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MASTER THESIS - INNOVATION SCIENCES

GOAL FORMULATION PROCESSES OF DUTCH GOAL-SETTING INNOVATION POLICIES

LISA MARA MULDER

L.M.MULDER@STUDENTS.UU.NL

Supervisor: Dr. J. Wesseling

Internship
Ministerie Infrastructuur en Waterstaat
Mr. R.B. Braams
rik.braams@minienw.nl

Ministerie van Infrastructuur en Waterstaat

Table of contents

Abstract

The grand challenges of the 21st century and their wicked nature require changes in innovation policies and governance. 'Governance through goals' perspectives (e.g. mission-oriented innovation policy) are highlighted as a way to resolve these grand societal challenges. 'Governance through goals' perspectives are goal-setting policies that function by setting goals and then defining the instruments needed to reach them. The shift to goal-setting policies changes how governance is done and increases the importance of understanding how the formulation processes impact the course of innovation policies. This research focused on two interesting research gaps: how can goal formulation be effective and ensure the direction of innovation activities necessary to solve societal problems and secondly, how formulation processes can impact the course of innovation goal-setting policies.

By combining three 'governance through goals' perspectives this research established four goal characteristics: 'striking a balance between ambition and achievability', 'enacting stakeholders', 'societal desirability' and 'directionality'. These four goal characteristics are necessary to define effective goals for goal-setting policies. Furthermore, the combination of evolutionary governance theory and the notion of the transition arena provided a prescriptive framework on the emergence of potential influences on goal characteristics, caused by the design of formulation processes.

By researching three Dutch examples of goal-setting policies: topsectors policy, the climate agreement and mission-oriented innovation policy, this research has shown the complicated web of internal and external influences on the four goal characteristics. Moreover, it has shown that the design of formulation processes may create the right conditions for goal effectiveness. The design of goal formulation processes is a delicate process potentially creating long-term positive or negative effects on the four goal characteristics, and thus, the course of goal-setting policies.

1. Introduction

Multiple scientists find us entering a new generation within innovation policies (Hekkert, Janssen, Wesseling, & Negro, 2020; Kattel & Mazzucato, 2018; Kuhlmann & Rip, 2018). This third generation of innovation policies focuses on resolving societal problems and moves from a quantitative focus on innovation towards quality and the direction of innovations. As the grand challenges of the 21st century and their wicked nature of complexity, urgency and interconnectedness, require changes in innovation policies and governance (Mazzucato, 2018a). These challenges include health, climate change, and food security. 'Governance through goals' is a way to tackle these wicked problems. 'Governance through goals' are goal-setting policies that function by setting goals and then defining the instruments needed to reach them (e.g. mission-oriented innovation policy within the European Union) (TNO, n.d.). Additionally, goal-setting for wicked problems requires the engagement of stakeholders outside the government to reach these goals, as they are too complex to be reached by one type of actor (Binder & Tews, 2004). Therefore, another trend within governance is the shift from a more centralized and closed form of governance to a more collaborative form of policy-making that includes the private sector (Ansell & Gash, 2008). These shifts in governance change *how* governance is done and with *who.*

Evolutionary governance theory (EGT) looks at governance evolution related to policy effectiveness (Beunen et al., 2015). The governance evolution needed for mission-oriented innovation policy, and other goal-setting policies, is seen as a potential way to solve wicked problems. However, there is no research on how this evolution in governance features may influence the effectiveness of goal-setting policies. For example, incorporating new and other types of actors can lead to a better process of policy-making, but it can also lead to negative effects as certain power structures are introduced (Beunen et al., 2015). To research policy evolution, evolutionary governance theory looks at multiple governance aspects which could shift or hamper evolution. They focus on who works together, how they work together, and the current and former governance structure. The changes in these aspects determine if the policy evolution may have a positive or negative influence on the policy effectiveness, and thus, negative influences in these aspects may impact the effectiveness of missions and goals.

Hekkert et al. (2020) highlight the importance of understanding how the formulation processes impact the emerging innovation dynamics. It remains uncertain which aspects of goal formulation and formulation processes may impact the course of innovation policies. Thus, two interesting research areas are emerging, because of the new focus on innovation within the third generation innovation policies and the rise of goal-setting: how can goal formulation be effective and ensure the direction of innovation activities necessary to solve societal problems and secondly, how do formulation processes impact the course of innovation goal-setting policies.

