter 4. The second part includes the discussion, which will elaborate on the theoretical and practical implications of these outcomes, followed by a critical reflection on this research and directions for future research.

5.1 Conclusion

The present study was designed to determine the roles within collaborative commons during the strategic decision-making process. Based on this aim, the main question was as follows:

“What roles can be defined during the strategic decision-making process within collaborative commons?”

This study explored collaborative commons undertaking action with different individuals who are all taking responsibility for improving the quality of life in a community. Three main findings are now described.

Firstly, the individuals within the collaborative commons can be divided into two groups during the decision-making process: (i) The governing board, (ii) The community members with whom the governing board discuss decisions.

Secondly, the power relation between these two groups was found. The power relation between the initiator and interactor is either a ‘Synergy’ or ‘Cooperation’, meaning both strive for the same collective goals.

Thirdly, the role of these two groups. This study has found that the first group, the governing board, initiates the decisions within the collaborative commons that were analysed. The board needs to interact with the community to gain approval for the decision they make. This makes the members (part of the members) or the municipality the interactor. The degree of participation the interactor can practice, however, differs per case and per decision. Meaning there is neither a clear structure in the directing style nor congruent influence of the participants, which makes the specific role of the participant unclear.

Furthermore, state and market will play a role outside of the collaborative commons and therefore influence the decision-making process externally.
5.2 Discussion
The second part of this chapter starts with the theoretical and practical implications. Next, limitations are mentioned, and the reflexivity of the researcher is addressed. Finally, directions for future research are described.

5.2.1 Theoretical implications
This research contributes to an overarching PhD research conducted by Drs. Kamm. Kamm analysed cases in order to understand the strategising efforts of Multi-Actor collaborations addressing collaborative commons. This research contributes by confirming parts of the PhD research and additionally shows new insights by using different frameworks.

The fundamental theory within this research relies on the New Business Models which include all new forms of organising in which an organisation purposely focuses on collectively creating multiple economic, ecological and social values (Jonker, 2012). NBM can be divided into different subgroups; (i) Conventional, (ii) Community-Based and (ii) Circular business models (Jonker et al., 2016). The best fit was seen with the definition Community-Based Business Models (CBBM). These CBBM’s are defined by Janssen and Jonker (Janssen & Jonker, 2014) as commons where collaborating is the core and the circular perspective is mainly used to focus on multiple economic, ecologic and social values. The CBBM is still a concept of which a clear definition in literature is absent, even though this definition fits the four cases analysed well. Therefore, within this thesis, the cases are referred to as collaborative commons and can be helpful in the formulation of the concept CBBM.

Ostrom was one of the main contributors in literature while describing commons. For this reason, the IAD Framework developed by Ostrom (2011) was used for analysing the commons. The element ‘Interactions’ out of this framework is not elaborated yet, which causes a lack of information. This research contributes to literature by attempting to make a novel distinguish of actors, the roles these actors fulfil and the degree of participation they execute, in the context of strategising.

Two other frameworks supported this attempt. Firstly, the participation ladder by Pröpper (2009). This framework turned out to be a good tool to measure the influence of the participants. A disadvantage of the framework is that an outcome sometimes was in-between two degrees, which means the ladder misses some in-between degrees. This did not affect the study since only four cases were analysed. However, when more cases are analysed, it could be inconvenient to work with this framework.
The second framework used is the Multi-Actor Perspective by Avelino and Wittmayer (2016). This proved to be a helpful tool to determine the power relation. Nevertheless, the cases analysed were divided into only two parties: (i) The board, (ii) (part of) The members/municipality. If three or more parties are involved, the Multi-Actor Perspective cannot be used since the framework describes the power relation between A and B and does not take into account more than two parties involved.

5.2.2 Practical implications
As mentioned in the introduction, the collaborative commons are a relatively new manner of organising. The findings of this research regarding these new ways of organising suggest three main practical implications. First, as mentioned previously, the commons start with good intentions and generally claim or are acclaimed to be for and by civilians. However, when participants join a common, they should be aware of their role. The commons are not as flat or non-hierarchical as might be assumed, which means participants do not automatically have a say in the decision-making process. When participants endeavour more power, they are in some cases, able to opt for a position within the board. During the feedback session, respondents agreed with these findings and said that, unfortunately, if decisions need to be made probably always some hierarchy is required.

The second implication is about the degree of influence the participants have. This depends on the directing style. This directing style, however, differs not only per case but per decision as well. During the feedback session, respondents confirmed the directing style is indeed unstructured and agreed the role of participants can, therefore, be described as unclear. This finding can help current and future commons to structure the decision-making process, using the participation ladder of Pröpper (2009) to determine which style they want to implement and communicate to their participants the degree(s) of influence they can practice during the decision-making process. This will help to uncloud expectations.

