

International Waste Management

The factors that make participating in networks to recycle plastics a success for businesses

An empirical case study on the Netherlands Plastic Pact



Title Page

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Abstract

While the importance of partnerships within the plastic value chain to achieve a closed-loop recycle system is given considerable attention, the critical factors that contribute to a successful implementation of strategies are often underexposed. Organisations are able to identify opportunities and bottlenecks in collaborations but face difficulty by effectively implementing these strategies. This research presents a case study on the collaboration of the plastic value chain in the Netherlands Plastic Pact. The combination of the social network analysis and the stakeholder analysis proved to be effective in determining the critical factors that contribute to a successful completion of the Netherlands Plastic Pact in reaching their goals by 2022. The results show that a network requires frequent communication and visible commitment of the participants. The stakeholder analysis revealed four critical factors that explain the intrinsic motivation of the organisations to participate in the Netherlands Plastic Pact. The first factor to collaborate in the Pact is influencing regulations such that technical issues are solved. The second factor is this collaboration leads to a positive costs/benefit trade-off. The third factor is that the cooperation speeds up the process in developing new technologies on recycling plastics. The last factor reveals that organisations care about positive consumer perspectives which is strengthened by their participation. The main finding of the research is that there exists a coordination problem to guide the organisations from the design stage of the project to the implementation strategies. The research provides practical advice for the government or frontrunner companies to step in this vacuum of overall coordination.

keywords: *circular economy in plastics, social network analysis, stakeholder analysis, critical factors, implementation strategies*

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1. Introduction

1.1 Research Background

Every minute the equivalent of one rubbish truck of plastic ends up in the ocean and the problem is only getting worse every year (Pennington, 2016). The UN secretary general, Antonio Guterres, has cited statistics showing that if current trends continue, there would be more plastic in the oceans than fish by 2050 (Wearden, 2016). Plastics have become increasingly dominant in consumer products since their commercial development in the 1930s and 1940s. Ever since the global production of plastics has increased tremendously from 2 million metric tons (MT) produced in 1950 to 322 MT produced in 2015 (Brooks, Wang, & Jambeck, 2018). Plastics are very functional (light-weighted, low-priced, adaptable, durable) whereas 40 percent of its usage takes place in the packaging industry (Plastic Europe, 2018). Unfortunately, packaging for food and beverage is often only for single use, which has contributed to almost 60 percent of the global beach litter (Gionfra, Richer, & Watkins, 2020).

The increase in plastic production surpassed our traditional waste management infrastructure. The costs of disposal increased because of tighter waste regulation, which stimulated transnational companies to engage in illegal waste trade. In 2017, the US alone has shipped around 70 percent of their plastic waste to countries such as Thailand, Malaysia and Vietnam (McVeigh, 2018). Those countries do not have strict environmental friendly regulations on their waste disposal. A recent report of the World Health Organization (WHO) has pointed out that 25 percent of the occurring diseases in developing countries are due to improper waste management (Trivedi, Mathur, Johri, Singh, & Tiwari, 2020). Due to the unregulated waste inflow in developing countries, local authorities are facing problems such as the availability of proper waste disposal sites which results in illegal dumping and open burning (Kitt, 1994; Periathamby et al., 2009). On top of this, China who was at that time importing two-thirds of the world's plastic waste, placed a ban on the import of plastic waste in 2016 (Wang et al., 2019). Respecting this problem the UN has called upon world leaders to make more efforts to decrease the production of plastics (Morgan, 2017).

As a response, the European Parliament adopted a ban on the Single-Use Plastic (SUP) in the beginning of 2019, which will come into force by 2021 in all EU member states (Rankin, 2019). This requires a new approach to our traditional waste management infrastructure. To deal with public problems such as waste, governments have followed the principles of the New Public Management (NPM). This approach is trying to solve the problems of bureaucracy with management practices found in private businesses with the aim to be more effective and to reduce costs (Otenyo & Lind, 2006). To focus more on performance, governments set up specialized units which were responsible for solving the waste

problems (Hood & Dixon, 2015; Verhoest, Thiel, Bouckaert, Lægreid, & Thiel, 2016). Soon, the first programs started to fail due to a lack of overall coordination. Units were held responsible for results that exceeded their specific administrative unit which hampered the effectiveness and efficiency of the government (Christensen & Lægreid, 2007; Peters & Savoie, 1996). More recently, some governments have shifted towards a strong policy integration approach rather than making only one unit responsible for a complex problem, which used to be the common strategy in NPM (Nunan, Campbell, & Foster, 2012).

The environmental policy integration (EPI) is a tool which is used to address the problem where often economic and political interests are conflicting. According to Nilsson & Persson (2003), EPI is conceptualized from a network perspective, where actors and actor coalitions are positioned according to their belief systems. EPI occurs through learning across frames when actors meet and create new debates and deliberations in the policy network. Countries that implemented this strategy are Sweden and the United Kingdom. Swedish Ministry of Environment has set the National Environmental Quality Objectives (NEQO), which are the responsibility of 24 governmental agencies with each their own objectives (Nilsson & Persson, 2003). Likewise, other countries have adopted the EPI strategy and treaties are founded in order to collectively address the plastic waste problem (Jordan & Lenschow, 2009).

1.2 Problem identification

Although great steps can be made to reduce the pile of plastic waste, we cannot go back to a society without plastics. Therefore, one should not only think about reducing plastics but also about recycling technologies. There is a wide range of recycling and recovery activities which is generally categorized in primary recycling activities, also known as closed-loop recycling, and secondary recycling known as downgrading (Hopewell et al., 2009). The last decades innovation took place in recycling technologies such that in the year 2002, 51.5% of the plastic waste was recovered in Western Europe (Perugini, Mastellone, & Arena, 2005). Nevertheless, the main challenges for the recycling industry remains the correct sorting and identification process of plastics due to the wide variety of packages which leads to costly processes (Al-Salem, Lettieri, & Baeyens, 2009).

To resolve the problematic and unnecessary use of plastic the United Kingdom has established a pact in which companies of the plastic industry participate (The UK Plastics Pact, 2018). The Netherlands has followed this example and the Ministry of Infrastructure and Water Management initiated the Netherlands Plastic Pact in 2019. In this pact, commercial and non-profit organisations are participating on a voluntary basis and have set ambitious goals to be reached in 2022 (Joosse, 2019). Still, success is not guaranteed and there are several threats to this initiative such as conflicting interests, and free

riding. In this research, I am going to assess the successfulness of the initiative in reaching their goals. Therefore, the following research question is formulated: *'What factors are important in the network of the NL Plastic Pact to be successful in reaching their goals in 2022?'* The success of this project is twofold; the extent the participants think that the goals will be reached by 2022, and a higher level of integration between the organisations active in the plastic industry. This is because a higher integration in the plastic industry is a necessary component for innovation in the recyclability of plastics (Perugini et al., 2005).

The Netherlands Plastic Pact can be assessed as a network organisation of the plastic industry. To measure the success of the network it is important to determine two aspects. Firstly, the strength of the ties between the participating organisations is assessed with the use of the social network theory (Borgatti & Halgin, 2011). Secondly, the interests of the participating parties is analysed which is done with the use of the stakeholder analysis (Grimble & Wellard, 1997). More researchers have used the social network analysis (Brass, Butterfield, & Skaggs, 1998a; Obstfeld, 2005; Sparrowe, Liden, Wayne, & Kraimer, 2001) and stakeholder analysis (Goodpaster, 1991) to understand cooperative initiatives. These theories have been combined to investigate central stakeholders in natural resource management and to select relevant stakeholders for a network (Paletto, Hamunen, & Meo, 2015; Prell, Hubacek, & Reed, 2009). This research goes further than that by using both theories to understand whether the NL Plastic Pact can be successful at its mission.

1.3 Research outline

This research is structured by two sub-questions which are created as a support to the main question. The first question is looking into the structure of the network. The question is: *'How is the network structured?'* As it is expected that the interests of the organisations highly contribute to the success or failure of the network, the second question is: *'What are the intrinsic motivations and goals for the collaborating parties?'* This research first presents the framework and the methodology. The results are structured according to the two sub-questions and the research concludes with a discussion, limitations and future recommendations.

2. Theoretical Framework

As previously mentioned, the reduction of the use and production of plastics requires a collaborative approach of businesses, knowledge institutions, and, (governmental) organisations. The plastic pollution affects many actors; businesses, authorities, and consumers, all having their own interests. The first part of this section focuses on two theories, Network and Stakeholder Analysis, which are used to analyse the dynamic of the NL Plastic Pact. The second part of this section provides an overview of factors derived from the two analyses. This section concludes with providing an a priori model for the template analysis and a prediction for the results.

2.1 The Social Network Analysis

Theory of New Institutionalism, as described by DiMaggio (1988), states that in a collaboration between institutions and corporates, the interests are exogenously determined (DiMaggio, 1988). Recently, these collaborations have gained new interest and are studied from a network perspective to understand developments of businesses in terms of innovation (Obstfeld, 2005), creativity (Burt, 2009), and job performance (Nyambegera, Daniels, & Sparrow, 2001). Bowler and Brass (2006) differentiate between 'network theory' and 'theory of networking'. Network theory refers to the network variables such as *the position in the network and the amount of connections*. While the theory of networks is focusing on *the processes that determine why networks have the structures they do* (Bowler & Brass, 2006). These definitions are complementary to each other, but the focus of this research lies on the structure of the network. This is because identifying the central participants and their mutual connections contribute to the research to determine the level of integrations between the parties.

2.1.1 The different levels of networks

Understanding the interactions within the different levels of the network is key to measure the effectiveness of the network, and to understand the role of the many different stakeholders involved in the process (Mandell & Keast, 2008). Other scholars have differentiated between micro and macro levels (Ibarra, Kilduff, & Tsai, 2005). The micro network level is referring to the direct actors of an organisation and can be considered as the within-level. The macro network level refers to the overall network structure which leads to different levels between networks. Likewise, Contractor, Wasserman, and Faust (2006) use the term multilevel to describe the dyadic, triadic, and global levels of network analyses. The micro-level, are described as the individuals of the company which are part of departments. The highest level of the network is the interplay between organisations (Contractor, Wasserman, & Faust, 2006). It is important to notice that individuals can also have contacts with other organisations which place their connections at macro level. The interplay between these levels are

generally speaking, bottom-up and top-down, where a given process is related to a process at the higher/lower level of the network (Korsgaard, Soyoung Jeong, Mahony, & Pitariu, 2008). Figure 1 is representing how networks at the bottom (level 1) are consisting of individuals who are interacting with their departments (level 2) and finally with other organisations (level 3) (Moliterno & Mahony, 2011). In this research the focus is on level 3, representing the reasons for organisations to interact with each other and it provides insights on how this interaction takes place.

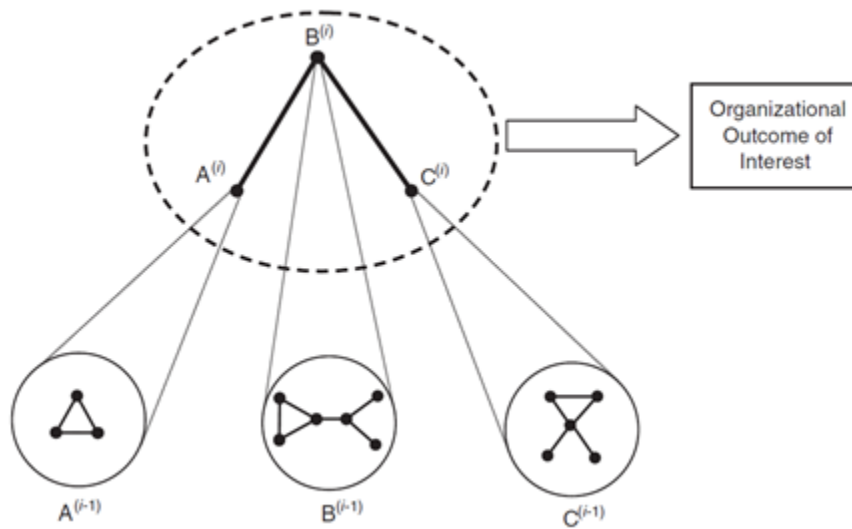


Figure 1: General Model for Cross-level Network effects (Moliterno & Mahony, 2011)

2.1.2 Network structures

As mentioned previously, a network consists of a set of actors or nodes along with a set of ties of a specified type that link them. The boundaries of a network are not so clear, and the actors do not have to be connected directly. A disconnected network is one in which some actors cannot reach certain actors by any path, meaning that the network is divided into fragments known as components (see figure 2). Looking this way at networks it is possible to study evolution. In the beginning the actors can be all unconnected components while after time evolves, the actors can become interconnected. Next to the actors or nodes, are the relationships, also called ties between the actors, which are an important feature of the network. Granovetter (1973) differentiated between 'strong' and 'weak' ties, with strong ties referring to relationships between friends and family and weak ties referring to relationships with acquaintances (Granovetter, 1973). Those ties involve a multitude of facets such as: including affect, mutual obligations, reciprocity and intensity. Strong ties involve a high level of trust and are for emotional support, weak ties often lead to new information on opportunities (Katz, Lazer, Arrow, & Contractor, 2004).

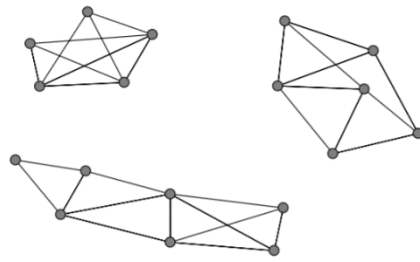


Figure 2: Network with Three components (Borgatti & Halgin, 2011)

Many scholars have been researching how networks evolved and how the connections within are maintained (Brass, Butterfield, & Skaggs, 1998b; Burt, 2004; Carlsson, 2000; Cook, 1977; Friedrich, Vessey, Schuelke, Ruark, & Mumford, 2009). Networks evolve out of socioemotional desires where actors function as ‘broker’ between two unlinked actors (Burt, 2004), exchange of resources (Cook, 1977), mutual interest and collective action (Carlsson, 2000), exchange of expertise and skills (Friedrich et al., 2009) and similarity between individuals (Brass et al., 1998b). Although the NL Plastic Pact has a clear initiator, the Ministry of Infrastructure and Water Management, one can view the participating organisations as a group with a mutual interest and their own connections. For a well-functioning network there are four fundamental factors that have to be present. The first factor trust implies that actors will not take advantage of each other (Granovetter, 1985). The second factor is legitimacy, the public find the network necessary and desirable (Suchman, 1995). The third factor is commitment, all the actors have to be involved which reflects the underlying bond (Porter and Steers, 1982). And the fourth factor is communication which has to be frequent and preferably physically (Welch and Jackson, 2007). In addition to these four fundamental factors, this research is also looking into the connections between the actors and the strength of the ties (Granovetter, 1985). Besides, the factor collective interest is looking into whether the actors gain from working together. Lastly, the factor power is investigated since actors want to join a network where powerful actors are present (Lance, Georgiadou, & Bregt, 2009). More elaborate explanations of these factors are provided in section 2.3. Besides the factors, it is in the context of the NL Plastic Pact important to look into the preferences of the stakeholders. Since there exist multiple interests of the actors to participate in the NL Plastic Pact.

2.2 The Stakeholder Analysis

This section focuses on the interests of organisations which participate in the NL Plastic Pact. All participating organisation have a shared interest or stake in the NL Plastic Pact. The term ‘interests’ refers to the economic level of utility perceived by the participating organisation. Hence to investigate the organisations the stakeholder approach is used, defined by Grimble and Wellard (1997), *‘stakeholder analysis can be defined as a holistic approach or procedure for gaining an understanding of a system (...) by means of identifying the key actors or stakeholders and assessing their respective interests in the system’* (Grimble & Wellard, 1997). By using this approach, it is possible to investigate the multiple interests and objectives of the participating organisations in the NL Plastic Pact. Although all stakeholders have a shared interest in the network, this does not imply that they play an equally important role. A distinction can be made between those that affect a decision or action, and those who are affected by the decision or action (Grimble & Wellard, 1997). To characterise the stakeholders different variables of the classification-system can be used such as; power, legitimacy, urgency, or interests (Burton & Canada, 2003; Mitchell, Agle, & Wood, 1997). Stakeholders that are perceived to have power, legitimacy and urgency are defined as definitive stakeholders. Stakeholders with a combination of power, legitimacy or urgency are defined as primary stakeholders and stakeholders only possessing one of the three variables are defined as latent stakeholders (Mitchell et al., 1997). Figure 3 represents a mapping of all seven different types of stakeholders.