This research aims to address these two research gaps. First, this research will empirically study the goal characteristics of mission-oriented innovation theory and two other 'governance through goals' perspectives: global and national goal-setting. By researching the goal characteristics this research looks at how goal formulation for goal-setting policies can be effective. Furthermore, one of the critiques of mission-oriented innovation theory is the lack of empirical insights integrated into the theory, resulting in ad-hoc theoretical understandings and policy advice (Mazzucato, 2017). This research aims to contribute to these empirical insights by incorporating a case of mission-oriented innovation policy (MIP). Thirdly, it's still uncertain which aspects of goal formulation processes may influence goal characteristics, and thus, goal effectiveness. This research combines EGT and the transition arena of Loorbach (2010) to provide a prescriptive framework of aspects of goal formulation processes, which may influence the goal characteristics, and thus, the emergence of innovation dynamics by goal-setting policies. In conclusion, this research will use four theoretical sources to address the three research gaps.

This research is done in collaboration with the Dutch government, as it recently switched to a form of mission-oriented innovation policy (Rijksoverheid, 2019c). The Dutch government has a long history of collaborative policymaking and long-term planning (Loorbach, 2010), which relates to the two governance trends this research looks at and therefore makes it an interesting environment to research MIP and other goal-setting policies. This research focuses on three goal-setting policies within the Dutch government. The first is the topsectors policy, which includes the nine Dutch sectors with high economic potential. The second case is the climate agreement which consists of the Dutch goals needed to reach the Paris agreement (Rijksoverheid, 2019a). Finally, the last case is the mission-driven topsectors and innovation policy (MIP), the Dutch version of mission-oriented

innovation policy (Rijksoverheid, 2019b). For these three Dutch cases, this explorative, comparative case study looks at the goal formulation processes and their influences on the goal characteristics; leading to the following research question:

How did goal formulation processes influence the goal characteristics of three Dutch goal-setting policies?

By combining three 'governance through goals' perspectives, a parsimonious overview of goal characteristics is given, and thus, able to strengthen the current theoretical understanding of goal characteristics and their formulation. Furthermore, this research creates a prescriptive framework of the aspects of goal formulation processes which influence goal characteristics and their effectiveness. This improves the current scientific and practical understanding of the design of goal formulation processes as possible source of goal (in)effectiveness.

The prescriptive character of this research is of interest for practical use. Moreover, given that this framework highlights possible influences on policy effectiveness, this framework is useful to government parties working on goal formulations. This is increasingly relevant in the current governance climate, where goal-setting policies are becoming increasingly popular. Furthermore, the overview of goal characteristics provides guidance for governmental bodies who are formulating goals. Finally, by better understanding negative influences governmental bodies are able to improve the effectiveness of formulated goals, and thus, pave the way for a better societal outcome.

This research is structured as follows: chapter 2 discusses the theoretical foundation and presents the goal characteristics framework by combining the three goal-setting policies and the potential influences on goal characteristics. Chapter 3 describes the research design and data collection process. Chapter 4 explains the results of this research in terms of the description of the cases and the internal and external influences. Furthermore, chapter 5 contains the conclusions and chapter 6 describes the discussion of this research by including the theoretical implications, limitations of this research and recommendations for policy makers and on further research directions.

2. Theoretical framework

In order to build a framework that looks at the influences on goal-setting policies, an overview of goal characteristics is given in section 2.1. Secondly, building on EGT and the transition arena of Loorbach (2010) section 2.2, provides a prescriptive framework of the aspects of goal formulation processes that may influence goal characteristics. Lastly, section 2.3 combines the two prior sections in a conceptual framework.

2.1 Goal characteristics

This section combines three 'governance through goals' perspectives: mission-oriented innovation policy (MIP), national targets (NT) and global goal setting (GGS). Articles on goal formulation and characteristics are limited within the three literature strands, but by combining them, this research aims to provide a strong theoretical base on goal characteristics. This research excludes the notion of SMART goal-setting, a business tool used in management settings (Corporate Finance Institute, n.d.). MIP, NT and GGS are goal-setting policies and their governance character adequately matches the cases of the Dutch government. The three perspectives differ to some degree. For example, MIP and GGS look at societal relevance while establishing goal characteristics. This makes them more suitable policies within the third generation of innovation policies, whereas NT focuses on which characteristics increase the chance of reaching a goal. In addition, the broadness of the focus differs between a national or global level, when comparing NT and GGS.