The third implication is the power relation found between initiator (the board) and the party with whom the board needs to interact with, meaning (part of) the board or the municipality. This power relation interactor is either a ‘Synergy’, in which both are striving for the same collective goal, with a different kind of power, or ‘Cooperation’ in where one of them exercises more power but both strive for collective goals.
5.2.3 Limitations
To avoid different laws and regulations per region, the selected cases were all based within a specific region in the Netherlands: Gelderland. Since laws and legislations are not included, and the findings are solely based on cases within the same region, the generalisability of this study is limited. This limitation could have been avoided if more cases from different regions were selected and the laws and regulations of each region were compared. It was chosen to exclude this comparison due to time concerns.

This is not the only limitation regarding the generalisability. The cases in Gelderland, coincidentally, all work with a financial business model and all focus on a physical output. Thanks to the meetings with the other students, who analysed different cases, it became evident that not all commons operate with the same focus. It would have been interesting to include commons that work differently since now it cannot be assured the conclusions fit commons with a different focus too. In other words, to prevent these two mentioned limitations regarding generalisability, it would have been better to state different criteria.

Working with an existing data set limits the influence that could exert regarding the conducted interviews, the formulated questions and answers. The reliability, however, can now be measured since multiple researchers worked with the same data, and the outcomes can be compared to see if the research is reliable.

Mentioning the COVID-19 crisis is inevitable. Even though it did not affect the research tremendously, it did bring some inconveniences. Attending general meetings, as planned, could not take place. The focus interview with foundation Pak An still needed to be conducted. Unfortunately, the meeting was postponed to mid-June due to COVID-19. This was an impediment since this was one of the cases that was supposed to be analysed. Luckily, Bommelerwaar was situated in the same region and could replace Foundation Pak An as they also answered the preconditions for selecting cases.

Furthermore, the feedback session needed to be planned virtually. A bad internet connection of some of the respondents lead to them not be able to attend the session, and therefore valuable feedback could not be given.

5.2.4 Reflexivity of the researcher
Every Wednesday at noon, the two other students, Drs. Kamm and I came together in a Skype call. We discussed which methods were best to use and proposed different alternative assumptions to each other, which was sometimes challenging. This encouraged the reflexivity
(thinking about thinking) throughout the process. Complete objectivity is hard to guarantee, which I am aware of. The results of this study are, therefore, inevitably connected to personal interpretations. However, the results are not only discussed during Skype meetings but also during a feedback call to include multiple opinions and ought to be as objective as possible. Moreover, I am aware that the results can change over time as the communities start to gain more experience in governing and structuring their decision-making and the findings of my study become outdated.

5.2.5 Directions for future research
Future research on the roles during the decision-making process refer to analysing more cases. This research studied four cases, which could be a reason no degree of participation could be defined for the collaborative commons. Future research could conduct quantitative research, analysing more cases and try to connect the roles to a degree of participation.

Furthermore, during the feedback session, one of the respondents mentioned that the culture within the commons can differ as well. This research only analysed cases in the same region; future research could include this variable or start a separate research around this topic.

Some cases confirmed during the feedback session that the collaborative common in which they operate is not as non-hierarchical as they want to be. Some cases are figuring out how to ensure a joint decision-making process. This allows a broader perspective on strategic choices which is important to live up to the initial idea of the collaborative commons: A collaborative action of different individuals who are together taking responsibility for improving the quality of life in a community.

I would, therefore, like to suggest to keep an eye on these developments, in order to see whether the collaborative commons can implement a joint decision-making process in the future. To decide together, not apart.
References


Appendix I

Figure I. MAP: level of sectors

Figure II. MAP: level of sectors
Source: Avelino and Wittmayer (2016)

Figure III. MAP: level of organisations
Source: Avelino and Wittmayer (2016)
**Appendix II: Example of coding**

Only two pages are shown of the interview conducted with GoClean. The purpose of this appendix is to show how the coding was done.

*Focusgroep GoClean  
Datum: 23 januari 2020  
Locatie: Kantoor Go Clean, Groessen  
Respondenten: Kan je die stellen. Marloes Heeding, (Respondent 1), Joyce Bosveld Respondent 2), Peggy Blaauw. (Respondent 3)  
Interviewer: Moniek Kamm  
Duur: 1h  
Aanleiding: besluit om naast de stichting een BV op te zetten*

**Sensitizing concepts:** Besluitvorming, Value creation, Samenstelling Community, Social learning

<table>
<thead>
<tr>
<th>Fragment</th>
<th>Sensitizing concept</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interviewer:</strong> Hoe is de huidige koers van GoClean ontstaan? Met koers bedoel ik in dit geval de keuze die jullie ook maken om meer als bedrijf te gaan werken.</td>
<td>Besluitvorming: keuze om meer als bedrijf te werk te gaan</td>
</tr>
<tr>
<td><strong>Respondent 1:</strong> Ik denk toch wel omdat er in ieder geval alleen al met ons drieën gewoon fulltime mee bezig zijn, en dan nog eigenlijk wel tijd tekort komen. En nog lang niet allemaal kunnen doen wat we graag zouden willen. Dus wil je echt iets veranderen dan zullen we er ook zo druk mee bezig moeten blijven. Dat is eigenlijk op vrijwillige basis wat groot het op te houden.</td>
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</table>