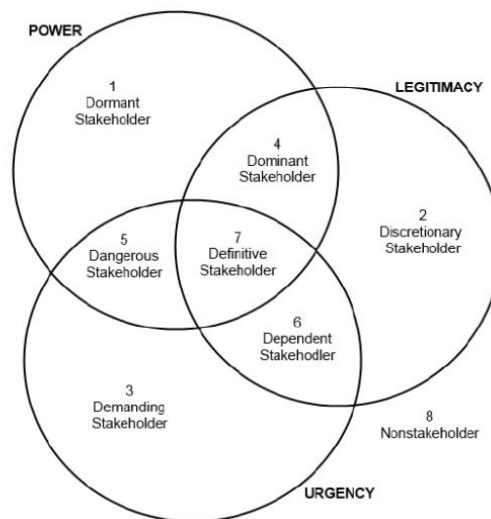


Figure 3: Stakeholder typologies (Mitchell et al., 1997)

In the stakeholder theory four major groups are considered: customers, employees, the public and shareholders. The shareholders benefit if the needs of the first three groups are met (Preston, 1990). Besides the participating organisations also their direct stakeholders should be considered. Since the

stakeholder significantly influences the achievements of the organisations in their success in implementing recycling strategies on plastics (Lindenberg and Crosby, 1981). By using the stakeholder analysis, the interests of the participating organisations are evaluated and understood. Accordingly, the factor interests are important to look into since that will help to determine the position of the actors and their level of involvement (Hinterhuber and Hirsch, 1998). Next to that the stakeholder analysis shares factors with the social network analysis but emphasises differently on these.

The first factor trust it is important from a stakeholder analysis that the participating organisation is trusted by its own shareholders that they should be involved in the network. The second factor legitimacy is that the participating organisation should be perceived as legitimate by the public and the other participating organisations. The third factor commitment is that the shareholders of the participating organisation also support the underlying bond that the organisation has with the network. The fourth factor communication is that the participating organisations are communicating about their activities within the NL Plastic Pact. The last factor, power is important to determine the position of an organisation within the network.

2.3 Identified factors in the Network and Stakeholder Analysis

By using both the network and the stakeholder analysis seven major factors have been identified which affect the successfulness of the network. These factors are: connections (Haunschild, 1993), power (Granovetter, 1973), communication (Sparrowe et al., 2001), trust (Granovetter, 1985), legitimacy (Suchman, 1995), commitment (Mowday, Porter, & Steers, 1982) and the interests (Walker, Martin, & McCarthy, 2008) of actors. Looking into these factors it is possible to understand the dynamic of the network and assess their level of integration. The higher the integration of this network the better the results are since all actors in the network are dependent on each other.

Connections

In the social network analysis, connections are often referred to as the different kinds of links that exist between the actors. Granovetter (1973) has made a distinction between 'strong' and 'weak' ties. With strong ties referring to connections such as friends and family and weak ties referring to connections such as acquaintances. On the one hand, strong ties are necessary for a good quality network and exist through frequent interaction (Granovetter, Mark, 1973). On the other hand, weak ties are there to connect the network with other social systems (Ibarra et al., 2005).

Collective interests

The main driver for firms to collectively take action in a network is out of self-interest (Munksgaard & Medlin, 2014). However, by collaborating in a network collective benefits can be created alongside the self-interests of the firms. Sometimes it is rather a force to join a network than a choice to do so. For example, in regional development projects where parties have to collaborate to get an optimal outcome (source). In the NL Plastic Pact organisations are free of choice to participate. By looking into collective interests, the 'shared interests of the different parties' is investigated to develop an understanding of the added value of the network.

Power

Another aspect of network theory is that it helps to structure interactions and to define which agents are 'relevant' and the reason why they are relevant. Networks can be structured into game-theoretic terms to channel the interactions and the payoffs for the involved parties (Rauch and Casella 2001). Sociologists have enriched the network theory of economists by modelling all the relationships of agents. More literature has focused on the power of the ties between agents where strength can be measured by frequency of interaction (Granovetter, 1973) or by emotional intensity (Marsden and Campbell 1984). However, economists have shown the value of weak ties by researching the agent's abilities to form trusting relationships with new actors which are more likely to be based on independent research if the new actor is not acquainted with other strong tie-agents in the network of the agent who is looking for a new partner (Aral 2016).

Communication

Sparrowe, Liden, Wayne, and Kraimer (2001) observed in the field that when groups were performing complex tasks, groups with decentralized communication patterns performed better than groups with centralized communication patterns (Sparrowe et al., 2001). These outcomes have been confirmed by Cummings and Cross (2003) who found that centralized communication patterns led to lower group performance than groups with a decentralized communication pattern (Cummings & Cross, 2003). What is even more, Brown and Miller (2000) found that groups working on complex tasks are more likely to develop a decentralized communication pattern than a centralized communication (Brown & Miller, 2000). Another aspect which is important in the performance of the network, is the frequency of the communication. Poor internal communication is one of the main causes of inefficiency within an organisation. Research shows that the most preferred medium of communication is face-to-face, which becomes harder when companies engage in larger network structures (Welch and Jackson, 2007). Besides it is important that parties meet each other frequently in order to stay up to date on developments and the progress (Chiu, 2002).

Trust

Granovetter's (1985) stresses that all economic action is embedded in networks. These networks are embedded in social relationships that generate trust and expectations of fairness over time. In this definition trust is a necessary element for the development of relationships within the network since that will thrive the shared vision of the group and result in common tactics and execution of long term investments in order to achieve the desired outcome (Jarillo 1988; Granovetter 1985; Podolny and Page 1998). Other research has shown that insufficient trust between the members within the network is one of the major causes of network failure (Hanna and Walsh 2002; Dodgson, 1993; Inkpen and Tsang 2005). Trust enhances the effective functioning of a network since actors do not have to protect themselves against opportunistic behaviour and information is exchanged more openly (Hinterhuber and Hirsch 1998).

Legitimacy

Suchman (1995: 574) defines legitimacy as follows: *'legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed systems of norms, values, beliefs, and definitions.'* Organisations seek legitimacy since audiences are more likely to support organisations that appear to be desirable, proper, or appropriate (Parrsons, 1960). In this way organisations can act collectively on problems if they are reassured of support of the audience and solve the prisoner's dilemma (Olson, 1965). On the one hand, in the stakeholder analysis the emphasis of legitimacy is on the dilemmas that organisations face in managing their relationships with demanding constituents which cause organisations to formulate desirable strategies (Suchman, 1995). On the other hand, Suchman (1995) emphasises that the cultural environment affects what is socially desirable. In this way it is not possible for networks to emerge if they are not socially supported.

Commitment

Porter and Steers (1982) studied commitment from the perspective of organisational behaviour and defined it as follows: *'the strength or identification or involvement an individual has with an organisation, reflecting an underlying bond or attachment'*. This definition of commitment is often used to examine the effect of organisations with strong and weak committed stakeholders and their performance (Mowday, Porter, and Steers, 1982). In networks the same effect becomes visible, networks tend to be more effective if their actors committed (Clarke 2006). Often, commitment is used as a coordinating mechanism to compensate for a lack of behavioural control processes which are often absent in network structures (Clarke, 2006)

Organizational Interests

According to some researchers a network emerges when there is at least some but not complete overlap in interests between the actors. In case of complete overlap competition can become problematic in the exchange of valuable information (Hinterhuber and Hirsch, 1998). Actors will act according to their own interests as well as the interests of their stakeholders. The interest for firms to engage in sustainable initiatives can be twofold: the personal commitment of the manager and the desires of the managing board to reduce costs by closing the product cycle (Walker, Di Sisto, and McBain, 2008). During the past few years, more and more companies integrated sustainability into their strategic practices since it has been viewed as a strategic priority in firms' business strategies (Aragón-Correa and Sharma 2003; Pagell, Wu, and Wasserman, 2010).

There are different reasons for companies to develop sustainable products. One of the reasons is simply to comply with the local regulations such as CO2 restrictions and the abandonment of hazardous substances with some countries even going further by banning plastic bags (Dangelico and Pujari 2010). Next to this, engaging in sustainable practices has a positive effect on the reputation of a company (Harms, Hansen, & Schaltegger, 2013). On the one hand, companies experience a demand from customers to develop more sustainable products but, on the other hand, executives tell that it was simply the right thing to do (Esty and Winston 2009). To sum up, sustainable practices of companies are driven by; reputation, compliance with regulations, cost and benefit driven, demands of stakeholders and the personal motivations of executives.

2.4 The a priori template model

The combination of using the Stakeholder and Social Network Theory to understand the dynamics of a network has been done before in studying collective actions on environmental issues (Lienert, Schnetzer, Ingold, 2012). By studying the actors from a stakeholder perspective, it is possible to determine who the main actors are and to identify the boundaries of the network (Lienert, 2012). In the case of the NL Plastic Pact the boundaries are very clear, the network includes all organisations that have signed the pact. However, to assess whether this network is going to be effective in its mission, it is important to study the actors and the relevance of the network. Therefore, it is still interesting to investigate who the initiator, the Ministry of Infrastructure and Water Management, has chosen as 'main actor' to start the network and how the network evolved. The stakeholder analysis allows us to investigate the participants and to determine their interests in a collaborative approach to the plastic problem.

There are five factors that are important to both analyses: power, legitimacy, trust, communication and commitment. Looking from a social network analysis perspective, the factors connections and collective interests contribute to the success of a network. From the perspective of the stakeholder analysis, the interests of the organizations to participate influences the success of the collaboration in the NL Plastic Pact. These are factors such as customer-demands, the costs/benefits, and reputation. Insights of the stakeholder theory are fed back into the social network theory which contributes to be able to estimate the successfulness of the network. The figure 2 below depicts factors within the two perspectives, network, and stakeholder analysis.

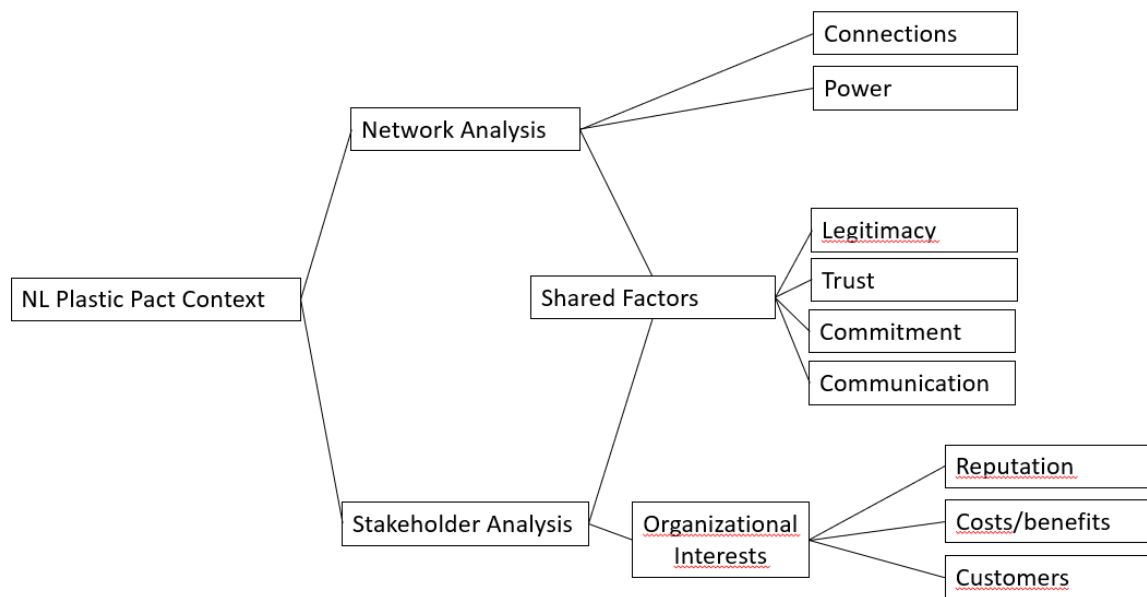


Figure 2: Driver factors within the network and stakeholder analysis

3. Methodology

This section outlines how the research will be executed and will elaborate on the chosen design of the research, the analysis of the data and gives an overview on how the ethics of this research are preserved.

3.1 Research design

The NL Plastic Pact has only started a year ago and is in development. For most participating organisations increasing the use of recycled plastics is part of their long-term business strategy. However, this does not guarantee a successful completion of the NL Plastic Pact by the end of 2022. The development of the NL Plastic Pact has been studied with the social network analysis to understand who the important actors are. With qualitative interviews it is possible to find key actors in the NL Plastic Pact and to understand the informal ties that were not explicitly identified in the quantitative network. With the stakeholder analysis the underlying motivations for participating organisations have been studied. With qualitative interviews distinctions can be made within the motivations for organisations to participate which are not always noticed by the interviewee. To guide the interviewee, a semi-structured interview has been executed which is based on a template analysis, including factors which other researchers have found to be of importance (Moliterno and Mahony, 2011). To triangulate the data, also annual/sustainability reports and the websites of the companies represented by the respondents have been studied (see attachment 1). All the participating organisations have a strong relation with plastics, but the application of plastics in their business strategies differ. Therefore, the participating organisations are grouped into three categories: 'plastic producers', 'plastic consumers' and 'other' which include environmental organisations, government, and knowledge/research institutes.

3.2 Research population

The scope of the study is relatively small, and the topic being studied is based on previous literature and only adapted to this specific case. To have high quality interviews, only people with a management position who are involved with the NL Plastic Pact have been selected for an interview. Managers are most likely to be concerned about sustainability and social performance of the organisation they work for (Pagell and Gobeli, 2009). These managers can identify key factors which are important for a successful business strategy in recycling plastics. However, if the manager was not available the interview took place with a representative. Additionally, the interviewee held the position for at least one year in the organisation to ensure internal validity. To collect more information about the organisation, I have also studied annual reports, websites, and sustainable reports, by the participating organisations. The above stated aspects are of importance to be able to estimate the required sample size to research saturation (Mortelmans, 2007). By taking these aspects in mind, the sample size of ten

interviews is sufficient to reach saturation. The research pursued 15 percent of the interviewees to be women which is according to the gender division of the organisations that have signed the pact in 2017 (Nederland Circulair, 2020). In total eight men and two women have been interviewed, which met the requirements above.

The interviewees have been approached by using a contact of the university. This contact helped by establishing new connections with other participating organisations. Besides, the business platform LinkedIn has been used to get in touch with the executives of participating organisations whose names are stated in the NL Plastic Pact report in 2017. I sent a request to become 'connected' on LinkedIn with a short introduction on the researcher, the topic, and a request for an interview. After the potential interviewee accepted the invitation it became easier to reach out to new interviewees

because they saw a 'shared connection'. Before an interview took place, the researcher determined whether the interviewee had connections on LinkedIn with other people which are eligible for an interview and asked for an introduction to that person.

Sector	Respondent	Age	Gender	Size of the organisation (employees)	Plastics	Date the interview took place
Other	Respondent 1	56	Male	13	Na	1/04/20
Other	Respondent 2	57	Male	Na	Na	9/04/20
Other	Respondent 3	38	Male	76	Na	29/04/20
Plastic User	Respondent 4	36	Male	5,000	700,000 ¹ tones	7/04/20
Plastic User	Respondent 5	44	Female	723	3 million ¹ tonnes	23/04/20
Plastic User	Respondent 6	56	Male	600	100,000 ¹ kg	30/04/20
Plastic Producer	Respondent 7	63	Male	238	20 million kilo	6/04/20
Plastic Producer	Respondent 8	39	Female	8,000	160,000 tonnes	14/05/20
Plastic Producer	Respondent 9	49	Male	2,000	400,000 tonnes	20/04/20
Other	Respondent 10	59	Male	10	Na	10/04/20

Table 1: Respondents overview

3.3 Data collection and research ethics

To collect data for this research, two methods have been applied: semi-structured interviews and an analysis of the annual/sustainability reports and websites of the organisations represented by the respondents.

3.3.1 Interview structure

The questions started with a short introduction on the interviewer and the interviewee and naturally evolved to the question how the organisation became involved in the NL Plastic Pact. The second part of the interview focused on what the interviewee thought their organisation would get out of the collaboration and what factors positively affect the collaboration. The last part of the interview focused on the future, whether the interviewees would join a similar collaboration after the project would be finished. In this way the interview followed the structure of the sub-questions with the use of the factors outlined in table 2. The complete procedure of the interviews can be found in attachment 2 and the interview questions in attachment 3.