Table 1 provides a summary of the three goal-setting perspectives and shows the overarching dimensions, and thus, the 'governance through goals' literature can be reduced to four goal characteristics: striking a balance between ambition and achievability; enacting stakeholders; societal desirability; and directionality.

The three perspectives take a descriptive approach which can be seen in Table 1. However, this research aims to make the relation between goal formulation and goal effectiveness clear. Thus, an in-depth explanation of the goal characteristics is provided to increase prescriptiveness and fill the theoretical gap concerning goal formulation.

The characteristics of MIP within Table 1 are not specified to the formulation process, as they are characteristics for the process of selecting missions (Mazzucato, 2018b). The selection phase follows from the formulation process, which means that these characteristics need to already be present. NT and GGS specified these characteristics for the formulation phase.

Table 1. Overview of goal characteristics rooted in three 'governance through goals' perspectives and the discovery of their similarities shown in overarching dimensions

Dimensions	**Mission-oriented innovation policy (MIP)**	**National targets (NT)**	**Global goal setting (GGS)**
Striking a balance between ambition and achievability – the trade-off between achievability and ambition. This tension should be watched carefully as too ambitious goals will lead to unachievable goals, and underperformance regarding the level of ambition leads to an undesirable, but achievable goal.	*Ambitious, but realistic:* the formulation of objectives should be high-risk, while the objective remains feasible. Unrealistic high goals will lead to a lack of buy-in, and an objective which is set too low will not incentivize the necessary efforts. (Mazzucato, 2018b; TNO n.d.)	*Achievability:* a goal does not necessarily need to imply achievability, it should refer to an ambitious end-goal. However target-setting needs to lead to a realistic scenario considering the available resources and knowledge. Putting a great emphasis on achievability leads to unambitious goals and ineffective goal-setting. (Binder & Tews, 2004; Levy, Cavender-Bares, Clark, Dinkelman & Nikitina, 2001)	*Trade-off ambition and feasibility:* goal-setting needs to lead to motivated stakeholders to change their ways, however actors will feel discouraged or unimpressed by set goals when the bar is set too low or high. The bar needs to be set while recognizing the social, biophysical and political constraints present. (Norström et al., 2014; Philibert & Pershing, 2001)
Enacting stakeholders – a goal should incentivize the right composition of actors crossing multiple sectors and disciplines to ensure the necessary actions and (social) changes among them.	*Cross-sectoral, cross-disciplinary and cross-actor:* missions should be framed to ensure activity across the whole society, and thus, between different actors, disciplines and sectors. This is necessary as the problems are too wicked to be solved by a single type of actor, discipline or sector. As, it is necessary to provide room for diverging opinions and ideas about potential solutions. (Mazzucato, 2018b; Stirling, 2014; Wanzenböck Wesseling, Frenken, Hekkert & Weber, 2019)	*Engagement stakeholders:* a goal set by the government which effectiveness is determined by efforts outside of the government will fail if it doesn't engage the necessary stakeholders. Furthermore, stakeholders playing a role in decision making processes of goal-setting policies can ensure the legitimacy of a goal. (Binder & Tews, 2004; Levy et al., 2001)	*Social change:* transformations in patterns of social behavior, values, belief systems, and participation across society are necessary to reach far-reaching sustainable goals. So, resolving societal challenges require fundamental societal changes. Goal-setting alone won't lead to the necessary transformations. Goal-setting should enact stakeholders to form appropriate norms and institutions for social innovations. (Bengtsson, Alfredsson, Cohen, Lorek & Schroeder, 2018; Norström et al., 2014; Philibert & Pershing, 2001)
Societal desirability – to reach the desired societal transformations the goal needs to reference to the desirable outcome for the whole society, while accounting for possible cause and effects which could eventually lead to undesirable outcomes.	*Bold, inspirational and wide societal relevance:* solving wicked problems will require great societal transformations and thus formulated missions should engage the public. To do this they should be connected to societal problems. (Mazzucato, 2016; Mazzucato, 2018b; TNO, n.d.; Wanzenböck et al., 2019)	*Desirable:* if a goal doesn't refer to the desirable outcome, it will always fail. A big part of target-setting is forecasting. To establish desirable and achievable goals an organization should have scenario building skills. (Binder & Tews, 2004; Stavins, 1997)	*Integration social-ecological system:* our society and ecosystems are interlinked and inseparable, as ecosystems play a role in sustaining human wellbeing. The goal should account for possible cause and effects between the changes in the social-ecological system and the ecosystems to ensure human wellbeing. Furthermore, GGS highlights the importance of social change and thus the transformations in social behavior, values et cetera. Goals should refer to a desired end state for society to ignite societal transformations. (Andresen et al., 2002; Norström et al., 2014; Philibert & Pershing, 2001)
Directionality – a goal should provide direction for investments and activities towards multiple technologies or solutions.	*Multiple bottom-up solutions/Direction:* missions need a clear framed direction to enable multiple investments and activities which otherwise would not have been undertaken, providing the legitimacy of the public intervention of missions. However, a mission should not be oriented towards a single solution or technology. The mission should create multiple problem-solution constellations providing a frame of reference for actions undertaken to resolve the societal problem. So, the outcome of the mission should be clear, not the trajectory to reach the mission. (Mazzucato, 2018b; Stirling, 2008; TNO, n.d.; Wanzenböck et al., 2019)	*Direction of change:* goals should lead to the desired end state, meaning that a formulated goal should specify the direction of change. A clear direction will lead to the necessary change in behavior to reach the desired outcome. (Andresen, Kolshus & Torvanger, 2002; Binder & Tews, 2004)	*Boundaries of transformational change:* transformational change needs clear boundaries. The boundaries will lead to a clear direction to catalyze the necessary actions, knowledge development and decision-making leading to transformational change. (Bengtsson et al., 2018; Levy et al., 2001; Norström et al., 2014)