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**Respondent 3:** Maar dan moet denk ik wel dat we moeten kijken naar het zwerfafvalkompas waar we mee begonnen zijn, op een gegeven moment is die keus gemaakt van we gaan ons daar toch volop inzetten. Ook omdat dat financieel gewoon een behoorlijke last is, is het ook gezegd, die kunnen we niet in de stichting laten. Dat moet in een BV komen, onafhankelijk daarvan zijn. Dat moeten we kunnen loskoppelen. Dus ik denk dat dat wel een keuze is geweest om dat op die manier te doen en dan te kunnen kijken van hoe kunnen we daar op een of andere manier voor elkaar krijgen dat we straks ook onze eigen boeken kunnen houden. Dat is voor ons heel belangrijk. Als we zo door blijven gaan met hoe we de afgelopen, in ieder geval 2017, 2018, dat we gewoon sponsorgelden of dan heb je het over een paar duizend euro op jaarbasis, dan zouden we over anderhalf jaar zeker niet meer bestaan. Dan kunnen we niet zo doorgaan.

**Interviewer:** Dus dat is de reden ook om te zeggen, we willen die eigen broek ophouden?

**Respondent 2:** Ik denk dat je ergens gezien heb, de manieren waarop er nu gewerkt wordt, die werken niet. Dus daarom zijn wij gaan anticiperen om te kijken van wat werkt dan wel. En daarbij eerst gaan zitten zoeken nog van waar kunnen wij aansluiten om te kijken van welke tactiek werkt er dan eigenlijk en wat is er dan wel zo dat we daarin verandering kunnen plaatsvinden. Die was er gewoon niet. Toen hebben we de keuze gemaakt, dan moeten we die zelf gaan ontwikkelen. Het moment dat daar dus, dat we dachten van ok maar dat gaat het ook worden, kwamen er natuurlijk heel veel kosten bij. Dan is het eigenlijk, dat van mij zit er nog aan vooraf en toen kwam dat en toen zeiden we, dan moeten we ook echt gewoon doorzetten. En wel heel veel omdat we er zelf mee bezig zijn dus je leert van je eigen fouten. Je weet ze, je voelt je, je ziet ze en dat stuk neem je mee dat is eigenlijk wel -

**Besluitvorming:** Op basis van financiële keuze gemaakt, kon niet langer een stichting blijven.

**Economische waarde creatie**

**Samenstelling community:** de huidige samenstelling werkt niet.

**Social learning:** Samen opzoek naar een tactiek die wel werkt

**Besluitvorming:** Zelf tactiek ontwikkelen, er bestaat nog niks voor de huidige situatie

**Economische waarde:** tactiek uitvoeren kost geld

**Social learning:** Leren van eigen fouten
## Appendix III: Attributes of GoClean

### Attributes of the common

<table>
<thead>
<tr>
<th>Structural variables</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
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</thead>
</table>
| **The number of participants** | - | Volunteers come and go so a specific count of the number of participants cannot be given. So far, the governing board consists of three members and three municipalities are actively connected to GoClean: Duiven, Zevenaar and Renkum. The board counts three members. | Website of GoClean: “Organisation:  
- Chairman  
- Chamberlain  
- Secretary”  
Interview  
“What we hear a lot, which is of course a good thing, is that people mention they would not do it because they get tired since the work never stops. The moment you tell them what happens with it, it should give energy. If people walk the same route every week or every month and nothing seems to change, they stop at some point because they no longer feel like doing it. What we try to do is motivate them to continue. “The municipality sees me, and I can show what I walked last week”.  
“Yes, but we have also thought of it before, but we do not have enough money for that. Someone has walked somewhere and the route will turn green, after a week the route turns orange, after two weeks the route will turn red and then returns to normal. This ensures that other people can see who is walking where, where it is needed to walk and where it is not needed. That is above our budget, but maybe later. But you do notice that people need it: “Did you see that I walked there?” |

| **Subtractive vs. fully shared** | Difficulty of excluding potential beneficiaries, subtractability of use | There is no age, gender, education etc. needed to be part of the community which makes difficulty to exclude participants high. However, when many people are included there is less to clean which makes the subtractability of use high as well. These types of commons are seen as common-pool resources and when the group is getting bigger in these kind of communities, an increase of | Interview  
“Actually all ages” “If you look at the profile, it is not bounded to age, but more the kind of people that want to be together, experience a “we” feeling. Want to do something and like to be outdoors”  
“People who search for social contacts and are concerned about the environment” |
participants has a negative effect on the probability of achieving social benefits (Mueller, 2003)  
“Being part of a community is quite something…”  
“It still amazes me, because I think the more the merrier. That is how we feel, the more people help the better, because you are doing it together. Not everybody is feeling it like that. Don’t touch my parts of the road!”  
“I think they grant a part of identity to it”

| Heterogeneity of participants | Difference in payoffs | There is no difference in the benefits for one or more participants. The main aim is to live in a clean and healthy environment by cleaning up waste. One will not benefit the clean environment more than the other, there is no difference in payoffs. Therefore, the heterogeneity is not an important variable within this common. | Not applicable |