Factor	Definition	Theory	Semi-structured interview and/or Documents
Network	Position, amount of connections, the process and structure	Bowler & Brass, 2006	1/1
Stakeholders	Identifying key actors and their interest in the system	Grimble & Wellard, 1997	1/1
Trust	Trust in actors who will not behave opportunistically	Hinterhuber & Hirsch, 1998	1/0
Power	Frequent interactions and/or high emotional intensity	Granovetter, 1973 Marsen & Campbell, 1984	1/0
Legitimacy	Desirable organisation/network	Suchman, 1995	1/1
Communication	Frequency and how it takes place	Chiu, 2002	1/1
Commitment	Involvement of individuals with organisations	Mowday, Porter and Steers 1982	1/1
Connections	The strength of ties between the actors	Granovetter, 1973	1/1

Table 2: Overview of factors and the data collection method

3.3.2 Data triangulation

As mentioned in the research design, this study is using the interviews, annual/sustainability reports and websites of the organisations represented by the respondents. To triangulate the data, different interviews with different respondents have taken place such that the researcher would get a clear view on the network. The triangulation of the interviews has been done in two ways: within the respondents and between the respondents. Triangulation within the respondents is done by posing the same question in a different way to verify the consistency of the respondents. For example, in the beginning the researcher explores the reasons for organisations to join the network and later the researcher asks whether they would participate in a similar network in the future. Triangulation between the respondents has been done by checking the answers of all the respondents on consistency. Lastly, the analysis of the annual/sustainability reports and the websites of the organisations is useful to confirm or to detect contradictions of which an overview is provided in attachment 1. Since factors such as 'Trust' and 'Power' are subjective, they are often not described in annual/sustainability reports. Therefore, these variables will only be measured in the semi-structured interviews. Figure 3 provides a schematic overview and presents the triangulation of this thesis. The continuous lines represent the process of finding the sources, collecting data, and processing it into results. The dotted lines represent how the triangulation of the data took place.

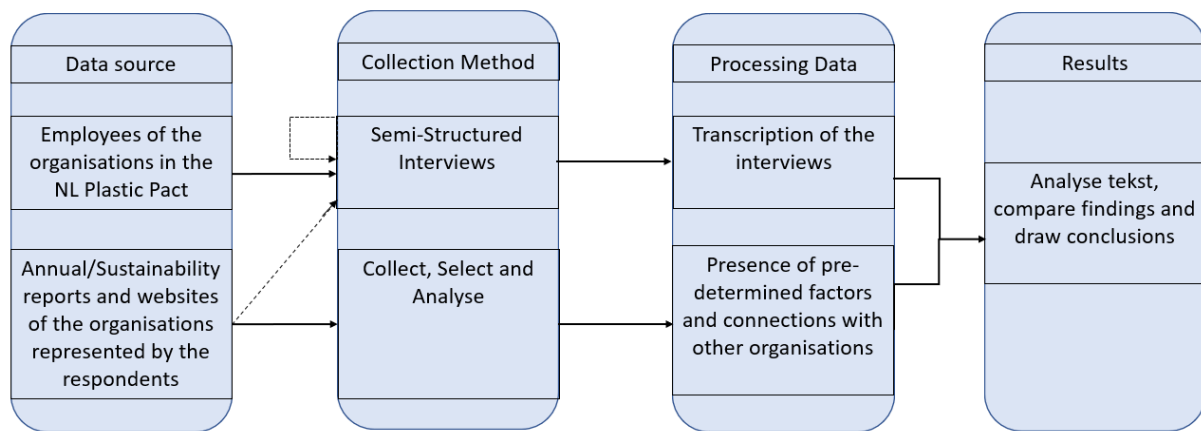


Figure 3: Schematic overview of the data triangulation of the consulted sources

3.3.3 Research ethics

To guarantee the integrity of the research, the guidelines of the Netherlands Code of Conduct on Scientific Practice has been followed (KNAW et al., 2018). The steps to execute the research have been clearly outlined and have been closely followed. Two days before the interview, the participants were sent information about the discussed topics. Then, at the start of the interviews, the participants were thoroughly informed about the research and asked for permission of recording. Every participant had the possibility to make amendments of the transcript that has been written about them. The

participants in this research remain anonymous and are only referred to their respondent number (table 1).

3.4 Data analysis

The data gathered for this research has been analysed with the help of the programme Atlas.ti. Firstly, the verbatims and reports have been open-coded. Secondly, the open codes were categorized into factors which have been indicated to be of importance by previous network analyses (Brass, 2002; Granovetter, 1973; Marsen & Campbell, 1984; Suchman, 1995). Next to the factors of table 2, five factors have been added which came up repeatedly during the research. Also, the intrinsic motivations of the companies have been specified into seven more categories. As mentioned before, to get as much insight in the network as possible, annual reports, websites of the participating organisations and articles published by employees of the organisation have been studied. Everything that was not in the interest of the research, such as financial records, have been left out of the examination. Firstly, the documents have been read and interesting parts have been open-coded. Secondly, the open-codes have been categorized into shorter codes) and placed according to the overall factors of table 2.

3.5 Operationalization

The purpose of this section is to provide insights on how the sub-questions are answered and how the factors have been measured. This section provides for each factor an operationalisation strategy and an example on how the indicator should be interpreted. This is done by providing clear definitions which are also used by other researchers. Some definitions are very specific for this case study and therefore formulated by the researcher. Next to the definitions the origin of the factor is represented. The factors are either expected from the two theories and called 'deductive' or the factors came up repeatedly during the interviews and are called 'inductive'. Lastly, it is mentioned which sub-question the factors can provide an answer to. Here follow the two sub-questions and they are later only referred to their number.

1. How is the network structured and what factors influence the performance of the network?
2. What are the intrinsic motivations and goals for the collaborating parties?

Codes)	Definition	Origin	Sub Question	Abstract quotes
Achievements	'Concrete action/projects derived from the cooperation within the NL PP ¹ '	Inductive	2	<i>-Quotes concerning achievements made by the company on personal title</i> <i>-Quotes concerning outcomes (positive/negative) of the pact</i> <i>-Expectations about outcomes of the pact</i>
Collective Interest	'shared interest by different actors to act collectively' (Munksgaard & Medlin, 2014)	Deductive	1	<i>-Quotes which concern that acting collectively is benefitting a company. This can be anything related to sharing costs, volume, innovation</i>
Commitment	'The strength or identification or involvement an organisation/company has with the NL PP, reflecting an underlying bond or attachment' (Mowday, Porter and Steers, 1982)	Deductive	1 2	<i>-Quotes or statements of a company which show that the company is undertaking action in reducing/recycling plastics.</i> <i>Statements which show numbers are highly valued</i>
Communication	'Frequency the parties meet each other; size of the group that meet each other; physical or digital meetings' (Chiu, 2002)	Deductive	1 2	<i>-Quotes about communication within the pact, between the parties</i> <i>-Quotes of participants that show that they are communicating about their participation in the pact with their stakeholders</i>
Connections	'The strength of ties between the actors' (Granovetter, 1973)	Deductive	1	<i>-Quotes in which participants tell that they interact with other participants</i> <i>-Frequency of the interaction</i> <i>-Opinions about interactions</i>

¹ Netherlands Plastic Pact

Intrinsic Motivations Competitive Position	'Everything related to how companies differentiate in their offerings and create value in their market' (Hooley, Piercy & Nicolaud, 2008)	Deductive	2	<i>-Quotes which reveal anything about competition, cooperation, or fight. Anything about competition sensitive firm values</i>
Intrinsic Motivations Consumer Perception	'The perspective of consumers on the acting of the businesses/organisations' (McDonald, Oates, 2006)	Deductive	2	<i>-quotes about consumer perception on sustainability, on products that concerns the businesses of the participants, consumer preferences</i>
Intrinsic Motivations Business Strategy	'The set decisions taken by the organisation to achieve specific business objectives' (Peng, 2000)	Deductive	2	<i>-quotes about the core business of the participants.</i>
Intrinsic Motivations Costs/benefits trade-off	'Decisions which are affected by the trade-off between costs and benefits' (Palmer, 1995)	Deductive	2	<i>-Quotes that mention costs or saving costs for the participant by participating</i>
Intrinsic Motivations Reputation	'The beliefs/opinions which are generally held by the public about the participating organisation' (Eccles, Newquist & Schatz, 2007)	Deductive	2	<i>-quotes that talk about the image of a company or about green washing</i>
International Factors	'All matters which are active at world level and affecting the participants in the NL Plastic Pact'	Inductive	1	<i>-quotes that refer to international practices. This could be international offices of multinationals but also projects abroad to which the NL PP is connected</i>
Momentum	'Force that starts pushing the circular movement'	Inductive	1 2	<i>-quotes about public opinion on circular economy, sustainability, plastics or climate change. Companies that mention that there is something changing in the perspectives</i>

Network	'The position of a party in the network and the amount of connections' (Bowler & Brass, 2006)	Deductive	1	-quotes that reveal interdependencies of organisations -quotes about the possibilities of the NL PP network -quotes about the different roles participants have
Power	'The power of a party can be measured by frequency of interaction or by emotional intensity of the interaction with other group members' (Marsen & Campbell, 1984)	deductive	1	<i>-quotes that mention the power of an organisation</i> <i>- quotes that mention dependencies</i> <i>- quotes that mention remarkable changes in policies</i>
Regulation	'All matters that concern environmental governance' (Gunningham, 2009)	Inductive	2	<i>-quotes that mention regulation, sanctions, subsidies</i> <i>-quotes that mention the role and the need of the government</i>
Speed	'The amount of time needed to undertake action'	Inductive	2	<i>-quotes about time, days, months, years</i>
Trust	'The belief in the reliability, truth, or ability in the other participants in the network' (Hinterhuber & Hirsch, 1998)	deductive	1	<i>-quotes that show that participants feel safe, dis/advantage is taken of the situation</i>

Table 3: Operationalisation of the factors

4. Results

This section presents the results of the research. With the social network analysis it is possible to understand the dynamics of the network and the structure and the most important actors. This information has been fed into the stakeholder analysis which helped to clarify the motivations of the actors to participate in the network. The interviews are structured according to the two sub-questions and deal with the factors earlier identified in the framework (figure1). The two sub-questions are: 1) How is the network structured?, and 2) What are the intrinsic motivations and goals of the collaborating parties? The open and the axial codes can be found in attachment 5.

4.1 The structure of the network

This section is answering the first sub-question: *'How is the network structured'* and is subdivided into two sections. The first subsection investigates the codes 'momentum' and 'network' to provide a brief description of the establishment of the NL Plastic Pact. The second subsection applies the theory of social network analysis and investigates the factors; connections, power, legitimacy, trust, commitment, and communication (figure 1) in the context of the NL Plastic Pact. Next to these factors, two factors have been added which were often mentioned by the respondents. These are international factors and collective interests. Lastly, a short conclusion is provided.

4.1.1 The establishment of the NL Plastic Pact

Plastic consuming companies feel the pressure of the public to take concrete steps in becoming more sustainable. This is captured in the code 'momentum' (19 codes) but it also has some overlap with the code 'Consumer perception-sustainability' (14 codes). The public is concerned with climate change and debates about the plastic soup demand companies to start strategizing on sustainability (9 codes). This is also recognized by 8 out of the 10 respondents, three of the respondents also mention the changing vision of the public in their annual/sustainability reports. This is apparent from the sustainability report of respondent 8²: *'There is a clear pull from societies around the world to address important challenges such as climate change, environmental pollution and scarcity of raw materials.'*

At the same time, the Dutch Ministry of Infrastructure and Water Management wants to stimulate companies to become more sustainable. Accordingly, the Dutch leading companies in plastic recycling were brought together and started the NL Plastic Pact. By looking into the code 'Network-need for participants' (28 codes) 8 out of 10 respondents mentioned that the challenges of the circular economy cannot be addressed by a single organisation and collaboration is required. Hence, all organisations have their own expertise and improving only one part of the value chain is not going to solve the problem. By bringing together the frontrunner companies in plastics recycling, the first phase was to

² Quotes from the interviews have been translated and the original quotes can be found in attachment 4.

select organisations that are fundamental in the plastic value chain. These companies can be viewed as the central nodes within the NL Plastic Pact. By focussing on these companies it became easier to access the other actors in the sector. This is also apparent from the following quote in which two respondents mention that they wanted to involve environmental organisations from the early stage of the NL Plastic Pact: *‘At that time, the companies I had already spoken to, mentioned during their first meeting with the Ministry that they wanted us to be involved in the process as well. Because they said that they need a ‘critical friend’ to do the right things and that would make a pact like these more credible.’ – Interview respondent 3*

All six respondents of the plastic consumers and producers have been asked by the Ministry of Infrastructure and Water Management to join the NL Plastic Pact. The environmental organisation has been asked to join the pact on demand of the companies and there existed already a close cooperation between the Ministry and the last respondent. Thus, the frontrunner organisations have been working with the government before the NL Plastic Pact was established. Hence, the Ministry saw the opportunity to bundle the strengths of the organisations into a cooperation with motivated and active organisations. After the selection of all the participants of the NL Plastic Pact, a steering committee has been installed. This committee is monitoring and guiding the network in their collaboration. Figure 4 gives an overview on how the network has evolved and displays the roles of the companies.

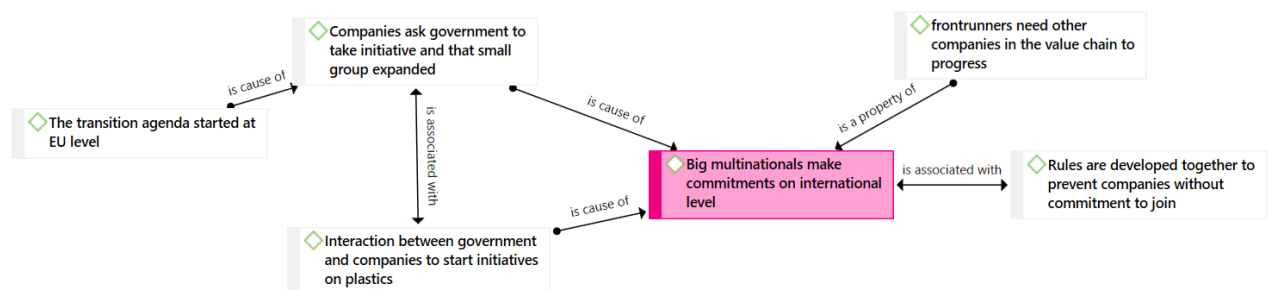


Figure 4: Overview of the process of the network

4.1.2 The structure of the NL Plastic Pact

This section looks into the structure of the NL Plastic Pact as it is now. For this the codes: network (96 codes), connections (37), power (9), communication (51), commitment (57), trust (13), collective interests (19) and international factors (45) have been investigated. The expected factor legitimacy has not been found in the research which was unexpected. A reason for this can be that it is closely related to factors as ‘momentum’ and ‘reputation’ whereas the interviewee could have had problems with the right interpretation. The factors network, connections and international factors are used to provide a structure of the network as it is now. The factors communication, commitment, power, collective interests, legitimacy and trust gives insight in the quality and the public desirability of the network.

One can see, in the code counts above, that commitment and communication are the most recurring. Below a brief description per factor is given with a schematic overview of the relations between the organisations.

Network

By looking into the code network it becomes clear that all respondents agree that the pact can only be successful if the whole value chain is present. Therefore, it does not come as a surprise that the most often mentioned sub-code is 'interdependency' (28 codes). Next to that, all participants have each a unique role in the pact which is represented in the code 'role' (10 codes). Most of the respondents (7 out of 10) see opportunities by bundling each other's strengths in the pact which is represented by the sub-code 'possibilities' (15 codes). The organisations see opportunities in strategizing on regulation, testing innovations and increasing volume by creating a durable demand for recycle. Next to these findings, there exists a diversity in opinions about the set-up of the network. Some respondents (4 out of 10), find that the scope of the network should be broader and also include industries such as the fashion industry which is apparent from the sub-code 'scope of the NL PP' (7 codes). Other respondents (3 out of 10), cooperate on an international level to implement best practices from the NL Plastic Pact abroad which is captured in the code 'international aspects' (4 codes).

The participation in the NL Plastic Pact is voluntary and the rules are developed together which is represented by the sub-code 'voluntary' (6 codes). Although the participation in the pact is voluntary it is not without commitment and companies are expected to report on their progress in a monitoring report. Unfortunately, only 40% of the organisations that have signed the pact filled in the monitoring last year (respondents 2, 3). This raises concerns amongst participants that some organisations only signed the pact out of their own interests. By joining the pact they would have a closer cooperation with the government and may benefit from the shared technologies and innovations developed in working groups without putting effort in themselves (respondents 3, 9). However, not everybody is worried about the 'free riding behaviour' of companies. They argue that it is in the interest of the companies to be actively involved in the discussions about the design of packaging or regulations on for instance uptake of recycle. Hence it is a self-filtering cooperation, participants only get valuable outcomes if they put effort in themselves (respondent 1, 2, 4). This voluntary aspect about the network is also closely related to the factor commitment hence this is more elaborately discussed in the stakeholder analysis. The voluntary aspect of the network also makes it unique in the world (respondents 1, 6, 9).