Striking a balance between ambition and achievability

Three strands highlight the importance of balancing ambition and achievability. Within the Paris agreement, the ambition level is expressed as progress beyond current contributions (Schleussner et al., 2016). This method is flawed, since small progress compared to the former goal is already labeled ambitious or an unrealistically high target in the past affects the ambition assessment of a future goal. However, this research is not able to provide ambition assessment criterias for every goal, as recommended by Rietbergen, van Rheede & Blok (2015) who discus methods to research ambitious targets. Therefore, this research defines ambitious goals as goals that go beyond former targets and agreements. Furthermore, to ensure the achievability of a goal, one must know which scenarios are achievable and which resources and capabilities are necessary (Lin & Levesque, 1998). This does not mean that all capabilities and resources need to be present at the time of goal formulation. However, the organization should know how it is going to attain them. The reasoning behind the characteristic differs between the three strands. GGS found that setting the bar too high or too low does not lead to the necessary action needed (Norström et al., 2014; Philibert & Pershing, 2001). Where, MIP states that a goal should be high risk but achievable to avoid a lack of buy-in (Mazzucato 2018b). Furthermore, NT finds that focusing too much on the achievability of a goal will lead to goals with a lower level of ambition (Levy et al., 2001). Therefore, it is important to closely monitor the balance between achievability and ambition when formulating goals.

Enacting stakeholders

Stakeholders are independent parties that are interested in or concerned with the success of a venture. The support and activities of stakeholders are required for a successful enterprise and an organization will fail to exist without their support (Freeman & Reed, 1983). Furthermore, formulated goals that are not engaging every type of stakeholder will not lead to the necessary changes needed to achieve the goal (Binder & Tews, 2004). NT also argues that engaging stakeholders will ensure the legitimacy of the formulated goal (Levy et al., 2001). GGS goes beyond this and states that incorporating stakeholders will lead to the necessary changes in the belief systems of society (Norström et al., 2014). Wanzenböck et al. (2019) highlights the importance of providing room for diverging opinions and ideas on solutions, as wicked problems need a wide spectrum of problem framings and solutions to be resolved. However, a high level of stakeholder differentiation can complicate the process of converging the stakeholder views, and thus, complicate formulation processes.

Societal desirability

Mazzucato (2018b) found that desirable goals are connected to societal problems that affect multiple layers of society and not a single type of actor. A connection with societal challenges leads to the necessary action needed to reach a goal. TNO (n.d.) mentions that societal problems can be evaluated on three aspects: relevance, urgency and potential impact. Furthermore, Binder & Tews (2004) highlight the importance of forecasting skills to achieve desirability, as potential scenarios can be attained and evaluated. GGS agrees with this and highlights the specific benefits of forecasting exercises to detect potential cause and effects of societal solutions in ecosystems (Norström et al., 2014). This research includes societal desirability by examining a goal's connection to societal problems and the measures the formulation group have undertaken to ensure a desirable outcome.