| Face-to-face communication | Communication means | The governing board has a meeting once a week. They keep in contact with their volunteers through their website and social media channels but are not directly involved with the civilians, they focus on the municipalities. | Interview  
“We have a meeting every week, sometimes it needs to be postponed but normally we meet once a week”  
“Connect, that is the only thing we do, we direct from above and want the province/municipalities to include the civilians who are willing to participate, that is how I see it.” |

| How individuals are linked | Is A contributing to B, B to C and C to A? Or how are the individuals linked | GoClean (A) is contributing to the municipalities (B) by showing insights in how clean their surroundings are, B is contributing to the volunteers (C) by offering them tools to clean and monitor and enable to participate in social activities. C is contributing to A by monitoring the waste they have cleaned. This data can be used by A to prove the necessity of their existence. | Interview  
“Monitoring is very important for us because you have clear, fair and good data. Then you can come up with facts and if you have facts they cannot ignore you anymore”  
“I believe more and more people believe in the way we work”  
“The municipality is happy as well, it shows which volunteers there are. And they know how much waste there is”  
“I think the program that we offer is that we tell the municipality go and collaborate with your inhabitants” |
## Appendix IV: Analysing the theoretical gap: GoClean

<table>
<thead>
<tr>
<th>Action Arena</th>
<th>Interaction</th>
<th>Degree of participation</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decision 1</strong></td>
<td>The open authoritarian style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>Participants have little to no influence on the decision making process. The board needed someone who can help them to write a business plan and hired someone that could fulfil this role. This is something that has been shared on their website but participants were not included while making this decision or selecting the right person.</td>
<td>Interview “We want to take the next step but we need someone to work it out. We are not able to do so, so we need someone, GoClean needs someone who is going to do that. I did not realise you had a business background, so you came to me the next day” “I had time at that moment and I was thinking, I want to do this actually, if they want me to help them to write this business plan I want to do that” “After a few weeks I was called with the question: Why don’t you just join us?”</td>
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| **Decision 2** | Delegating style | The governing board gives the authority to a participant, in this case the municipality, to direct their own teams. They are not involved in this process. They do offer them expertise and materials (the compass and trainings) | Interview “They may receive trainings to show how you work with it, how do you do that, things like that.” “We give the municipalities the litter compass, that is the goal indeed for volunteers and municipalities to work with and seek for the connection with each other” “When they do not direct their teams correctly, this will not affect us. It is decoupled from the litter compass” |

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<tr>
<th>Power to/over</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
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<tbody>
<tr>
<td><strong>Decision 1</strong></td>
<td>One-sided dependence</td>
<td>Permission needed, controlled, guided, executed by, depend on</td>
<td>GoClean (A) depends on the municipality, the province, the government (B). This is because they depend on the policies they formulate in which of these need to be taken into account in order to grow.</td>
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<tr>
<td>Synergy</td>
<td>‘Different’ power to</td>
<td>Interview</td>
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<td>GoClean states the municipality will determine who the ambassadors are going to be, decisions will be made together but GoClean is not accountable to the municipality. In other words, GoClean gives power to the market, and they both exercise different power within the organisation which enable and supports another.</td>
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<tr>
<td>“The goal for the future for the litter compass is that we have ambassadors, so your own city, village or whatever has its own ambassador. Because then you are ofcourse the best person to do such a thing. They need to do it. So that commitment will soon be entirely for the municipalities that are committed. We want that the ambassador of a municipality is going to do such things.” “The municipality will appoint them” “Decisions will probably still be made together. You cannot do anything wrong, that is a good thing of course” We won’t take a part of responsibility towards the municipality. We offer them the tools and that is where it stops”</td>
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</table>
## Appendix V: Attributes of Bommelerwaar

### Attributes of the common

<table>
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<tr>
<th>Structural variables</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
</tr>
</thead>
</table>
| **The number of participants** | - | Number: around 200. Two municipalities are included (Zaltbommel, Maasdriel) which comes down to over 50,000 inhabitants. Their statues argue that the community is for everyone able to enter. However, in the interview comes forward they do not have enough members and the organisation is not well organised yet. The board counts five members. | Statues  
“The now two municipalities on our island, Zaltbommel and Maasdriel, include 22 cores who together count 50,000 inhabitants”  
“Within we want to make the financial value circular within the community that on its turn contributes to honourful work that contributes to all inhabitants of the area”  
Interview  
“We always have to few people, to less money [uh]. And thus not sufficient members and to less of everything [uh] and so we can never switch to the next gear as long as we do not have this organised”  
“We grew very quickly, we almost have 200 members”  
Website:  
“The board of the cooperative Bommelerwaar consists out of five members:  
- Chairman  
- Member of board  
- Member of board  
- Member of board  
- Member of board  
And looking for a Chamberlain”  
“Members can be natural or legal persons” |

| Subtractive vs. fully shared | Difficulty of excluding potential beneficiaries, subtractability of use | In the previous fragment one can see that more people are needed to become a success. Therefore, it is safe to say the subtractability of use is low. The statues describe that once a member is denied by the governing board, the general meeting of members can undo this decision. This makes the difficulty of excluding potential beneficiaries high which makes | Statues  
“Applications for membership. The application needs to be admitted as a member must be write the board by means of a form. The applicant provides all information deemed necessary by the board. The board decides whether an applicant is admitted or refused, as well as to which category they belong. In case of refusal, the person concerned may appeal to the general meeting of |