Connections

The code 'connections' looks into the ties between the actors of the NL Plastic Pact. Figure 5 provides an overview of the actors in the NL Plastic Pact and the relationships between the actors. Within the pact there are three major actors; the government (yellow), the plastic producer companies (blue), and the plastic consumer companies (green). The collaboration between these three actors is necessary for the network to be successful at reaching their goals. Next to that, the environmental organisations are displayed in the pink block which advise and control the collaboration. The last group is other (purple), which are knowledge institutes and organisations that provide a platform on sustainable matters on international level. The size of the blocks within figure 5 represent the importance of an actor and the colours of the blocks represent the different roles.

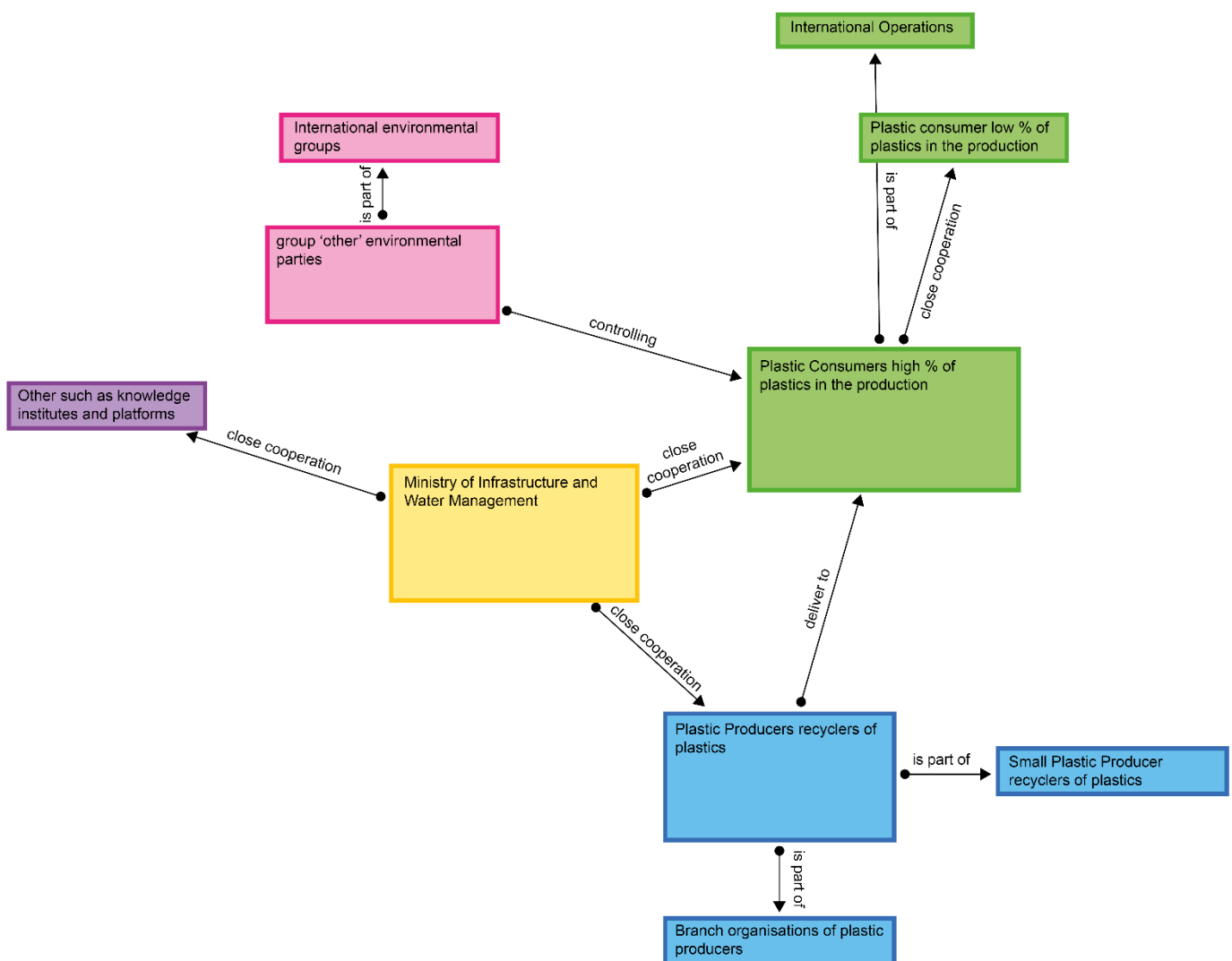


Figure 5: Schematic overview of the connections and dependencies between the groups: 'other', 'plastic producers' and 'plastic consumers'. The size of the boxes reflects the importance of the actors, the bigger the box the more important the actor is in the network.

All respondents have mentioned the importance of the involvement of the government in the NL Plastic Pact. This becomes even more clear by looking into the code 'regulation' (51 codes) which represents the interests of organisations in the NL Plastic Pact. Hence, the government is placed in the middle of the figure in the yellow block. Before the NL Plastic Pact, there were already links between the government and the frontrunner companies in plastic consumption and producing. However, there was limited cooperation between the government and the smaller companies in the value chain.

The second important cluster are plastic consumption organisations which are represented in the green block. They already cooperated with their suppliers and with the recycling companies. Half of the respondents also state that they actively involve their stakeholders and cooperate in the whole value chain in their annual reports and websites. Besides, the organisations also work together with their competitors in the branch organisation (6 codes) which is stated by all three respondents from the plastic consumer category. The plastic consumer companies also have connections with environmental parties who cooperate on adapting more sustainable practices. With the signing of the pact, 35 of the 75 organisations were plastic consumer companies. Later the pact grew to its current number of 100 participating organisations, but the proportion of the plastic consumer companies is still the biggest.

The plastic producer companies have another cluster (blue blocks). They do work together with the plastic consumer companies but there are loose links between different producer companies and consumer companies. Sometimes the sustainability manager of a plastic consumer company 'forgets' that they have a contract with a plastic producer company and contact another plastic producer company for a new plan. Thus, the connections are not very strong, and the plastic producer companies also joined the NL Plastic Pact to reinforce these relationships. This is also apparent from the following quote: *'So we have plastic consumer companies and they come to us with an idea and if this idea concerns waste, they think of their sustainability manager. For some reason, the sustainability manager does not see that our containers are outside, and they do not come directly to us.'* – Interview respondent 8. Two of the three respondents of the plastic producer companies also work together because they cannot handle all the waste themselves. They have all their specific waste management and it is possible that one company has a contract with a municipality to collect the waste, but they bring the waste to the sorting line of their competition. Despite that companies from the plastic consuming and the plastic producer side are already working together, there still exists a coordination problem to be able to increase volumes or to speed up innovation. This is a recurring problem and is also mentioned more often during the research.

The last group 'other' contains the environmental organisations and the other platform providing organisations (pink and purple blocks). Within the group 'other' the organisations know each other but

they do not have very strong links. For example, organisations do know the knowledge institutes but do not work together with them on a daily basis. Thus, the dependency between these parties is not strong.

Power

This factor has been mentioned nine times by different respondents (4 out of 10). I observed different discourses according to a group of respondents with respect to the factor power. Mostly respondents from the 'other' group mentioned that there is a lot of power in the value chain of plastics and that this should be considered. The respondents from the group 'plastic consumers' said that there is power in the value chain but that this is not affecting the cooperation in the NL Plastic Pact. Unfortunately, it is hard to find reasons for this apparent contradiction. One reason could lie in the different dependency connections between the organisations. The 'other' group is more dependent on the progress of the 'plastic consumer' group because if the latter group is not innovating on plastic strategies the 'other' group is not able to export these new innovations. In figure 5 these dependencies are depicted in the size of the different blocks. The bigger the size of an entity, the higher the dependence of the other actors in the network is on this specific entity is.

Commitment

All respondents talk about commitment and that this is important for the successfulness of the network. Most respondents (6 out of 10) think that the parties are committed and work hard on the goals of the NL Plastic Pact. Other respondents (3 out of 10), are more sceptical about these parties and think that the second stage of this pact, when investments has to be made, will show the commitment of the participants. This is also evident from the code 'visibility' (15 codes). Three participants communicate in their annual/sustainability report or on their website that they are active in the NL Plastic Pact (respondents 4, 5, 8). This is apparent from the following quote out of a report of respondent 5: *'As a packaged goods company, we are a significant user of plastic packaging for our products. We believe that plastic has a place in the economy but not in the environment. We want to help build a circular economy in which we not only use less plastic, but also ensure the plastic we do use can be reused, recycled or composted.'* Other participants also show their commitment with sustainability on their websites by showing results on carbon emission reductions which is also a sign of commitment (respondents 7, 9). Thus, the parties are likely to be committed in working on sustainability.

The question is whether actors are also committed in reaching the goals of the pact. The pact is completely voluntary to participate in. However, (6 out of 10) respondents think that the voluntary commitment is not enough for parties to make serious investments. These concerns are also expressed by respondent 9 in the following quote: *'Everybody can tell what is going wrong and pointing out the*

bottlenecks is easy. The real jobs still need to be done. It is tense to see whether actions are really going to take place'. This in combination with the low percentage that filled out the monitoring (only 40%), respondents question whether voluntary commitment is enough to reach the ambitious goals of the pact (respondents 2, 3). On the other hand, respondents think that if participants do not have a role or do not contribute to the pact they will stop automatically (respondents 1, 4). Besides, the rules are developed together and in this way, participants also control each other (respondent 2). Thus, there are different levels of commitment of parties in the pact and there exist a different vision on the voluntary principle of the pact.

Communication

The factor communication (54 codes) represents the internal communication between actors and the external communication about the achievements of the NL Plastic Pact. From the sub-group 'within NL PP' (33 codes) it becomes clear that there is a general meeting twice a year in which the steering committee updates all the participants on the progress of the NL Plastic Pact. Next to these meetings there are five working groups working on topics; communication with the value chain, recyclability, reduce, circular design, and chemical recycling. It depends on the working group but most of the groups gather once in the two months virtually. In every working group there is one member of the steering committee such that the communication lines are kept short. Many of the respondents (6 out of 10) state that they are going to the working groups which are in the interest of their business. The conversation is open, and people work on the problems together (respondents 2, 5, 9). However, (2 out of 10) respondents are sceptical about the working groups because they are afraid that people only talk and do not act upon the problems. Two respondents think that external communication is too low which is represented in the sub-code 'visibility' (6 codes).

Achievements

The factor achievements (98 codes) is representing the diversity in opinions about the achievements of the NL Plastic Pact. On the one hand, companies already made great steps towards the goals of 2022 which are represented in the sub-codes: finished (35 codes), lobbying (7 codes), and organizational goals (22 codes). On the other hand, half of the respondents are worried that participants are not going to act upon the existing issues. This is also evident from the following quote of respondent 7: *'A lot of teams and a lot of ideas are launched, but the projects are not taking place. This is the same as what happened with the other transition teams on hard plastics'*.

At the same time two other respondents are not that pessimistic. They also see the threat that people will only talk about things that should be done instead of acting. However, they believe that if the debate is focused on opportunities, the group will progress and will be filtered of people who are only

there to benefit from the efforts of others. This is apparent from the following quote: *'the working groups which I attended are very pragmatic and well organized. The roles are clear and the right people are there.'* – Interview respondent 5 The sub-code necessity (22 codes) represents the necessity of the network with respect to be able to get achievements. Many of the respondents (8 out of 10), think that the achievements should be focused on improving the recyclability of plastics and increasing the uptake of recycled plastics in products.

Legitimacy

There were no respondents that mentioned legitimacy during the interviews. However, the factor is closely related to 'momentum' which represents the desirability of the network from a public perspective. This is explained by the fact that interviewees were talking about the changing public perspective on environmental issues which caused more organisations to focus their strategies on environmental issues as well. Another factor that is closely related to legitimacy and momentum is reputation. The interviewees are monitoring their reputation closely and one could thus conclude that the interviewees did not differentiate between legitimacy, momentum or reputation.

Collective interest

The collective interest (16 codes) represents the added value for the actors to collaborate in a network structure instead of working on sustainability by themselves. This is closely related to the factor 'Network-interdependence' however that factor is more focussing on the need for more participants and this factor focuses on the business opportunities. The respondents (7 out of 10) see possibilities provided through the network in creating volume (respondent 6), to invest in money and time (respondent 8), to create innovation and test ideas (respondents 1, 2), and to speed up the process (respondent 2), designing regulations (respondent 1), and sharing knowledge (respondent 2).

Trust

The factor trust (12 codes) represents the role of trust in the exchange relationships between actors. Therefore, the factor is subdivided into connection (7 codes) and reputation (5 codes). The first factor reveals that respondents from the group 'other' think that trust is needed to change the value chain (respondents 2, 3). The respondents from the group 'plastic consumers' admit that trust is necessary for collaboration, but they also have the trust that companies will start working on the problem. The factor reputation reveals that two respondents from the group 'other' think that the collaboration gains trust from the public opinion because the government and environmental organisations are also participating.

4.1.3 Conclusion

The NL Plastic Pact has visualized which organisations have their strategies focussing on plastic recycling. The pact increased the accessibility of the actors and created a voluntary platform where organisations can communicate with each other. In this way, the network interconnects the participants where there did not exist a connection before. It is important to know that the voluntary aspect of the network attracts organisations to join the pact. Conversely, this also hampers the progress of the pact because it takes longer before serious investments are made in new technologies.

The set-up of the pact, two general meetings and the working groups, bring together the different actors in the network. The general meetings are used to share successes and to update parties about the progress. Within the working groups all businesses are present which affects their business strategies. Thus, the working group 'product design' is attended by packaging producers, packaging buyers and the recyclers. In this way the packaging producers and buyers are consulted by the recyclers on what plastics are uncomplicated to create recycle from. Without these working groups the process of designing recyclable packaging takes much longer because all the requirements have to be aligned.

However, working together with many parties with different interests also hamper the process. The bottleneck mentioned by all respondents is that the network only keeps on talking and will not start investing and taking actions to really improve the recyclability of plastics. Thus, communication and aligning interests of the participants is important for the success of the NL Plastic Pact. In short, the network brings together all the different ties which are already existing and gives an overview of all the projects which are running on recyclability of plastics. The downside of including many organisations is that it is more difficult to align interests and to set concrete steps towards recycling plastics.

4.2 Motivations of the stakeholders

This section is answering the second sub-question: *'What are the intrinsic motivations and goals for the collaborating parties?'* With the use of the stakeholder theory this section provides the results on the following factors; achievements (98 codes) communication (54 codes), commitment (57 codes), consumer perception (27 codes), costs/benefits (13 codes), regulation (51), reputation (22 codes), and speed (37 codes). Although factors as communication and commitment have already been presented in the previous section, the focus here is from the perspective of the organisations. For example in case of communication, it is investigated how the organisations communicate about their participation in the NL Plastic Pact with their stakeholders. This section concludes with providing an analysis of the stakeholder characteristics and their interest in the network.

Achievements

From the stakeholder perspective the focus is on what the organisations already have achieved and what they expect to get out of the NL Plastic Pact. Therefore, this section only investigates the codes; finished (35 codes), lobbying (7 codes) and organizational goals (22 codes). The NL Plastic Pact involves frontrunners which is also evident from the many codes about what the organisations already have achieved. All the respondents are active on sustainability and are seriously involved in reducing their footprint and developing a circular strategy for their business. The goal of this cooperation is to increase their circularity and they need each other which is expressed by all the respondents. However, companies are focused on their own business and therefore will always try to get something out of the pact for themselves (respondents 1, 4, 6). This is also apparent from the following quote of respondent 4: *'Are these businesses really going to change their working strategy or are they just going to try to get the most out of the pact. That they will promote that their business is the best in producing the most sustainable packaging'*. The diversity in interests hamper the achievements and slows down the process of delivering concrete achievements. The biggest frustration of 4 out of 10 the respondents is that there are no concrete achievements from the pact yet.

Communication

This section focuses on how actors are communicating with their stakeholders. The visibility (13 codes) is measuring how much of the pact is already visible and ready for concrete communication to external parties. Half of the respondents have already mentioned the NL Plastic Pact in their annual reports or on their websites which shows that their stakeholders are also interested in their involvement in the NL Plastic Pact. The other aspect about communication is that the public should be informed on recycling because they influence the successfulness of the recycling strategies. This becomes clear from the following quote of respondent 5: *'The involvement of the government is very important because they play a great part in good public communication. Really educating the citizens on this topic there is a huge opportunity there'*. Thus, the stakeholders should be informed via different channels, the websites and sustainability reports of the companies, but also through governmental channels.

Commitment

This factor (57 codes) is investigating the commitment of a consumer with a certain brand. Only one company is reporting about the commitment of consumers for their products which state that the consumer is buying products which comply with the personal values of the consumer. Which is apparent from the following quote of respondent 4: *'...online, consumers are making more decisions based on their values. They're also using both on- and offline channels to find better, more personalized products and services more easily and quickly'* There were no statements of companies that consumers are strongly committed to buy only products from their company.