Directionality

The emergence of a new innovation policy era has shifted the focus to policies providing direction for innovation activities (Hekkert et al., 2020). Within mission-oriented innovation theory and national target-setting, directionality refers to the direction of change (Andresen et al., 2002; Laplane & Mazzucato, 2018). Mazzucato (2018b) highlights the importance of directionality, as it ensures the undertaking of activities and investments in new markets, which would have otherwise been ignored. MIP can advance problem-solution constellations providing guidance for policies supporting technologies which are potentially able to resolve societal problems (Wanzenböck et al., 2019). GGS and NT agree that directionality leads to the necessary actions, knowledge development and decision-making (Andresen et al., 2002; Levy et al., 2001). However, there is a trade-off within the concept of directionality. If the directionality of a goal is too specified, it can lead to premature lock-in of a trajectory. Norström et al. (2014) highlight the importance of leaving room for adaptation, failure and experimentation. The directionality of a mission should make the outcome clear, not the trajectory (Mazzucato, 2018b; Wanzenböck et al., 2019). To ensure multiple trajectories, the formulated goal should lead to the possibility of multiple bottom-up solutions. Furthermore, a mission needs to be time-bound, targeted and measurable to ensure clear directionality (Mazzucato, 2018b; Wesseling et al. 2020). Measurability means a quantified or binary

target (Mazzucato, 2018b). Furthermore, a specific timeframe should be given in which actions need to occur, providing enough time for processes to develop, yet still be short enough to ensure action (Mazzucato, 2018b). In conclusion, directionality is a mission characteristic which needs to be time-bound, measurable and targeted.

2.2 Potential influences within goal formulation processes

In this section, this research combines evolutionary governance theory and the transition arena by Loorbach (2010). The transition arena specifies types of governance activities, their role in transitions and what is minimally required for the success of the governance activities (e.g. types of actors, competences etc.). Loorbach (2010) can be used to analyze governance processes aiming for long-term change within society (e.g. vision development, long-term goal formulation and collective goal setting), which is inherently part of Dutch goal formulation processes. This research applies the recommendations defined by Loorbach (2010) to the formulation processes of the three goal-setting policies.

However, Loorbach (2010) lacks a clear framework and theoretical concepts. Contrarily, EGT theory is descriptive and theoretically strong. These literature strands are thus combined to enhance the prescriptive base while simultaneously remaining theoretically grounded. This is done by keeping the structure and theoretical base of EGT and adding the prescriptiveness of the transition arena. EGT matches the transition arena by also highlighting certain aspects which may influence governance effectiveness (Beunen et al., 2015). Beunen et al. (2015) defined six potential sources[1] which may disturb the outcome of governance processes, and thus in this research, the four goal characteristics. Loorbach (2010) highlights additional sources leading to the addition of two influences: risk-taking and trust.

EGT is not specifically about goal formulation processes, and thus, not all sources are relevant. Accordingly, institutional change is removed. Institutional change is the transformation of rules and expectations (institutions) that govern human interaction for the socioeconomic development of nations (Coccia, 2018). Institutional change leads to behavioral changes of actors, and thus, is an important governance instrument to reach goals. However, an instrument for pursuing goals is not relevant for the formulation phase, making it irrelevant for this research. An overview of the combined framework can be seen in Figure 1.

[1] Actors, institutional change, power, path dependence & creation, objects and models