<table>
<thead>
<tr>
<th>Heterogeneity of participants</th>
<th>Difference in payoffs</th>
<th>Not applicable</th>
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<tbody>
<tr>
<td>There is no difference in the benefits for one or more participants. The main aim is to live in a healthy and sustainable environment by producing their own electricity. One will not benefit the sustainable energy more than the other, there is no difference in payoffs. Therefore, the heterogeneity is not an important variable within this common.</td>
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<table>
<thead>
<tr>
<th>Face-to-face communication</th>
<th>Communication means</th>
<th>Interview</th>
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<tr>
<td>The general meeting with the members is of high importance since most decisions need to be approved within such a meeting. These meetings take place 3 or 4 times a year but there are no grounded rules on which such a meeting is based and they are not very clear in how many meetings are actually arranged or when these meetings take place.</td>
<td>The board does not need to have approval of all little devisions [uh], but [uh] during the general meeting the members will be asked for approval anyway. And [uh] during every meeting there will always be around 200 people that are present, who are not always the same people. These members are not in the board, and are not always the same people, so there is [uh] controlling is executed this way yes.</td>
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<tr>
<th>How individuals are linked</th>
<th>Is A contributing to B, B to C and C to A? Or how are the individuals linked</th>
<th>Website</th>
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<tr>
<td>The cooperative Bommelerwaar wants to make the region more sustainable. The governing board tries to guide the common and comes up with ideas, therefore the board will be A. The municipalities who are now involved support this idea. To realise this civilian initiative the cooperative needs members, inhabitants of the region who want to participate in sustainable energy with which they can foresee households of electricity. These members have a vote when decisions need to be made and the board need the approval of these members (B). And finally, the energy corporation that work together with the cooperative (C).</td>
<td>“All inhabitants of Bommelerwaard, or entrepreneurs who are based here, are welcome to become a member of the cooperative. Rights and duties are attached to a membership which can be read in our statutes. These statutes also mention the values we find important. We attach to integrity and see money as a mean, not as a goal. Private individuals pay 20 euro contribution a year, business members pay 40 euros per year.”</td>
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</table>
## Appendix VI: Analysing the theoretical gap: Bommelerwaar

<table>
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<tr>
<th>Action Arena</th>
<th>Interaction</th>
<th>Degree of participation</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decision 1</strong></td>
<td>Participating style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>The board wants to do it all different now. They slowly need to let go of some projects to restore the focus. They do have the power to make some decisions themselves, the member will always be asked for approval or advise during the general meeting. The participants can come up with an own problem definition and indicate directions for solutions. This is why the participating style fits best.</td>
<td>Interview “We choose to really focus on the base now. That has to be organised before we can build the rest. That is the most important alteration we did this year. It is not new, because we [uh] in 2018…” “On a certain time, we made a list of urgent projects and activities and networks with who we worked with and with this list we checked to see what was urgent, what needed to happen. What could we do and what do we want to do. And all of those things that were interesting but not urgent enough or where we did not had enough people or money for, those we don’t do” “It can be that there is an initiative of members that want to do a certain project and say we want to do this. That is fine, as long as it does not applies to the already active members that are participating in these projects because this will harm the project they are currently working on and that is not what we want. So if something passes by and participants say we want to do this and we have the people and means to realise it, that is totally fine.”</td>
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</table>
| **Decision 2** | Collaborative style/ Delegating style | Influence, vote, information, interactivity, transparency | Participants are seen as co-owners. The governing board has to ask for approval on certain decisions and therefore the participants can be seen as co-deciders. However, the board is not delegating or giving the authority to execute policies or making decisions but rather collaborating with the participants | Website “All inhabitants of Bommelerwaar can, without investment on top of the normal price for electricity, become co-owner of our local energysupply” Interview “Since December we have a secretary, but he still needs to [uh] be approved by the other members and needs to be
towards an outcome. Therefore the style is in the middle of the collaborative and delegating style appointed during the general meeting.”

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<tr>
<th>Power to/over</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decision 1</strong></td>
<td>Cooperation Power to</td>
<td>Permission needed, controlled, guided, executed by, depend on</td>
<td>Within the organisation of Bommelerwaar, (A) exercises more power than B, but A and B have similar collective goals: a well-organised cooperative.</td>
</tr>
<tr>
<td><strong>Decision 2</strong></td>
<td>Synergy ‘Different’ power to</td>
<td>Bommelerwaar depends on its members. Members need to approve decisions and members are needed as investors. On the other hand, to get sustainable energy or make work of initiatives, the members need Bommelerwaar as well. The mutual goal is to make the region more sustainable. To achieve this new members are needed in the board. This is why A’s and B’s different power exercises enable and support another.</td>
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### Appendix VII: Attributes of Fruitmotor