Consumer perception

The perception of consumers (14 codes) on the organisations is important to respondents. Half of the respondents experience that consumers view sustainability as a sensitive topic and demand organisations to act responsibly with respect to climate change. Especially plastics has been a much-debated topic (respondents 6, 3, 4, 5), which becomes clear from a quote from respondent 3: *'...there is always a lot of attention for plastics.(...) It is of course a much-debated topic in the society, everybody has an opinion about plastics.'* The companies see that the perspective of consumers on sustainability is also a risk to their own businesses because this changes the preferences of consumers, on which respondent 4 has reported the following: *'Climate change has been identified as a principal risk.... The transition risks and opportunities include changing consumer preferences and future policy and regulation'*. The majority of the respondents, 6 out of 10, are focused on the preferences of their consumer and are continuously looking for changes in demands to which they can deliver new products to. This is evident from the consumer research that takes place within companies and the changing packages of their products through which they communicate with their consumer.

Costs/benefits

The majority of the respondents, 7 out of 10, express that investments in sustainability will pay off in the future. Yet, still a lot needs to change before this can be realized. The plastic consumer companies see a trend in stricter legislation on processing of waste and the production. The respondents also recognize that the increasing costs is an effective way to steer the direction of the sustainability strategy of a company (respondents 3, 6, 8). However, there are still some bottlenecks (3 codes) that cause difficulty in changing the linear production into a circular production. Part of the problem is that plastic producer companies cannot process enough volume of the waste whereas they are not able to deliver enough recycle to the demand of plastic consumer companies. With small volumes companies are hesitant to invest in recycling techniques because the impact for their production is too small (respondent 4, 8). Next to this problem, the diversity in plastic waste is still very big which makes it impossible to increase the rate of recycle. Therefore, the design of the products has to be simplified in order to increase the recycling rate and to create higher profits for the plastic producers (respondent 4).

Regulation

During the interviews it has repeatedly been mentioned that organisations want to cooperate with the government to influence regulation. This is also evident from the number of codes (51) which discloses the interests of companies in the factor. The code is subdivided into; influence (14 codes), sector norms

(3 codes), possible regulations (11 codes), need (13 codes), current (8 codes) and international pressure (2 codes). On the one hand, plastic producing companies are asking for regulation to create fair competition on the waste market (respondents 1, 2, 7, 8, 9). The competition with incinerations is too high and regulations should oblige the uptake of plastic recyclate into packaging. Now, the branch organisations solve these problems by setting their own norms (report respondent 10). On the other hand, other plastic producer companies also state that subsidies are not the solution for waste regulation, and that the market has to be stabilized by itself (5 codes).

The factor 'possible regulations' highlights that the transition to a circular economy in the plastic industry can also be enforced through regulation (9 codes). Thus, companies have an incentive to cooperate and influence these regulations before they are imposed. Nonetheless, there are conflicting opinions on how these regulations should be implemented. The group 'plastic producing companies' want the government to oblige companies to uptake a certain percentage of recyclate in their production. They also want to reduce the diversity of plastics in their inflow of waste. The group 'plastic consumer companies' agree that they use a lot of different plastics, but they also want to comply with health regulations which sometimes require different kinds of plastics. Hence, simply enforcing that plastic consumer companies should increase their uptake of recyclate in their production is not possible if that reduces the quality of the packaging. Thus, the different clusters within the NL Plastic Pact have different interests which makes it complex to advance as a group. This affects the success of the NL Plastic Pact.

Reputation

The respondents (4 out of 10) think that the frontrunners have the responsibility to set an example for other companies. This is related to the debated extended producer responsibility that frontrunner plastic consuming companies should set an example by being responsible for their packaging even after the consumption of their product (Leal Filho et al., 2019). Although some companies are operating socially responsibly there exist also critical views on the activities of the companies. To capture this effect the code reputation is subdivided into corporate social responsibility (11 codes) and consumer (11 codes). Plastic consumer companies who are operating on international level, can be very progressive in their sustainability policy in the Netherlands but they can be one of the biggest polluters in other countries at the same time (respondent 3). Still, the sustainability reports are showing that the companies are working on sustainability worldwide (respondents 4, 5). The sub-factor consumer (11 codes) reflects the vision of 7 out of 10 respondents who state that the reputation of a company is mainly determined by the perception of the consumer. This also explains the reason for companies to collaborate with environmental organisations (respondent 3).

Speed

The factor speed (37 codes) is subdivided into; size (6 codes), cooperation (4 codes), quality (9 codes) and action (18 codes). Two respondents mention that big corporates are slow in making decisions because they have to comply with the strategies of their international headquarters (respondents 1, 6). This is, however, contradicted by two other respondents who emphasize on the necessity of frontrunners because they can make decisions fast and do not have to compromise (respondents 2, 4). The main reason for four respondents to cooperate in the NL Plastic Pact was to speed up the process on recyclability of plastics. Unfortunately, six respondents find that the NL Plastic Pact is slow in achieving concrete goals. They say that there are a lot of meetings and that the quality of the network is very high, but nothing happens after it. Only one respondent thinks that there is enough action and that the process is very pragmatic (respondent 5).

4.2.1 Stakeholder characteristics and position in the network

This section illustrates the position of the stakeholders and their interest in the network which is summarized in table 4. The interest in the network has been defined 'low' when respondents stated that they are not dependent on the outcomes of the network and that they do not expect something to come out of it. The interest has been defined 'high' when respondents stated that the network is improving their business. The influence has been determined 'low' when other actors within the network are not dependent on the work of the respondent. There are four different positions within the network: active, decision function, supportive and non-mobilized. Respondents with an active role engage in working groups and go to all general meetings. There is one respondent with a decision function, this respondent has the power to propose new regulations to the government. There are three communicators who share the developments of the NL Plastic Pact with their own network which is not directly linked to the NL Plastic Pact. Lastly, there are non-mobilized actors who are not dependent on the NL Plastic Pact to start working to do their own business. The last characteristic presented is the impact of the network on the actor. This has been defined 'low' if only a small part of the business concerns plastics and not much impact can be made with improving the recyclability of plastics. In this characteristic medium differentiates itself from low and high because plastics only concerns a small percentage of the activities of these respondents. However, the well-functioning of the network also impacts their businesses on a different level whereas the impact of the network is still tangible.

With this differentiation it is possible to differentiate between the respondent and the organisation it is representing. For example, a respondent can have a very clear idea on what things should be done which can give the impression that this person is important in the network. However, with this table this effect is filtered out since the first category 'interest in the network' represents the interest of the

organisation of a respondent in the network but the 'influence' is determined by how much the network gains from this organisation when it joins the network. This is especially interesting looking at respondent 1 and 3. These respondents have a communication role and are therefore interested in the outcome of the network, but they can only start communicating if the other parties in the network start producing tangible outcomes.

Stakeholders	Characteristics				
	Involvement in the network	Interest in the network	Influence/power	Position	Impact of the network on actor
Respondent 1 other	Active in working groups	Medium	Low	Communicator	High
Respondent 2 other	Established the network	High	High	Decision function	High
Respondent 3 other	Part of steering committee	High	Medium	communicator	High
Respondent 4 plastic consumer	Active in working groups, involved from the beginning	High	High	Active	High
Respondent 5 plastic consumer	Active in working groups, involved from the beginning	High	High	Active	High
Respondent 6 Plastic consumer	Joins the general meetings	Low	Low	Non-mobilized	Low
Respondent 7 Plastic producer	Joins the general meetings	Low	Low	Non-mobilized	Medium
Respondent 8 Plastic producer	Active in working groups	Medium	High	Active	High
Respondent 9 Plastic producer	Active in working groups involved from the beginning	Medium	High	Communicator	High
Respondent 10 other	Joins the general meetings	Medium	Low	Non-mobilized	Medium

Table 4: Stakeholder characteristics around the establishment of the NL Plastic Pact network

4.2.2 Conclusion

From a stakeholder perspective the interest in the NL Plastic Pact is that through collective action the strengths of the organisations are bundled. The most recurring motives to join the pact are: regulation, costs/benefits, speed, and consumer perspective. There is a great push to change legislation in more favourable rules for the uptake of recyclate in the packaging production. At the same time, regulation is also the most difficult to align because the interests differ between the clusters. Besides, the majority of the frontrunner organisations operate internationally and thus should adhere to the laws of other countries as well. The second factor, costs/benefits, gives insights that the organisations are cost driven and are looking for opportunities to create a sustainable business case. The third factor, speed, is important because participants hope that the collaboration will speed up the process of innovations on new technologies. However, respondents mention that the last factor, consumer perspective, is much more important, they are also aware that consumers easily buy their products somewhere else.

The factors can be ordered into two groups. The first group is speed and regulations of which costs/benefits is the most important one. This is because organisations ask for regulation to create fair competition which stabilizes costs. Besides, speed is saving costs because through cooperation they can create more volume and go faster in developments. The second group consists of consumer perception which is related to reputation, legitimacy, commitment, and communication of which the most important factor is consumer perception. This is because 6 out of 10 respondents advertise that the consumer perception is important to them and that they change their behaviour according to changing consumer preferences. Thus, when consumers are more concerned with the reputation of a company, they start working on their reputation. The factor commitment reflects the vulnerable position of the company because it is recognized that consumers buy products which are in line with their own values. The communication of the companies is also focused on involving the consumers. One can conclude that if the NL Plastic Pact is perceived as desirable by the general public that companies are stronger motivated to make the NL Plastic Pact a success.

5. Discussion

This research has identified critical factors which affect the success of the NL Plastic Pact based on the combination of the network and the stakeholder analysis. Through these analyses an answer to the main research question: *'What factors are important in the network of the NL Plastic Pact to be successful in reaching their goals in 2022?'* can be given. The network analyses revealed that the factors communication and commitment have a critical role in the success of the NL Plastic Pact. Although the network is completely voluntary, it requires the commitment of organisations to invest time and resources in the project to achieve more than if they would not cooperate in the network. In the process, communication is important to align interests and to identify opportunities and bottlenecks in the collaboration. Investigating communication revealed the ties between the different actors, however the actual intensity and frequency of these interactions have not been determined. With the stakeholder analysis, the research was able to focus on the motivations of organisations to join the NL Plastic Pact. The most recurring motives to join the pact are: influence of regulation, costs/benefits trade-offs, speed and consumer perspective.

The collaboration in the NL Plastic Pact has three different stages: identifying which stakeholders needed to be included, identifying opportunities and bottlenecks within the collaboration, and concrete action by investing in the opportunities and solving the bottlenecks. Currently, the NL Plastic Pact is finishing up the second stage - but appears to have trouble moving into the third stage as quickly and efficiently as many stakeholders want. Literature shows that moving from the stage of designing strategy to the stage of implementing the strategies has a high failure rate, up to 70 per cent of new initiatives fail (Beer & Nohria, 2000; Miller, 2008). Managing this transformation is difficult since there is often little agreement on what factors are leading to a successful change (Sirkin, Keenan, Jackson, 2011). Although the intrinsic motivation of the frontrunner companies to achieve the set goals in 2022 is high, and stakeholders see opportunities in the collaboration with the whole plastic value chain, concrete actions based on the topics that have been discussed are uncertain. Several stakeholders indicated scepticism that actions would happen, while others have initiated individual projects within their own company without waiting for the group. According to the literature, this leads to a negative spiral: when organisations do not recognize the benefits of cooperating they are less likely to invest time and resources in the project. Research argues that this problem can be solved by focussing on hard factors, such as financial results (Sirkin, Keenan and Jackson, 2011).

A complication to this process, is that there is a lack of overall coordination to guide the network into the third stage. What is even more, all respondents had different perspectives on how these regulations should be formulated to support the process. Due to these different perspectives and

interests it is difficult to keep the focus on the goals of the network. A steering committee has been established to guide the process of the NL Plastic Pact where all the three groups 'plastic consuming', 'plastic producing', and 'other' organisations are represented. Still, the steering committee cannot demand the participants in the Pact to change their business strategies. In this, the government has a central role in this network, because the government is the only participant with the ability to implement policy. In addition, there is an important role for the frontrunner companies to step into the vacuum in overall coordination and lead by example.

This research expected six factors to be present for a well-functioning network. The factors power and connections are unique to the social network analysis and the factors, legitimacy, trust, commitment and communication are overlapping with the stakeholder analysis. In this research commitment and communication appeared to be important which is in line with the expectations. The factor trust was present at a lower level in contrary to the expectation from the literature, which indicates that trust is a necessary element to create a shared vision resulting in common tactics and execution of long term investments (Granovetter, 1985; Jarillo, 1988; Podolny & Page, 1998). However, the organisations were already cooperating with each other before the implementation of the NL Plastic Pact and aligned their interests on small scale which could be a possible explanation for the underrepresentation of the factor. The absence of the factor legitimacy is not in line with other research (Suchman, 1995). A reason for this could be that respondents had difficulty with the interpretation of the factor. The factor connections revealed the ties between the actors in the value chain which was necessary to establish the structure of the network. Over the last factor, power, exists discourse between the groups of respondents. The group 'other' stated that the power in the value chain should be taken into account, while the group 'plastic producer companies' acknowledge the power but do not think that this influences the collaboration. Hence the project still has to move to the last stage whereas it remains unclear how this will develop over time.

Although the importance of communication is recognized, it is not experienced to be optimal according to the stakeholders. The gatherings twice a year are not addressing the current needs of the stakeholders, updating about new implementation strategies and opportunities to start new collaborations with the other participants. Interestingly, the working groups are evaluated as pragmatic and effective means of communication. Therefore, the focus should lie more on the working groups set-up of the pact which could release a report of their outcomes. The factor commitment reveals that organisations are committed in reaching the goals of the pact. However, the stakeholders are hesitant in making concrete investments and actively share their technologies. A reason for this

can be the high competition nature of the involved businesses. To overcome this issue, the NL Plastic Pact should protect the investments made by the stakeholders.

Next to the identified factors from the stakeholder analysis in the template, two other factors have been added during the research, which are regulation and speed. Literature shows that multinational companies engage in networks to influence institutional developments and to advance convergence in institutional policies (Dahan, Doh, & Guay, 2006). Accordingly, influencing regulation is a common reason for organisations to join networks. The factor speed is also not new to the field of business engagements in collaborations (Pradabwong, Braziotis, Tannock, & Pawar, 2017). Companies often recognize benefits in collaborations to exchange knowledge and speed up the process of innovation. The factor speed is closely related to costs/benefits trade-offs because faster developments of innovative technologies can save costs. There is also the risk in this project, if the project does not move fast enough to concrete actions, frontrunner organisations will lose interest and start their own networks. Lastly the factor consumer perspective is found to be important which is in line with the literature (Esty & Winston, 2009). Still, one can question how an organisation is going to measure a change in consumer perspective after they started to participate in the network and thus questions the importance of consumer perspective in this specific network. Concluding, organisations stay only interested in participating in the NL Plastic Pact when they experience that they are able to influence regulation, see an acceleration in the innovation or experience a positive costs/benefit trade-off from participating.

6. Research limitations and future research recommendations

This section outlines the research limitations and recommendations for future research. Firstly the limitations with respect to the methodology is reflected, secondly the carrying out of the research is considered and lastly generalizability of the research is discussed. This section concludes with recommendations for future research.

6.1 Research limitations in the methodology

As discussed before this research has been unable to find the factors legitimacy and trust. Reasons for this can be that the factor legitimacy has probably been confused with the factor reputation by respondents. However, this does not imply that the actors are not aware of the desirability of the network. They proposed to include critical organisations which represent the interests of the public in the network. This suggests that the respondents are constantly considering whether their actions are desirable and appropriate with the public perception. Also the factor trust has not many codes which is partly due to the fact that trust is only measured in the interviews and not in the reports. However, the factors; communication and commitment have been mentioned four times more than trust. This could suggest that the factor trust has not been measured accurately. Previous researchers have made a distinction between 'fragile trust' and 'resilient trust' (Molm, Schaefer, & Collett, 2009; Ring, n.d.). Fragile trust refers to trust in networks that transcend national borders. This is not the case in this research whereas resilient trust is more applicable which researches the people skills, discretion, integrity, openness, and motives of the different actors. With this in mind, the coding of the interviews would have been done differently and would have probably changed the outcome. Therefore, it would be interesting if future research would be carried out testing these factors again on other networks to see whether the importance of the factors in this study changes in other contexts.

The disadvantage of using both theories is that they have overlapping factors with a different interpretation, which caused noise in the data and made it hard to interpret the interviews and reports. This could have been prevented by only including a specific selection of the factors. Then, there would not exist an overlap in factors and the research would not have to alter the interpretation of the same factor.