Configuration	Dimension	Description
Network	Heterogeneity	An even distribution between government actors, NGO's, knowledge institutes, intermediaries and businesses in the formulation group ensures the presence of multiple visions (Loorbach, 2010; Van Assche et al., 2013). However, stakeholder differentiation can hinder formulation processes (Wanzenböck et al., 2019).
	Size of formulation group	The size of the formulation group partly determines if there is a parsimonious perception of the problem (Loorbach, 2010; Van Assche et al., 2013).
	Risk-taking	Competence of risk-taking to ensure actor's ability to work with wicked problems (Loorbach, 2010).
	Power	Actor needs to have a certain level of authority in various networks to ensure the success of their governance activities (Loorbach, 2010; Beunen et al., 2015).
Dependency	Governance path dependency & creation	The rigidness within governance evolution caused by existing governance processes and goals. Path creation is the flexibility to break these dependencies to achieve desired goals (Van Assche et al., 2013).
	Trust	Competence of the formulation group to ensure a willingness to work together which is shaped by past interactions (Loorbach, 2010).
Governance	Personal objectives	End goal the actor is aiming for during the formulation processes (Beunen et al., 2015).
	Governance structure	Three types of governance structures: lead organization, network administrative and shared. They differ in terms of the decision-making process and the presence or absence of a separate administrative unit (Van Assche et al., 2013).

Figure 1. Visualization of framework established by combining EGT and the transition arena of Loorbach (2010). First column represents the three configurations defined by EGT. The second column consists of the different dimensions per configuration. The final column provides a description of the dimensions and their theoretical source.

2.2.1 Network configuration

The network configuration consists of four dimensions: heterogeneity, size of formulation group[2], risk-taking and power. In this research, the network refers to the group of decision-making actors that formulated the goals. Loorbach (2010) provides prescriptive characteristics for the amount of actors and the heterogeneity of the formulation group, however, he also highlights the importance of actor competencies. Therefore, this research also looks at the competence of risk-taking.

Heterogeneity

Heterogeneity is an even distribution between the different types of government actors, NGO's, knowledge institutes, intermediaries and businesses in the formulation group (Loorbach, 2010). Wanzenböck et al. (2019) highlights the importance of providing room for diverging opinions and ideas on solutions, as wicked problems need a wide spectrum of problem framings and solutions to be resolved. However, a high level of stakeholder differentiation can trouble the process of converging and hinder formulation processes (Freeman, Harrison, Wicks, Parmar, & De Colle, 2010; Li & Toppinen, 2011). Loorbach (2010) also highlights the importance of bringing different types of actors together for various insights and potential solutions. Mazzucato (2018b) agrees that the

[2] Called size of network by Van Assche et al. (2013), changed for understandability

right framing of missions incentivizes action across multiple sectors and disciplines. Excluding certain sectors, actors or disciplines prevents activity across civil society as a whole and may not be wanted by most. Thus, it will not have the necessary enactment among stakeholders or be desirable.

Size of formulation group

Loorbach (2010) states that there should be approximately 10-15 actors in the formulation group. Problems are too complex to be solved by only a few actors and multiple types of actors need to be present to provide a parsimonious perception of the problem. However, too many actors may complicate the formulation processes as it can be difficult to integrate and converge stakeholders' interests which is necessary within collaboration processes, and thus, goal formulation processes. Integration is made more complex by having a high level of heterogeneity or by having various interests with a (low) level of differentiation (Li & Toppinen, 2011). However, no theory was found on how the size of the group could affect the goal characteristics presented in this thesis.

Risk-taking

Loorbach (2010) stresses the importance of certain actor competencies within the formulation group to ensure their ability to work with wicked problems. This research investigates the trait of risk-taking for goal formulation. Risks are inherent within missions and a certain amount of risk-taking is necessary to formulate and select missions (Mazzucato, 2018b). If risk-taking abilities are absent, missions will not be ambitious enough to tackle grand societal challenges. However, if the formulation group only consists of risk-takers the achievability of a goal is compromised. The presence or absence of risk-taking may influence the balance between ambition and achievability.

Power

Loorbach (2010) states that the actors in the formulation group need to have a certain level of authority within various networks for the success of governance activities. Power is related to dependence, where dependence is the restriction of action of an actor, because of knowledge, resource and specialization needs (Beunen et al., 2015). The more dependent an actor is, the less power he or she will have in a formulation group. Beunen et al. (2015) highlight the relation between power and group action. A goal formulated by a powerful actor leads to more group action and thus more time investment. However, a powerful actor pushing their views on the other stakeholders may negatively impact their motivation (Frey, 1992). Consequently, power is linked to the characteristic of enacting stakeholders.