<table>
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<tr>
<th>Structural variables</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
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<tbody>
<tr>
<td><strong>The number of participants</strong></td>
<td>Number: 197. Fruitmotor divided its members in categories. The categories are:</td>
<td></td>
<td><strong>Annual report</strong>&lt;br&gt;“The board paid a lot of attention to the organisation of the different categories of members. December 31 in year 2018 the amount of friends (=donors) was 208 of which 2 members of the board. As many donors as possible were transferred to a membership. The cooperative now counts 107 donors, 80 civilians-members, 4 farmer-members, 1 process-member, 2 sale members, and 3 organisation-members. On December 3th, the first general meeting was hosted.”&lt;br&gt;<strong>Presentation during general meeting:</strong>&lt;br&gt;“General meeting consists out of 6x2 members”&lt;br&gt;“Donors do not participate in these general meetings”&lt;br&gt;<strong>Website:</strong>&lt;br&gt;“Who are we?”&lt;br&gt;- Member of board one: has a background in innovation, marketing and commerce in the foodchain and knows the transition theory inside out.&lt;br&gt;- Member of board two: Works at Wageningen University &amp; Research as researcher and network facilitator on innovation processes. Special focus is on the transition towards circular economy.</td>
</tr>
<tr>
<td></td>
<td>1. Friends (= donor) 107</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>2. Civilians 80</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Farmers 4</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>4. Processor 1</td>
<td></td>
<td></td>
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<td></td>
<td>5. Seller 2</td>
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<td></td>
<td>6. Organisation 3</td>
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<td></td>
<td>Fruitmotor explicitly chose to be a chain cooperative. To prevent one group is outgrowing the others, only 2 members of each group participate in the general meeting. The board counts 2 members.</td>
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<tr>
<td><strong>Subtractive vs. fully shared</strong></td>
<td>Difficulty of excluding potential beneficiaries, subtractability of use</td>
<td>The subtractability of use is low. If more civilians become part of the cooperative, this means more products can be sold, which will lead to more</td>
<td><strong>See fragment above</strong></td>
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</tbody>
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| Heterogeneity of participants | Profit and this will eventually benefit region in becoming healthy. Since there are multiple categories, the difficulty of excluding potential beneficiaries is high which makes the goods of this community public goods type. |
| Difference in payoffs | It is not one benefits the cooperative more than the other, but there are different kinds of categories, and different kind of payoffs. The mutual benefit is a healthy region. The farmer has less waste since it can sell the residuals. The farmer and processor are earning more since the cooperative is selling the products within the region and using parts that were previously seen as waste. Part of these profits are invested in a healthy soil, cleaner ditch water, and pollinating insects. |
| Website: Introducing video | “There are many fruit farmers in the Betuwe. The farmers sell most of their products, such as apples, to the consumer market. But part of the applies does not suffice to all requirements of for instance the supermarket. These so called residuals are transported to foreign countries for a very low price to produce ciders. They do nothing with the pulp. Fruitmotor connects the farmers, processors and sellers in a sustainable and regional cooperative to improve the soil and water of the Betuwe and the economic value of residuals increases. The farmers deliver their residuals to processor who can produce high quality region products. The pulp is used to make new innovative products such as food for the animals on the farms. All these products are sold by the cooperative to the region. The farmer and processor are earning more. Part of these profits are invested in a healthy soil, cleaner ditch water, and pollinating insects. The cooperative tries to reorganise the system. In the current system, the farmer has the lowest position. The earnings of the product are unfair divided and often the economic value lays outside of the region because of export or big supermarkets. Fruitmotor is a region cooperative that is cooperating and therefore the earnings stay within the region. The surroundings are becoming healthier and more beautiful and more jobs are created in the Betuwe. The profits are shared with all the members.” |
| Face-to-face communication | The cooperative wants to organise a general meeting for the council of members two |
| Communication means | Presentation during general meeting: “General meeting consists out of 6x2 members” |
**How individuals are linked**

<table>
<thead>
<tr>
<th>Time</th>
<th>Description</th>
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<tbody>
<tr>
<td><em>times a year.</em> With 6 times 2 members.</td>
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<tr>
<td>“At least two times a year general meeting: annual account in May and annual plan in November.”</td>
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</table>

| Are A contributing to B, B to C and C to A? Or how are the individuals linked | The cooperative Fruitmotor (A) includes farmers (B), processors (C) and civilians (D) who all have a role in this chain cooperative. B is selling their residuals or waste to C, which they had to sell real cheap to foreign countries otherwise. C is processing these into products and sells them to A. A is selling these to civilians. The profits are used to support B with money and a bonus for biodiversity and to invest in a healthy region. The healthy region is creating impact, which is why A is provided with subsidies. While everything is done within the region, this is creating job opportunities for D. |
| Website: Introducing video on website of Fruitmotor, see fragment heterogeneity. |
| Interview: “We had to think of different categories because the farmer has different wishes and goals and therefore fulfills a different role in a cooperative then the civilians do” |
| “You are generating a lot of impact yes, and where you put effort in it, is that something that we have to pay? It is impact on the social interest. So you can say to whoever that they can contribute.” |
| “So we thought okay the farmer is going to earn more, and then what? Then he is going to out buy his neighbours and he going to be bigger and more intensive. We needed to make sure that the money earned was spend to contribute to a healthy environment.” |