6.2 Limitations in the interviews

There are three limitations with respect to the selection of the respondents. Firstly, despite the fact that the respondents have been carefully selected, there was one respondent who had a less valuable position. He turned out to be representing a large network but did not have a direct influence on the achievability of the goals. This made it hard to interpret the interview and to compare this with the other respondents. Secondly, the motivations of the participating organisations have been measured through only one respondent. Hence, the motivation and the personal involvement of the respondent has influenced the outcomes of the results as well. Thirdly, due to time constraints, smaller

organisations that have signed the Pact were left out of scope. They could have been providing valuable insight in confirming or rejecting the statements of the respondents who are afraid of the 'free-riding' behaviour of this group.

All interviews took place online or by mobile phone. Two interviewees were multitasking during their interview which was apparent from the car noises on the background. This caused that the respondents were less focused and did not add new information to the questions which were posed to get more explanations. Unfortunately, all the interviews had to take place online because the government advised to avoid unnecessary traveling due to the covid-19 virus.

The semi-structured interviews allowed the respondents to elaborate on topics that were important to them and their organisation which gave flexibility during the conversations. When respondents were asked what they find important in the collaboration, they were often focussing on two factors which they already mentioned. When the researcher presented all the other possible factors, the respondents did not have the time to think thoroughly about them all and they would just choose a couple of factors to elaborate on. This was especially noticeable with factors which were more abstract like legitimacy. Besides some factors could be interpreted from a network or from a stakeholder perspective. For example, communication, there is communication between the actors in the network but there also exists communication between the organisations and their consumers.

6.3 Limitations in generalizability of the research

The research focuses on a sizable network which raises the question whether the findings are also relevant for smaller networks. The working groups within the network can be viewed as small networks and the respondents have reflected on their cooperation in these as well. For the smaller groups the fundamental findings are the same; it is still difficult to align the different interests of the actors and communication is crucial for the success of these networks. However, within the smaller network groups the communication flow is faster and the commitment of an actor is faster determined. The downside of cooperating in a smaller group is that it is harder to create volume.

From a stakeholder perspective the intrinsic motivations to cooperate in a network do not have to be the same. This is totally dependent on the goal of the cooperation which can also be to create a support base from the public or to create legitimacy for the practices of a company. The latter is often the case when a company internationalizes its business and is looking for an entrance in a new market (Brautigam, 2003). Thus, the general conclusions hold also for smaller networks, but the interests of the stakeholders in a network differ on the goal of the network. Future research needs to be aware of these differences and should take into account the recommendations of the use of methods and the implementation of the research.

6.4 Future recommendations

This research has been an exploratory study to identify critical factors in the well-functioning of the network. To extend our understanding of the functioning of the networks and to build upon the limitations of this research some future recommendations can be made.

Firstly, it would be interesting to measure the influence of the network by investigating the ties of actors with external organisations. This would contribute to the understanding of the access to external resources and ability of the network to address transnational problems. Moreover, the strength of the ties between the actors can be investigated through quantitative research to measure the actual strength and intensity of the ties. This also affects the second recommendation, which concerns researching the possibility to classify actors within the pact on their added value to the NL Plastic Pact. These classifications could potentially support the network in becoming more efficient in their organisation. Thirdly, as regards to the respondents, it would be interesting to interview more people from the same organisation about the involvement of their organisation on collaborations on plastic recycling strategies. Nevertheless, it has been mentioned that in many organisations only a few people are responsible for the environmental impact of the products. Whereas, it would be interesting to know the general perception of the organisation on the involvement in the NL Plastic Pact which would contribute to an understanding of the involvement of an organisation in the pact. Fourthly, with regard to the small scope of the research, the smaller organisations should also be interviewed. In this way it could solve some uncertainties in this research about free-riding behaviour and their limited capacity to invest.

Whereas, this research has made a good step in the direction of determining the critical factors that influence the well-functioning of a network much more research is needed to investigate whether these factors remain stable over time or change after certain events. In this case the monitoring can be an important event since the last time many companies have been negligent in filling in their monitoring. Future research could focus on the critical factors such as regulation and costs/benefits to determine the breaking point of organisations in their participation of similar projects. Moreover, the advantages and disadvantages of a leading position for the government or a frontrunner organisation should be investigated such that well-informed decisions can be made.

References

- Achterkamp, M. C., & Vos, J. F. J. (2007). Critically identifying stakeholders. *Systems Research and Behavioral Science*, 24(1), 3–14. <https://doi.org/10.1002/sres.760>
- Al-Salem, S. M., Lettieri, P., & Baeyens, J. (2009). Recycling and recovery routes of plastic solid waste (PSW): A review. *Waste Management*, 29(10), 2625–2643. <https://doi.org/10.1016/j.wasman.2009.06.004>
- Beer, M., & Nohria, N. (2000). Breaking the Code of Change—Harvard Business School Working Knowledge. Retrieved 17 July 2020, from <https://hbswk.hbs.edu/item/breaking-the-code-of-change>
- Borgatti, S. P., & Halgin, D. S. (2011). On Network Theory. *Organization Science*, 22(5), 1168–1181. <https://doi.org/10.1287/orsc.1100.0641>
- Bowler, Wm. M., & Brass, D. J. (2006). Relational correlates of interpersonal citizenship behavior: A social network perspective. *Journal of Applied Psychology*, 91(1), 70–82. <https://doi.org/10.1037/0021-9010.91.1.70>
- Brass, D. J., Butterfield, K. D., & Skaggs, B. C. (1998a). Relationships and Unethical Behavior: A Social Network Perspective. *Academy of Management Review*, 23(1), 14–31. <https://doi.org/10.5465/amr.1998.192955>
- Brass, D. J., Butterfield, K. D., & Skaggs, B. C. (1998b). Relationships and Unethical Behavior: A Social Network Perspective. *Academy of Management Review*, 23(1), 14–31. <https://doi.org/10.5465/AMR.1998.192955>
- Brautigam, D. (2003). Close encounters: Chinese business networks as industrial catalysts in Sub-Saharan Africa. *African Affairs*, 102(408), 447–467. <https://doi.org/10.1093/oxfordjournals.afraf.a138824>
- Brooks, A. L., Wang, S., & Jambeck, J. R. (2018). The Chinese import ban and its impact on global plastic waste trade. *Science Advances*, 4(6), eaat0131. <https://doi.org/10.1126/sciadv.aat0131>
- Burt, R. S. (2004). Structural Holes and Good Ideas. *American Journal of Sociology*, 110(2), 349–399. <https://doi.org/10.1086/421787>
- Burt, R. S. (2009). *Structural Holes: The Social Structure of Competition*. Harvard University Press.
- Burton, P. J., & Canada, N. R. C. (2003). *Towards Sustainable Management of the Boreal Forest*. NRC Research Press.
- Carlsson, L. (2000). Policy Networks as Collective Action. *Policy Studies Journal*, 28(3), 502–520. <https://doi.org/10.1111/j.1541-0072.2000.tb02045.x>

- Christensen, T., & Lægreid, P. (2007). The Whole-of-Government Approach to Public Sector Reform. *Public Administration Review*, 67(6), 1059–1066. <https://doi.org/10.1111/j.1540-6210.2007.00797.x>
- Contractor, N. S., Wasserman, S., & Faust, K. (2006). Testing Multitheoretical, Multilevel Hypotheses About Organizational Networks: An Analytic Framework and Empirical Example. *Academy of Management Review*, 31(3), 681–703. <https://doi.org/10.5465/amr.2006.21318925>
- Cook, K. S. (1977). Exchange and Power in Networks of Interorganizational Relations. *The Sociological Quarterly*, 18(1), 62–82. <https://doi.org/10.1111/j.1533-8525.1977.tb02162.x>
- Dahan, N., Doh, J., & Guay, T. (2006). The role of multinational corporations in transnational institution building: A policy network perspective. *Human Relations*, 59(11), 1571–1600. <https://doi.org/10.1177/0018726706072854>
- DiMaggio P. (1988). Interest and agency in institutional theory. In *Institutional patterns and organisations* (pp. 147–160).
- Esty, D. C., & Winston, A. (2009). *Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage*. John Wiley & Sons.
- Friedrich, T. L., Vessey, W. B., Schuelke, M. J., Ruark, G. A., & Mumford, M. D. (2009). A framework for understanding collective leadership: The selective utilization of leader and team expertise within networks. *The Leadership Quarterly*, 20(6), 933–958. <https://doi.org/10.1016/j.leaqua.2009.09.008>
- Gionfra, S., Richer, C., & Watkins, E. (2020). *The Role of Policy in Tackling Plastic Waste in the Aquatic Environment*. 1–20. https://doi.org/10.1007/698_2020_484
- Goodpaster, K. E. (1991). Business Ethics and Stakeholder Analysis. *Business Ethics Quarterly*, 1(1), 53–73. <https://doi.org/10.2307/3857592>
- Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology*, 91(3), 481–510. Retrieved from JSTOR.
- Granovetter, Mark. (1973). The Strength of Weak Ties. *American Journal of Sociology*, (78), 1360–1380.
- Grimble, R., & Wellard, K. (1997). Stakeholder methodologies in natural resource management: A review of principles, contexts, experiences and opportunities. *Agricultural Systems*, 55(2), 173–193. [https://doi.org/10.1016/S0308-521X\(97\)00006-1](https://doi.org/10.1016/S0308-521X(97)00006-1)

- Harms, D., Hansen, E. G., & Schaltegger, S. (2013). Strategies in Sustainable Supply Chain Management: An Empirical Investigation of Large German Companies. *Corporate Social Responsibility and Environmental Management*, 20(4), 205–218. <https://doi.org/10.1002/csr.1293>
- Hood, C., & Dixon, R. (2015). What We Have to Show for 30 Years of New Public Management: Higher Costs, More Complaints: Commentary. *Governance*, 28(3), 265–267. <https://doi.org/10.1111/gove.12150>
- Hopewell, J., Dvorak, R., & Kosior, E. (2009). Plastics recycling: Challenges and opportunities. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1526), 2115–2126. <https://doi.org/10.1098/rstb.2008.0311>
- Ibarra, H., Kilduff, M., & Tsai, W. (2005). Zooming In and Out: Connecting Individuals and Collectivities at the Frontiers of Organizational Network Research. *Organization Science*, 16(4), 359–371. <https://doi.org/10.1287/orsc.1050.0129>
- Jack, S. L. (2005). The Role, Use and Activation of Strong and Weak Network Ties: A Qualitative Analysis*. *Journal of Management Studies*, 42(6), 1233–1259. <https://doi.org/10.1111/j.1467-6486.2005.00540.x>
- Jarillo, J. C. (1988). On strategic networks. *Strategic Management Journal*, 9(1), 31–41. <https://doi.org/10.1002/smj.4250090104>
- Jordan, A., & Lenschow, A. (2009). *Innovation in Environmental Policy?: Integrating the Environment for Sustainability*. Edward Elgar Publishing.
- Katz, N., Lazer, D., Arrow, H., & Contractor, N. (2004). Network Theory and Small Groups. *Small Group Research*, 35(3), 307–332. <https://doi.org/10.1177/1046496404264941>
- Kitt, J. R. (1994). Waste Exports to the Developing World: A Global Response Note. *Georgetown International Environmental Law Review*, 7(2), 485–514.
- KNAW, NFU, NWO, TO2-Federatie, Vereniging Hogescholen, & VSNU. (2018). *Nederlandse gedragscode wetenschappelijke integriteit* [Application/pdf]. <https://doi.org/10.17026/DANS-2CJ-NVWU>
- Korsgaard, M. A., Soyoung Jeong, S., Mahony, D. M., & Pitariu, A. H. (2008). A Multilevel View of Intragroup Conflict. *Journal of Management*, 34(6), 1222–1252. <https://doi.org/10.1177/0149206308325124>
- Lance, K. T., Georgiadou, Y., & Bregt, A. K. (2009). Cross-agency coordination in the shadow of hierarchy: ‘Joining up’ government geospatial information systems. *International Journal of Geographical Information Science*, 23(2), 249–269. <https://doi.org/10.1080/13658810801909615>

- Leal Filho, W., Saari, U., Fedoruk, M., Iital, A., Moora, H., Klöga, M., & Voronova, V. (2019). An overview of the problems posed by plastic products and the role of extended producer responsibility in Europe. *Journal of Cleaner Production*, 214, 550–558. <https://doi.org/10.1016/j.jclepro.2018.12.256>
- Mandell, M. P., & Keast, R. (2008). Evaluating the effectiveness of interorganizational relations through networks. *Public Management Review*, 10(6), 715–731. <https://doi.org/10.1080/14719030802423079>
- McVeigh, K. (2018, October 5). Huge rise in US plastic waste shipments to poor countries following China ban. *The Guardian*. Retrieved from <https://www.theguardian.com/global-development/2018/oct/05/huge-rise-us-plastic-waste-shipments-to-poor-countries-china-ban-thailand-malaysia-vietnam>
- Miller, J. B. (2008). How Change Happens: Controlling Images, Mutuality, and Power. *Women & Therapy*, 31(2–4), 109–127. <https://doi.org/10.1080/02703140802146233>
- Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of who and What Really Counts. *Academy of Management Review*, 22(4), 853–886. <https://doi.org/10.5465/amr.1997.9711022105>
- Moliterno, T. P., & Mahony, D. M. (2011). Network Theory of Organization: A Multilevel Approach. *Journal of Management*, 37(2), 443–467. <https://doi.org/10.1177/0149206310371692>
- Molm, L. D., Schaefer, D. R., & Collett, J. L. (2009). Fragile and Resilient Trust: Risk and Uncertainty in Negotiated and Reciprocal Exchange. *Sociological Theory*, 27(1), 1–32. <https://doi.org/10.1111/j.1467-9558.2009.00336.x>
- Morgan, S. (2017, December 12). UN Environment chief: We shouldn't wait for the oceans to turn into a plastic swamp. Retrieved 17 May 2020, from www.euractiv.com website: <https://www.euractiv.com/section/energy-environment/interview/un-environment-chief-we-cant-wait-for-the-oceans-to-turn-into-a-plastic-swamp/>
- Mowday, R. T., Porter, L. W., & Steers, R. M. (1982). *Organizational Linkage: The Psychology of Commitment, Absenteeism and Turnover*. New York: Academic Press.
- Munksgaard, K. B., & Medlin, C. J. (2014). Self- and collective-interests: Using formal network activities for developing firms' business. *Industrial Marketing Management*, 43(4), 613–621. <https://doi.org/10.1016/j.indmarman.2014.02.006>
- Nilsson, M., & Persson, A. (2003). Framework for analysing environmental policy integration. *Journal of Environmental Policy & Planning*, 5(4), 333–359. <https://doi.org/10.1080/1523908032000171648>

- Nunan, F., Campbell, A., & Foster, E. (2012). Environmental Mainstreaming: The Organisational Challenges of Policy Integration. *Public Administration and Development*, 32(3), 262–277.
<https://doi.org/10.1002/pad.1624>
- Nyambegera, S., Daniels, K., & Sparrow, P. (2001). Why Fit Doesn't Always Matter: The Impact of HRM and Cultural Fit on Job Involvement of Kenyan Employees. *Applied Psychology*, 50(1), 109–140.
<https://doi.org/10.1111/1464-0597.00050>
- Obstfeld, D. (2005). Social Networks, the Tertius iungens Orientation, and Involvement in Innovation. *Administrative Science Quarterly*, 50(1), 100–130. <https://doi.org/10.2189/asqu.2005.50.1.100>
- Otenyo, E. E., & Lind, N. S. (Eds.). (2006). *Comparative public administration: The essential readings* (First edition). United Kingdom: Emerald.
- Paletto, A., Hamunen, K., & Meo, I. D. (2015). Social Network Analysis to Support Stakeholder Analysis in Participatory Forest Planning. *Society & Natural Resources*, 28(10), 1108–1125.
<https://doi.org/10.1080/08941920.2015.1014592>
- Pennington, James. (2016, October 27). Every minute, one garbage truck of plastic is dumped into our oceans. This has to stop. Retrieved 14 July 2020, from World Economic Forum website:
<https://www.weforum.org/agenda/2016/10/every-minute-one-garbage-truck-of-plastic-is-dumped-into-our-oceans/>
- Periathamby et al. - 2009—*Evolution of solid waste management in Malaysia i.pdf*. (n.d.). Retrieved from
<https://link.springer.com/content/pdf/10.1007/s10163-008-0231-3.pdf>
- Perugini, F., Mastellone, M. L., & Arena, U. (2005). A life cycle assessment of mechanical and feedstock recycling options for management of plastic packaging wastes. *Environmental Progress*, 24(2), 137–154. <https://doi.org/10.1002/ep.10078>
- Peters, B. G., & Savoie, D. J. (1996). Managing Incoherence: The Coordination and Empowerment Conundrum. *Public Administration Review*, 56(3), 281–290. <https://doi.org/10.2307/976452>
- Podolny, J. M., & Page, K. L. (1998). Network Forms of Organization. *Annual Review of Sociology*, 24(1), 57–76.
<https://doi.org/10.1146/annurev.soc.24.1.57>
- Pradabwong, J., Braziotis, C., Tannock, J. D. T., & Pawar, K. S. (2017). Business process management and supply chain collaboration: Effects on performance and competitiveness. *Supply Chain Management: An International Journal*, 22(2), 107–121. <https://doi.org/10.1108/SCM-01-2017-0008>