(The cooperative includes sellers, friends and organisations too but for the overview of linkages these are no individual roles)
### Appendix VIII: Analysing the theoretical gap: Fruitmotor

<table>
<thead>
<tr>
<th>Action Arena</th>
<th>Interaction</th>
<th>Degree of participation</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision 1</td>
<td>The consulting style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>“Hoedsteraandelen” translated this will be guardian shares. Guardian shares are used to protect the goals of the cooperative. These were already included in the statues but brought up on both general meetings. Meaning in here the governing board consult the participants about an already chosen solution for a problem: the participant can express how they feel about policy within a given problem definition. The first meeting the chairman mention the existence of these shares. The second meeting questions arise and the need for these shares is questioned. The outcome is that once every 5 years the statues will be evaluated to have another look at it</td>
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**Statutes:**

“Guardian share: the right to protect the goal of the cooperative as aimed in Article 21”

**General meeting December 3th, 2019**

“The chairman also pointed out the association articles, including an article about the guardian share for the directors. A lifelong right of consent intended to protect the purpose of the cooperative and which has effect when the objective is changed, a merger or cooperation is entered into, or dissolution is requested. Some members of the council of members question this. Member 1 wonders whether this is cooperative; Member 2 states that this is a matter of conscience and where is the mechanism to correct the guardians? Others argue that the conscience and motives of the founders- quartermasters are contained in the statues and that this radiates purity and confidence.”

**General meeting March 10th, 2020**

“About the guardian share. Member 1 explains that after the previous ALV it still feels incorrect that there are two persons who “could rule over their grave”. The chairman emphasizes that we are in a transition period that is new for everyone. It offers no guarantees of being able to maintain the principles and therefore the directors believe that a guardian role over the original ideas, as described in the preamble of the articles of association, is appropriate here. Assessment will only be
applicable to major changes, as described in the articles of association. This is not a new phenomenon and is more common in statutes of MISSIO-driven organisations. Member 2 thinks the guardian share is an understandable step. Member 3 says he is happy with the open dialogue, it gives much more understanding now. Ultimately there is an agreement to evaluate the articles of association once every 5 years, it is agreed to use that moment to look at it again.”

| Decision 2 | The collaborative style | The governing board proposed what to do with the profits of 2019. Together with the members the board works on an outcome and define themselves as equal. The outcome is that the Council of Members agrees to add the profit of 2019 to the reserves. | General meeting March 10th, 2020. “It is proposed to add the profit for 2019 to the reserves. The board states this is necessary after the loss of the Foundation Do subsidy. Decision: the proposal to add the profit of … to the reserve (own capital) is approved by the Council of Members” |

<table>
<thead>
<tr>
<th>Power to/over</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision 1</td>
<td>Cooperation ‘More/less’ power to</td>
<td>Permission needed, controlled, guided, executed by, depend on</td>
<td>Fruitmotor depends on its members. Members need to approve decisions and members are needed as they form the chain cooperative. To succeed they need a direction who steers them into the right direction every now and then which is why the shares were introduced in the statutes. Meaning the governing board exercises more power than the council of members, but they both have similar collective goals</td>
</tr>
<tr>
<td>Decision 2</td>
<td>Synergy ‘Different’ power to</td>
<td>The profit of the year 2019 will be added to reserve. The governing board thinks this will be</td>
<td>General meeting March 10th, 2020. “It is proposed to add the profit for 2019 to the reserves. The board states this is</td>
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</table>
crucial since the subsidy of foundation DO is dropped. This is approved by the council. The board can come up with such an idea and explain why, the members can approve or disagree with this idea since it is their profit too. The different power they exercise is used to enable and support one another and therefore seen as synergy necessary after the loss of the Foundation Do subsidy. Decision: the proposal to add the profit of ... to the reserve (own capital) is approved by the Council of Members
### Appendix IX: Attributes of Energiecooperatie WPN

#### Attributes of the common

<table>
<thead>
<tr>
<th>Structural variables</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
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</table>
| **The number of participants** | -                                                                           | 1013 members of the energy cooperative of WPN have invested in shares and are seen as co-owners of the park now. The cooperatives counts 1700 members and donators.  
The board counts 4 members  
The integrity commission counts 2 members | Website:  
“Energy cooperative WPN counts 1700 members and donators. Become a member to realise more energy projects together.”  
“Energy cooperative WPN is a sustainable energy cooperative for and by civilians. An important milestone was realising the park Nijmegen-Betuwe in 2016. 1013 members of the energy cooperative WPN have invested in shares and are now co-owner of the park.”  
“Read more about the members of the board of Energy cooperative WPN  
- Chairman  
- Member of board  
- Chamberlain  
- Member of board”  
“The integrity commission consists out of two members. Currently there is a position open for a new commission member.” |