- Prell, C., Hubacek, K., & Reed, M. (2009). Stakeholder Analysis and Social Network Analysis in Natural Resource Management. *Society & Natural Resources*, 22(6), 501–518.
<https://doi.org/10.1080/08941920802199202>
- Rankin, J. (2019, March 27). The last straw: European parliament votes to ban single-use plastics. *The Guardian*. Retrieved from <https://www.theguardian.com/environment/2019/mar/27/the-last-straw-european-parliament-votes-to-ban-single-use-plastics>
- Ring, P. S. (n.d.). *PROCESSES FACILITATING RELIANCE ON TRUST IN INTER- ORGANISATIONAL NETWORKS*. 3.
- Schlange, L. E. (2006). Stakeholder Identification in Sustainability Entrepreneurship: The Role of Managerial and Organisational Cognition. *Greener Management International*, (55), 13–32. Retrieved from JSTOR.
- Schwilch, G., Bachmann, F., Valente, S., Coelho, C., Moreira, J., Laouina, A., ... Reed, M. S. (2012). A structured multi-stakeholder learning process for Sustainable Land Management. *Journal of Environmental Management*, 107, 52–63. <https://doi.org/10.1016/j.jenvman.2012.04.023>
- Sparrowe, R. T., Liden, R. C., Wayne, S. J., & Kraimer, M. L. (2001). Social Networks and the Performance of Individuals and Groups. *Academy of Management Journal*, 44(2), 316–325.
<https://doi.org/10.5465/3069458>
- Suchman, M. C. (1995). Managing Legitimacy: Strategic and Institutional Approaches. *Academy of Management Review*, 20(3), 571–610. <https://doi.org/10.5465/amr.1995.9508080331>
- The UK Plastics Pact | WRAP UK. (2018, April 25). Retrieved 18 May 2020, from <https://wrap.org.uk/content/the-uk-plastics-pact>
- Trivedi, M., Mathur, M., Johri, P., Singh, A., & Tiwari, R. K. (2020). Waste Management: A Paradigm Shift. In V. Shukla & N. Kumar (Eds.), *Environmental Concerns and Sustainable Development: Volume 2: Biodiversity, Soil and Waste Management* (pp. 337–363). https://doi.org/10.1007/978-981-13-6358-0_14
- Verhoest, K., Thiel, S. V., Bouckaert, G., Lægreid, P., & Thiel, S. V. (2016). *Government Agencies: Practices and Lessons from 30 Countries*. Springer.
- Walker, E. T., Martin, A. W., & McCarthy, J. D. (2008). Confronting the State, the Corporation, and the Academy: The Influence of Institutional Targets on Social Movement Repertoires. *American Journal of Sociology*, 114(1), 35–76. <https://doi.org/10.1086/588737>

Wang, W., Themelis, N. J., Sun, K., Bourtsalas, A. C., Huang, Q., Zhang, Y., & Wu, Z. (2019). Current influence of China's ban on plastic waste imports. *Waste Disposal & Sustainable Energy*, 1(1), 67–78.

<https://doi.org/10.1007/s42768-019-00005-z>

Wearden, G. (2016, January 19). More plastic than fish in the sea by 2050, says Ellen MacArthur. *The Guardian*.

Retrieved from <https://www.theguardian.com/business/2016/jan/19/more-plastic-than-fish-in-the-sea-by-2050-warns-ellen-macarthur>

Attachment 1: Overview of consulted sources

Respondent	Annual report	Sustainability report	website
Respondent 1	0	0	1
Respondent 2	0	0	1
Respondent 3	1	0	1
Respondent 4	1	1	0
Respondent 5	1	1	0
Respondent 6	0	1	1
Respondent 7	0	0	1
Respondent 8	1	0	0
Respondent 9	0	0	1
Respondent 10	1	0	0

Attachment 2: Data collection methods

Semi-structured interviews

Before the actual interview takes place, the topics which will be discussed during the interview has been sent to the respondent two days in advance to meet informed consent requirements. The interviews will take place via Vectera, an online meeting tool, or by phone, in order to be in compliance by the restrictions set by the government to stop the spreading of the Coronavirus. Hence, people will be contacted most probably from their homes where they feel comfortable. Each interview took approximately 45 minutes and was recorded with the permission of the respondent. The recordings of the interviews were used to make verbatims. Since these transcript verbatims are the most comprehensive type of transcript, they ensure controllability and reliability). Prior to the questions, the researcher introduced the sequence of the topics and the underlying research questions in Dutch, which is the native language of the respondents. Sometimes, a different sequence of questions was followed if that was more appropriate for the interview. After the interview, all respondents notified the researcher that they were willing to answer more questions to clarify their answers if needed.

Annual/Sustainability Reports

The second method that has been used to collect information about the organisations of the respondents has been through annual/sustainability report analysis. Sometimes the documents were not available, and the websites of the organisations have been analysed instead. Each report or website has been scanned before the analysis to get a general idea about the structure of the document and what parts are most interesting to focus on. Hereafter, relevant sections were reread and coding according to the coding structure (table 2). The report analysis gives a direct reflection about the driving factors of the business at a certain moment. However, reports only reflect the opinion of the majority and does not critically reflect different opinions or discussions.

Attachment 3: Outline of the Interviews

Datum:

tijd:

Locatie: online via Vectera

Introductie

Voorstellen: Esther, laatste fase International Business

Doel van interview herhalen: onderzoek doen naar hoe de NL Plastic Pact tot stand is gekomen en hoe deze werkt.

Anonimiteit: er word onherleidbaar naar uw bedrijf/organisatie gerefereerd.

Duur: 30 minuten tot 45 minuten

Opname toestemming: de opname wordt alleen gemaakt zodat ik makkelijker uw woorden kan transcriberen en zullen na het onderzoek worden verwijderd.

Algemeen *General*

1. Uw linkedIn zegt dat u *functie bedrijf/organisation* kunt u mij iets meer vertellen waar uw bedrijf of moet ik NGO zeggen? zich mee bezig houdt?
By which organisation/firm are you employed and what are the main activities of the organisation?
2. Wat heeft u hiervoor gedaan? Opleiding, ander werk etc?
What did you do before this position? Education, other work etc?
3. Voor hoe heeft u deze positie al?
What is your position and how long are you in this position already?
4. Wat is uw leeftijd?
What is your age
5. Hoe is *bedrijf/organisatie* betrokken geraakt bij NL Plastic Pact? En wat is haar/uw rol?
How did your company/organisation get involved with the NL Plastic Pact? What is your role?

Stakeholder analysis (intrinsieke/extrinsieke waarden)

Sub question 1: *What are intrinsic and extrinsic motivations for collaborating companies?*

6. Was u/bedrijf/organisatie al opzoek naar soortgelijke initiatieven?
Were you looking for similar initiatives already?
7. Was u gelijk enthousiast of moest u een beetje overgehaald worden om mee te doen?
Where you enthusiastic right away about the Pact or were there thresholds for participating?

8. Waren er ook drempels om mee te doen aan dit project, wat heeft u dan over de streep getrokken?
If there were thresholds holding you back from participating, what made you eventually decide to participate?

9. Waarom bent u betrokken bij dit initiatief? Bedrijfsvisie, vraag van klanten of andere partijen?
Why are you involved in this initiative? Mission of the company, customer pressure other stakeholders?

10. Is uw bedrijf bij meer duurzame initiatieven betrokken?
Is your company involved in more similar sustainable initiatives? If yes, which?

Network analysis

Sub question 2: Which are success and fail factors in network collaboration in practise?

11. Met welke partijen werkt u het meeste samen? Allemaal? Of zijn er subvertegenwoordigen?

12. Op welke manier werken jullie samen? Gedeelde initiatieven, uitwisselingen van oplossingen, seminars?
How does the cooperation between the parties take place?

13. Hoe vaak vinden er activiteiten/vergaderingen plaats met dit netwerk?
How often are there contact points/meetings initiated from the network?

14. Wat vindt u belangrijk in deze samenwerking?
What do you think is important in this collaboration?

15. Ging dit gelijk al goed vanaf het begin of waren er opstart problemen?
Did everything go right from the start or were there problems?

16. Als er problemen waren, hoe zijn die dan opgelost?
If there were problems, how were those solved?

17. Wie nam er initiatief om het probleem op te lossen en welke acties hebben gewerkt?
Who took initiative and what actions helped to overcome the problem?

18. Wat is het gaafste wat u heeft meegemaakt in het project dat u echt zoiets had van ja daar doe ik het voor?
What is the coolest thing that happened in the project that you had the idea this is the reason why I participate in this project?

19. Wat was het meest frustrerende moment?
What was the most frustrating part?

20. Hoe had dit voorkomen kunnen worden?

How could this be prevented?

21. U noemt nu (...) factoren, ik heb wat onderzoek gedaan en heb ook nog (...) factoren gevonden. Welke zijn volgens u echt noodzakelijk voor een goed netwerk?

You named (...) factors, I did some research and found (...) factors. Which factors are according you necessary for a well-functioning network?

Realizing goals

Sub question 3: What are the most important determinants for organisations to meet their goals in the project?

22. Kon uw bedrijf zich zo aansluiten bij de Plastic Pact of moesten jullie eerst voldoen aan bepaalde voorwaarden?

Was your company able to participate or were there requirements to join?

23. Waar haalt u uw meerwaarde uit voor uw bedrijf in dit project? Lukt dit?

How do you obtain value for your organisation by participating in this project? Are you successful?

24. Kunt u benoemen wat u al heeft gewonnen?

Can you name things that you have already obtained?

25. Hoe uit zich dat?

How do you measure that?

26. Bent u tevreden met deze meerwaarde of mist u nog wat?

Are you content with what you have obtained or are you missing value?

27. Denkt u dat u nog meer uit dit project gaat halen?

Do you think that you are going to obtain more value from this project?

28. Hoe zou u willen zorgen dat het beter gaat met het behalen van uw doelen?

How do you want to make sure that your goals are better obtained?

29. Wie zou daarvoor iets anders moeten gaan doen? Ligt dat buiten de macht van uw bedrijf of kan er juist iemand binnen uw bedrijf daarvoor zorgen?

Who do you think have to change something? Other companies or does your company has to work harder?

30. Denkt u dat de doelen van dit project gehaald gaan worden. Dus die reductie van 20% van de plastics 2025, recycling van minimaal 70% van de eenmalig te gebruiken plastics zonder kwaliteitsverlies, 35% van

de eenmalig te gebruiken plastics moet uit gerecycled plastic bestaan.

Do you think the goal of this project will be reached?

31. Zou u in de toekomst nog eens mee willen doen aan een vergelijkbaar initiatief?

Would you be willing to participate in the future with in a similar initiative?

Slot

Heeft u interesse in de uitslagen van mijn onderzoek? Ik kan wel een soort samenvatting toesturen?

Attachment 4: Original text and translations from the interviews

Section 4.1.1

Quote 1: Report respondent 8

Report was written in English: *'There is a clear pull from societies around the world to address important challenges such as climate change, environmental pollution and scarcity of raw materials.'*

Quote 2: Interview respondent 2

Translated text: *'Since 2009 I am busy with the raw materials and just before the credit crisis we saw from strategic perspective that something was moving within the sector of the raw materials. Eventually it turned out to be a transition, with increasing prices and at the same time we knew that there was an increasing pressure on our eco systems with a loss of biodiversity and climate change. In that context we investigated the scarcity of raw materials for the current ruling party.'*

Original text in Dutch: *'Ik ben eigenlijk al sinds 2009 bezig met grondstoffen en eigenlijk vlak voor de creditcrisis uitbrak zagen we al tendensen vanuit een strategisch perspectief dat er iets aan de hand was met de grondstoffen en uiteindelijk bleek het een transitie te zijn, een enorme stijging van prijzen en tegelijkertijd wisten we ook dat de druk op de ecosystemen met biodiversiteit verlies en klimaat behoorlijk toenam dus toen hebben we in kader van een verkenning voor ons kabinet hebben een onderzoek gedaan naar schaarste van grondstoffen in de context van klimaatverandering, biodiversiteit verlies en geopolitieke veranderingen.'*

Quote 3: Interview Respondent 3

Translation: *'At that time, the companies I had already spoken to, mentioned during their first meeting with the Ministry that they wanted us to be involved in the process as well. Because they said that they need a 'critical friend' to do the right things and that would make a pact like these more credible.'*

Original text in Dutch: *'Maar eigenlijk hadden toen de bedrijven waarmee ik al had gesproken die hadden in een van de eerste vergaderingen met het ministerie gezegd van joh volgens mij is het slim ook hier ook milieu beweging erbij te vragen. Want zon critical friend hebben wij wel nodig om te zorgen dat wij ook echt de goede dingen gaan doen en het maakt ook dat zon pact ook wat geloofwaardiger is.'*

Section 4.1.2

Quote 1: interview respondent 8

Translation: *'So we have plastic consumer companies and they come to us with an idea and if this idea concerns waste they think of their sustainability manager. For some reason the sustainability manager does not see that our containers are outside and they do not come directly to us.'* – Interview respondent 8

Original text in Dutch: *'brouwerij is een klant van ons en die klopt bij ons aan en die hebben een bepaald idee en als het uit het afval komt dan denken ze al heel snel aan hun afval dienstverlener maar op de en of andere manier ziet de duurzaamheidsmanager niet altijd dat er bakken van ons buiten staan om het afval op te halen.'*

Quote 2: interview respondent 5

Translation: *'As a packaged goods company, we are a significant user of plastic packaging for our products. We believe that plastic has a place in the economy but not in the environment. We want to help build a circular economy in which we not only use less plastic, but also ensure the plastic we do use can be reused, recycled or composted.'*

Original text in Dutch: *'En dat is ook niet duurzaam dus wij zitten er heel erg vanuit onze overtuiging om voor onze verpakkingen is de milieu impact als je dat doet in herbruikbare of recyclebare plastic flessen die gerecycled worden en weer terug komen.'*

Quote 3: Interview respondent 9

Translation: *'Everybody can tell what is going wrong and pointing out the bottlenecks is easy. The real jobs still need to be done. It is tense to see whether actions are really going to take place.'*

Original text in Dutch: *'Kijk nouja ik ben voorzichtig positief, omdat ik zeg de fase van zeg maar knelpunten benoemen dat kan iedereen daar zit nog weinig spannends in. En echt het spannende moet nog komen van nu gaan we ook echt acties plaatsen.'*

Quote 3: Interview respondent 7

Translation: *'A lot of teams and a lot of ideas are launched, but the projects are not taking place. This is the same as what happened with the other transition teams on hard plastics'*

Original text in Dutch: *'We hebben allerlei plannen, initiatieven ideeën gelanceerd, projecten actieplannen maar alles sterft wederom een stille dood.'*

Quote 4: Interview respondent 5

Translation: *'... the working groups which I attended are very pragmatic and well organized. The roles are clear and the right people are there..'*

Original text in Dutch: *'Dus ik heb het idee, ik vind dat de werkgroepen waar ik geweest ben, vind ik allemaal best wel pragmatisch, ze worden goed geleid. De rollen zijn duidelijk, er zitten gewoon mensen op die werkgroepen die moeten organiseren, leiden maar ook vooruit, dus ze hebben echt een pragmatische aanpak.'*

Section 4.2

Quote 1: Interview respondent 4

Translation: *'Are these businesses really going to change their working strategy or are they just going to try to get the most out of the pact. That they will promote that their business is the best in producing the most sustainable packaging'*

Original text in Dutch: *'Gaan deze partijen nu echt anders werken of gaan ze gewoon proberen hun business erin te duwen en zeggen ja wij maken fantastische duurzame verpakkingen, koop vooral die bij ons.'*

Quote 2: Interview respondent 5

Translation: *'The involvement of the government is very important because they play a great part in good public communication. Really educating the citizen on this topic there is a huge opportunity there'*

Original text in Dutch: *'De betrokkenheid van de overheid heel erg belangrijk want er ligt een enorme rol voor de overheid om goede publiekscommunicatie te voorzien zeg maar.'*

Quote 3: Report respondent 4

The report is written in English: *'...online, consumers are making more decisions based on their values. They're also using both on- and offline channels to find better, more personalized products and services more easily and quickly'*

Quote 4: Interview respondent 3

Translation: *'...there is always a lot of attention for plastics. (...)It is of course a much-debated topic in the society, everybody has an opinion about plastics.'*

Original text in Dutch: *'Iedereen heeft een mening over plastic en mensen die er hun geld mee verdienen die kunnen je heel goed uitleggen wat een fantastisch materiaal dat is en dat het zo sterk is en zo licht zo duurzaam en mensen die vooral plaatjes van schilpadden met een rietje in hun neus en opengewerkte stormvogels met doppen in hun maag voor zich zien die kunnen uitleggen hoe plastic de hel is en dat we er zo snel mogelijk vanaf moeten. En eigenlijk vind ik dat soort onderwerpen het leukste om daarop actief te zijn want als er een maatschappelijk debat zeg maar een beetje ontspoord is ja dan worden er ook geen, hoe zeg je dat, geen rationele beslissingen meer genomen dan is ieder besluit gebaseerd op het maatschappelijk sentiment.'*

Quote 5: Report respondent 4

Report was written in English: *'Climate change has been identified as a principal risk.... The transition risks and opportunities include changing consumer preferences and future policy and regulation'*.

Attachment 5: Open codes and Axial codes

Codes)	Summary	Sub-factor	Hits	Factor
-50% of the packages consists of reused plastics R5 report -90% of the waste has been recovered R8 report -all wrap arounds are made of 100% recycled plastics R6 report -also active on carbon emission reduction and sustainable energy R5 report -sort all the waste themselves R9 -best practices are copied to the EU PP R1 -collaboration on testing ideas but also bilateral agreements with parties outside the pact R2 -technically our packaging are recyclable R4 -in theory things are recyclable but in practice it is difficult to collect and reuse R10	Already achieved goals in the plastic value chain	Finished	35	ACHIEVEMENTS (98)
-a lot of teams and a lot of ideas but nothing starts to progress R7 -action instead of talking R10 -we should just start working ' just do it' R6	Ideas but no actions	action	15	
-achievement lobbied for an ambitious climate goal R3 report -are these parties going to collaborate or are they going to try to put their business on the first place R4	Lobbying for sustainability	Lobbying	7	
-achieving goals chemical recycling is needed R2 -collection of the bottles in a clean flow is important R5	Reasons that achievement has not happened yet	Necessity	19	

- chemical recycling/advanced technologies are needed R10 -testing on small scale is no guarantee for success on big scale R10				
-achieving own goals is more important which are more ambitious than the pact R5 -all packages will be collected and reused R5 report -Maximize circularity of the packaging R6 report		Organizational goals	22	
-big multinationals make commitments on international level R2 -report on the footprint of the company R5 report -communicate about recycling plastics that makes them energy neutral R7	Communication about commitment	Visibility	15	COMMITMENT (57)
-challenging goals difficult to commit everyone with different interest R9 -you can only invest your time only once R8 -companies monitor each other on their deliveries R2	Commitment in the participation of the NL PP	participation	16	
-can be some free riders in the pact R4 -companies can profit from frontrunners R1 -difficult to monitor R6 -easier to stay at a voluntary commitment level R7 -only committed parties will go to the working groups R4	Threats to the pact; free riders; voluntary commitment	voluntary	26	
-a couple of meetings for one topic of the working group R4 -collaboration in working groups to tackle problems together R2 -communicate about real options within the NL PP R3	Practical communication within the NL PP	Within the NL PP	33	COMMUNICATION (54)
-a lot of commercial about the NL PP but nothing is happening R7 -communicate about sustainability to the customer R4 report -attention for brand campaigns because it is important to get new leadsR8 report -communication about being participant in the NL PP R3 report	visible communication about actions/achievements	Visibility	13	

-communication is important to change public opinion R5 -share success stories is important R1 -government should educate citizen in recycling R5	Inform public by communication through any mean; media, newspaper etc	inform	7	
-share best practices internationally is urgent R1	Communicate best practices to other countries	internationalisation	1	
-a lot of relationships between firms with different powerR1 - collaborating with many organisations apart from Plastic Pact but all united in the pact R5 - connection with plastic producer to improve recyclability R8	Already existing relationships between the participants of the NL Plastic Pact	Relations within NL Plastic Pact	11	CONNECTIONS (40)
-active in the whole value chain and involvement in social inclusion R7 website -beer companies and food producers R5 - big recyclers work together with big plastic consumer companies R8 - collaborating with separate parties R1	Connections within the value chain of the firm; suppliers and customers	Value chain connections	15	
-at the front we compete but we also collaborate because we cannot do it aloneR6 - continuously working with partners on sustainability R5 - cooperation between branch organisations and government on research of	Cooperation with similar companies	Branch organisations	6	
- collaboration on testing ideas but also bilateral agreements with parties outside the pact R2 - cooperating with other big companies R9 - cooperation with chemical firms to become circular R8	Cooperation in other groups	Different transition teams	6	
- connections are important in collaboration R3 - knowing who is who in the value chain R4		Importance of connections	2	

<ul style="list-style-type: none"> - active agenda on sustainability compromised on within the firm R6 - better banking possibilities if obtained a green certificate R8 report -companies start working on circularity motivates others to work on it as well 	Focus of the firm to make steps in sustainability	Focus strategy	3	IM- COMPETITIVE POSITION (18)
- being transparent about costs is necessary R10	Business model on costs and benefits	Cost leadership	1	
<ul style="list-style-type: none"> - companies have to be less differentiative with respect to each other R3 - consumer does not care about tertiary packages thus harmonizing is possible R4 - dependence of the competition/colleagues in the field R4 report 	Companies should harmonize instead of differentiate from each other	Differentiation strategy	11	
- companies only improve their actions on sustainability if they make money or save costs with it R3	Costs reduction or saving costs in the future	Best cost strategy	7	
<ul style="list-style-type: none"> - competition of incinerations but last years the position improved R8 report - strong competition in the sector of collecting waste R8 report - if there is no business model companies are not going to work R3 	high competition with incinerations	Entering barrier	5	
<ul style="list-style-type: none"> -active on sustainability but plastic relatively small so started after public debate R6 - activities on what is possible within the scope of the firm R5 - already active on plastics R9 - already active on recycling plastics no PP needed R9 	Companies already active on the problem of plastic packaging	Action on plastics	15	IM – BUSINESS STRATEGY (59)
<ul style="list-style-type: none"> - avoidance of carbon through recycling R8 report - balance between commerce and sustainability R6 - circular economy is the company's key business R8 report 	Companies active on sustainability in general	Sustainability in production	36	

- climate change has been detected as a risk to the business R4 report -want to be active on sustainability if that contributes to the value chain and their own company R6				
- investments in equipment by recycling branches R10 report -fluctuations in prices for waste R8 report -if there is no business model companies are not going to work R7	Companies invest time and money in sustainability	investments	5	
- bundling projects in order to be able to scale R8 - receiving new project R8	Scale up projects	Scalability	2	
- companies are busy home market no time for export R1 -one packaging unit which coordinates all the subsidiaries abroad on research to packaging R5 report	Export strategies of sustainability	Export	2	
-All parties believe that this is necessary to do together therefore committed group R5 -Exchange of information to harmonize on packaging R4 -Harmonize on secondary packaging R4	Parties need to create volume and reduce costs	Create business case	16	COLLECTIVE INTERESTS
-alone there is no business case because there is not enough volume R8 - Collective interest to work on plastics together because together they need to pay the bill R3 -alone there is no business case R8				
-Also consumers find it normal that you are sustainable we want to be first R6 -Consumer is concerned with plastics R4 report - Consumer concerned with climate change R5 report	Consumers view being sustainable as a new standard	Sustainability	14	IM- CONSUMER PERCEPTION (27)

-changing strategies towards the demands of the consumers – R4 report -focused on the consumer and their interests to be met – R8 report -increasing demand for secondary materials – R8 report	Staying close to the demand of the consumer	Importance consumer perspective	6	
-close contact with consumer R8 -communicate with consumer through packaging R5	Contact with the consumer	Contact	2	
-the average consumer wants comfort in consumption R4 -consumer is also responsible for separating waste R5	Consumer wants comfort	Comfort	4	
-Different needs in consumers	Different segments in consumers	segments	1	
-Commercial company is focused on balance between costs/benefits R6 -communities only interested in packaging because they receive money for household waste – R7 -Improve benefits for companies to act sustainable – R3	Act if there are benefits	investments	10	IM-COSTS/BENEFITS (13)
-being transparent about costs would help to become circular R10 -if there is no volume/capacity then costs will be to high – R8 report -volume is not the problem but differentiation is R4	Transparency about the costs bottlenecks	Costs bottlenecks	3	
-cooperate with NGOs to create legitimacy R4 report -cooperation between NGOs to work on sustainability R3 -customers find it weird not to separate waste in holiday houses R 8 -reputation is important to everyone R6 -risk on green washing dependent on the whole value chain R1	Consumer perspective on what is the norm	Consumer	11	IM-REPUTATION (22)
-balance in increasing your competition position but also to raise the bars and be very social responsible R1 -brands have to be visible and to take a stand R4 report -some companies only act good in NL but not yet worldwide R3	Duty of companies to take a stand	CSR	11	

-a lot of countries want to be involved in the EU PP which was a surprise R2 -Best practices are copied to the EU PP R1	International relevance of the PP	Relevance	5	INTERNATIONAL FACTORS (41)
-achievements are ready for export R1 -help Indonesia to become circular in design of products R2 -companies are busy with the home market and do not have time for export R1 -first mover if they go abroad and there is a lot to do there R1	New practices coming from the NL PP can already be exported	Export	12	
-African countries ban plastics R1 -EU regulations are also important and steer companies strategies R5	International awareness of the plastic problem	Awareness	5	
-ban on import of waste in order to achieve higher recycling rate R10 report -China closes doors for low quality plastics so increase in the EU of waste R1 -Reduced demand of waste from Asia for recycles R8 reports	Ban on the imports/exports of waste	Ban on waste	12	
-big international companies have to align their international offices R6 -creation of 'one way working' on EU level R8 report	Big international operating firms aligning national strategies	Alignment multinationals	2	
-Cooperation with the government also on international level R4 -governments takes requests to Brussels R4 -regulations are sometimes at EU level and cannot be solved nationally R4 -harmonize issues with regulations on EU Level R2	Cooperation with the government	Government	4	
-international companies can be sustainable on national level but not on international level R3	Big multinationals can do dirty business abroad	Dirty business	1	
-all parties believe that this is necessary therefore committed group R5 -household waste has been on the corporate agenda since 2019 R10 report -plastic producers see themselves at the centre of circular economy R8 report	Perspective of participating organisations	participants	6	MOMENTUM (21)

-demand from the public to change to sustainable businesses R4 report -through public debate such that government and companies change their policies R3	Public demand to more sustainability	Public	9	
-different institutions, businesses, knowledge institutions, government busy with plastics -R1 -plastics receives a lot of attention because of its bad environmental impact R4 -political awareness of circular economy activities R10 report	Broad support to do something with plastics	Broad support	4	
- all links in the whole value chain are needed to achieve the set goals R5 -All parties are involved in the pact R5 -bottles are sold in supermarkets, collected separately and then bought back by the factories R5 -chain organisations are all dependent on each other R5 -Challenges in circular economy problem concerns suppliers as well R4 -collaboration on testing ideas but also bilateral agreements with parties outside the pact R2	Network only works if there are a lot of parties involved	Interdependency	28	NETWORK
-if everyone works on the plastic recycling much could be achieved R1 -cooperation with the whole value chain can be valuable R6 -creation market work on regulations with all parties R1	Speed up the process of plastic recycling	possibilities	15	
-want to change the policy of the NL PP and therefore involved in the project R3 - plastic consuming companies should use more recycle R9 -government should create fair competition through regulation R7 website	Different role for different organisations	Role	10	
-PP gives a platform to organisations to quickly talk with each other and get to a consensus R2 -asking consumers to separate waste on small details is ineffective R4	Discuss agreements with a lot of different parties	Argue/Agreements	6	

<ul style="list-style-type: none"> -everything comes together in the PP R1 -it's a big collaboration so taking small steps were necessary R6 -keep a broad scope because there is a lot to do R5 -networking helps people to have the same vision on the problem R2 -scope of the pact is too small also include the fashion industry R4 	The scope should be different	Scope of the NL PP	7	
<ul style="list-style-type: none"> -asked by the ministry to participate in the network R7 -we were asked but we were not very enthusiastic to join the pact R8 -not only frontrunners were interested but also smaller companies R9 website 	Some parties are asked by the ministry to participate	Asked for participation	3	
<ul style="list-style-type: none"> -companies should become more transparent R10 -no frustration everyone knows each other the process is running R9 	Create transparency	transparency	2	
<ul style="list-style-type: none"> -60% did not fill in the monitoring and 40% did. So the 60% should not get away with it R3 -cooperate with the whole value chain and that you do not only think in your own interest R9 -Every actor has responsibilities, producers responsibilities, government R1 -Rules are developed together to prevent companies without commitment to join R2 -setting norms together R4 -working together voluntary on solving bottlenecks R9 	Voluntary participation	voluntary	6	
<ul style="list-style-type: none"> -work also on international level to reduce plastics R4 -Cooperation on EU level to coordinate consumption of bottles for take aways R5 report 		International aspect	4	
<ul style="list-style-type: none"> -cooperation on natural resources -cooperation on transition agenda which involved 500 parties R3 report 	Other collaborations on sustainability in value chains	Transition teams	8	

-more partnerships on the topic circular economy R8 -NL PP is not connected to an existing community R1				
-Unique network in the world R1 -whole value chain is present which makes it easier to comply steps R9	Whole value chain is present in the NL PP	Unique	4	
-engage: employees, investors, customers, governments and communities R8 report -founding father of covenant on raw materials R10 report -frontrunners need other companies in the value chain to progress R4 -involved in the whole value chain- R9 website	Participation in the value chain	Value chain		NETWORK-POSITION
-asked by the ministry to participate in the network R7 -involved from the beginning and asked by the government R4	Asked to participate in the network	Beginning of network		
-at the front we compete but we also collaborate because we cannot do it alone R6	Collaboration with the competition	Con-colleagues		
-catalysts in the network R1 -companies need to have a role in the pact R1 -frontrunner in the industry of sorting waste R8 report -government is a connector which is powerful R5 -independent organisation R3 report -NGOs are in the steering committee R2 -small percentage of our business concerns plastics R6	Position in the network	Position		
-a lot of power in the value chain R1 - a lot of relationships between firms with different power R1 -big firms enforce smaller firms in the value chain to become sustainable R1	Power can be of importance to speed up the process of plastic recycling	Power	9	POWER (9)

-ask for regulation because of unfair competition with virgin plastics R1 -ask for regulation to create fair competition R7 website -change governmental and companies policies such that they comply and solve the issue R3	Want to influence NL regulation on waste	Influence	14	REGULATION (51)
-branch organisations set own regulations on what is possible to recycle R10 report -setting norms together R4 -the government is a partner but we do set the boundaries R2	Own regulations and norms	Sector norms	3	
-Goals not reached then new regulations will start R3 -extended producer responsibility R1 -government will impose regulations which are not profitable for firms R1	Failure of the pact new regulations	Possible regulations	11	
- create level playing grounds through regulation R2 -government has to steer the circular economy to create a valuable business case for companies R7 -government is important to set regulations R4		need	13	
-government disincentives to use incineration and landfill R8 report -legislation pressure to rethink the business R4 report -mixture of instruments for sanctions like banning plastic bags R2 -no collection of plastics because it is not subsidized R8 -no regulations for recycle R9 -packaging receives a lot of subsidizing because it is an expensive process R7	Current regulations that influences businesses	Current	8	
-regulation pressure also from EU level -stricter regulation also on EU level R8 report	International pressures on Dutch regulation	International pressure	2	
-big companies are slow in responding to innovation R1 -big international companies have to comply with international offices and that	Size of the companies affects speed	size	6	SPEED (37)

takes time R6 -frontrunners can make their own decisions and are faster R2				
-cooperation to speed up the process of recyclability R4 report -including all the parties to speed up the process R4 -some parties are not going to wait for the PP they will start already R9	Cooperation with others to speed up the process	Cooperation	4	
-high quality of the network but slow developments R1 -initiative is good but the action/speed level must be higher R6 -learn from a crisis to act faster R10 -more communication and the pace is too slow R1	High quality of the network affects speed	quality	9	
- no speed does not affect our strategy so no problem R6 -we don't want people to gather and there happens nothing R1 -not so much speed in the actions R6 -quite some speed in the process but we also just started R5	More speed in the actions undertaken from the pact	Action	18	
-bringing together different parties of the value chain to create trust and increase innovation R2 -together the network can change but trust is needed R2	Connect different parties and create trust	Connection	7	TRUST (12)
-companies together with the government work together which creates trust R2 -companies wanted NGOs to join for credibility R3 -the government also creates legitimacy R2	Reputation by the public and other companies	Reputation	5	