#### Subtractive vs. fully shared

| Difficulty of excluding potential beneficiaries, subtractability of use | The cooperative chose to have a certain number of shares for the projects and if civilians want to invest in the park, the only way is to buy shares from others. This made they could easily regulate the number of participants or how to divide the profits within projects. The cooperative contributes to a sustainable transition in energy. This sustainable energy is for the entire region, not only for its members. There is no subtractability of use, and no need to exclude members. Anyone can become a member of the cooperative itself, by becoming a general member. These members have a vote during general meetings and can sign in for upcoming shares. The role of members is | Website:  
“Built together towards a sustainable Nijmegen”  
“Become donator of energy cooperative WPN. As soon as the shares of the new project Sun shares of ‘Zonnepark de Grift’ open, you can be the first one to apply.”  
“If you are a donator, you do not have a vote in the cooperative. You can vote if you own a share.”  
“Windshares: It is no longer possible to buy a windshare within Energy cooperative WPN. Investing in the park Nijmegen-Betuwe is only possible if you buy shares from other members.” |
| Heterogeneity of participants | Difference in payoffs | The main aim is to gain sustainable energy and start projects to realise this. One will not benefit from the outcome of these projects more than the other. There can be a difference in payoffs once the members have a share in the project, or multiple shares. The number of shares will be the payoff of the member. | See fragments subtractive vs. fully shared |
| Face-to-face communication | Communication means | They do not see all there members during a general meeting and agree the current structure is not sufficient. Even though there are general meetings, not all members are reached. | “I think we are going to reorganise our own organisation. We are going to discuss how to include the members. With the current structure our reach is limited. We of course have our newsletters, but you can find different ways to measure the thoughts of members, digitally.” |
| How individuals are linked | Is A contributing to B, B to C and C to A? Or how are the individuals linked | Different organisational constructs were realised. The cooperative itself consists out of the board (A) and its members (B) and donators. They decoupled the energy projects (C) from the cooperative to create overview. The projects are providing sustainable energy to the region. Members have shares of these project meaning they invested in the project and earn some whenever the project is making profits. Part of these profits are used to support local initiatives. These projects are picked by the members. There are inhabitants of Nijmegen who do profit the sustainable energy but protest against projects. The state can decide whether or not a project is declined or accepted. | Public documents: “Organogram”
See fragments subtractive vs. fully shared
Mail towards members [2019-07-02]: “Part of the profits from the project is destined to the foundations. With this money it is possible to realise new, sustainable energy projects.”
Interview: “The past years we focussed on detangling and clarify the responsibilities and different roles. The cooperative had to have a clearer profile.”
“Eventually it takes a lot of time because a few people protested. So, we have to find a solution to that. We are also working on that. In the worst case, you can wait for an irrevocable permit after the process of the Council of State.”

contributing financially to the projects. Once they own shares, they benefit from the profits made by these projects.

“Sun shares: During the last months of 2020, it will be possible to buy sun shares.”

“General shares: are you not yet participating but willing to become a member? For 50,- you own a general share which you can switch (once opened) for a sun share.”
### Appendix X: Analysing the theoretical gap: Energiecooperatie WPN

<table>
<thead>
<tr>
<th>Action Arena</th>
<th>Interaction</th>
<th>Degree of participation</th>
<th>Indicators</th>
<th>Description</th>
<th>Fragment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decision made</strong></td>
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</tr>
<tr>
<td><strong>Decision 1</strong></td>
<td>The open authoritarian style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>The governing board executes policies, detangling the cooperative, entirely independently. They shared information about what was new. They needed to convince the participants of the purpose, and things such as the name needed to be decided by the collective.</td>
<td>Interview: “After the strategy discussion and after we had gone through the amendment of the articles of association and the entire process, it also became clear, also for us as a board, that we were therefore in a disentanglement process. And that we have to take control ourselves because the pressure to operate collective was quite big. That also gave a lot of ambiguities.” “Eventually, when it was about to happen, there was something such as can we decide with you? Well no actually not” “It was a very emotional trial”</td>
<td></td>
</tr>
<tr>
<td><strong>Decision 2</strong></td>
<td>The delegating style</td>
<td>Influence, vote, information, interactivity, transparency</td>
<td>The governing board gives the authority to the participants to choose the name.</td>
<td>Interview: “Legally we had to discuss it during the general meeting. We and the 25 members lost, the general meeting decided everything.”</td>
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<tr>
<td><strong>Power to/over</strong></td>
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<tr>
<td><strong>Decision 1</strong></td>
<td>Cooperation ‘More/less’ power to</td>
<td>Permission needed, controlled, guided, executed by, depend on</td>
<td>The board has more power during this trail. The board independently decided to disentangle. They still need to convince the members because they do have similar collective goals.</td>
<td>See fragments stated above</td>
<td></td>
</tr>
<tr>
<td><strong>Decision 2</strong></td>
<td>Cooperation ‘More/less’ power to</td>
<td></td>
<td>Concerning the name, the members have more power than the board, but they both have similar collective goals.</td>
<td>See fragments above</td>
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</tbody>
</table>