2.2.2 Dependency configuration

For the second configuration, Beunen et al. (2015) look at two dimensions of governance, its path dependence and path creation. Where governance paths are defined as the evolution of governance in a community (Beunen et al., 2015). Loorbach (2010) highlights the importance of a willingness to work together in a formulation group, this willingness to work together is built upon trust. There are two potential sources of trust: social proximity (Boschma, 2005) and past interactions (Ostrom, 2010). Loorbach (2010) highlights the importance of having actors in the formulation group with various backgrounds, visions and disciplines to ensure multiple perspectives. Socially proximate actors in the formulation group could lead to a premature lock-in, as the group would lack various perspectives (Ooms, Werker & Caniëls, 2018). Therefore, this research takes the perspective of trust built by past interactions, and thus, trust is part of the dependency configuration.

Governance path dependence & creation

Governance path dependence is the rigidness within governance evolution caused by existing governance processes or former goals (Van Assche et al., 2013). For example, it is path dependency when a former goal is pursued with a certain solution and for the next goal the same solution is considered, as the knowledge and expertise is already present. Ergo, former processes and plans influence the trajectories of governance paths. However, this rigidness can be broken by actors. Governance path creation is the flexibility to break governance path dependencies and shape new trajectories in order to achieve desired goals (Garud & Karnøe, 2001; Van Assche et al., 2013). Hellström, Ruuska, Wikström & Jåfs (2013) argue that path creation will increase the available governance mechanisms of projects and reduce the chance for early lock-in leading to less than optimal governance trajectories. Shaping governance trajectories is linked to directionality and the tension between

ambition and achievability. This is because both characteristics are traits of governance trajectories and determine their evolution. Therefore, governance path dependence and creation is linked to the characteristics of directionality and striking a balance between ambition and achievability.

Trust

Rousseau et al. (1988) state that trust is a psychological state where vulnerability is accepted based on positive expectations of intentions and behavior. This research focuses on interorganizational trust or the trust an actor feels for the partner's organization. Ostrom (2010) finds that past interactions can build trust among actors, where trust is important for sharing costs and common pool dilemmas. As a result, trust leads to better cooperation as personal interests play a smaller role. Secondly, Ostrom (2010) states that trust will lead to more equal cost sharing. Cooperation and cost sharing both influence the enactment of stakeholders, as cooperation increases the willingness to work together and the financial contribution becomes more achievable. Trust leads to a smaller role of personal interests in formulation processes, which may lead to a formulation more favorable to society. Thus, trust is also linked to societal desirability. Concluding, trust may influence the characteristics of enacting stakeholders and societal desirability.

2.2.3 Governance configuration

The governance configuration consists of two dimensions: personal objectives[3] and governance structure[4]. No other dimension will be added.

Personal objectives

Personal objectives refer to the end goal that actors aim for with governance evolution (Van Assche et al., 2013). Beunen et al. (2015) finds that personal objectives can steer governance trajectories. The characteristic of directionality is a trait of the governance trajectory. Thus, personal objectives are linked to the characteristic of directionality as the trajectories determine the direction of change. Furthermore, objectives of actors also influence societal desirability as they could steer the governance path towards their own desirable outcome (Golembiewski, 2000). However, the absence of personal objectives related to the formulation processes could indicate that stakeholders perceive the processes as irrelevant and non-urgent, which could imply a negative impact on societal desirability (TNO, n.d.). Therefore, personal objectives influence directionality and desirability.

Governance structure

Three different types of governance structures were named by Van Assche et al. (2013): lead organization, network administrative and shared. Lead organization governance is a structure where all activities and key decisions are governed by a single formulation group member. This does not imply that all costs reside with the lead organization, however, they control the income streams of the formulation group (Provan & Kenis, 2008). The role of lead organization could be mandated or emerge, as it is found to be the most efficient. In a network administrative governance structure there is a separate administrative entity responsible for governing the formulation group and its activities. Lastly, the shared governance structure has no separate entity and all formulation group members interact on a relatively equal basis. The shared governance structure has been found to be the only structure where members are truly committed to the goals of the formulation group (Provan & Kenis, 2008). This commitment could affect goal formulation activities. Moreover, how a shared governance structure impacts goal formulation characteristics is determined by the definition and communication of the formulation group's end goal. If the end goal is clearly specified to societal challenges, this could impact the goal characteristic of societal desirability. In addition, when the goal is very ambitious this may impact the balance of ambition and achievability.

A shared governance may ensure commitment. However, a certain level of authority can ensure the success of governance activities, so a lead organization structure could also positively impact the balance between ambition and achievability (Loorbach, 2010; Beunen et al., 2015).

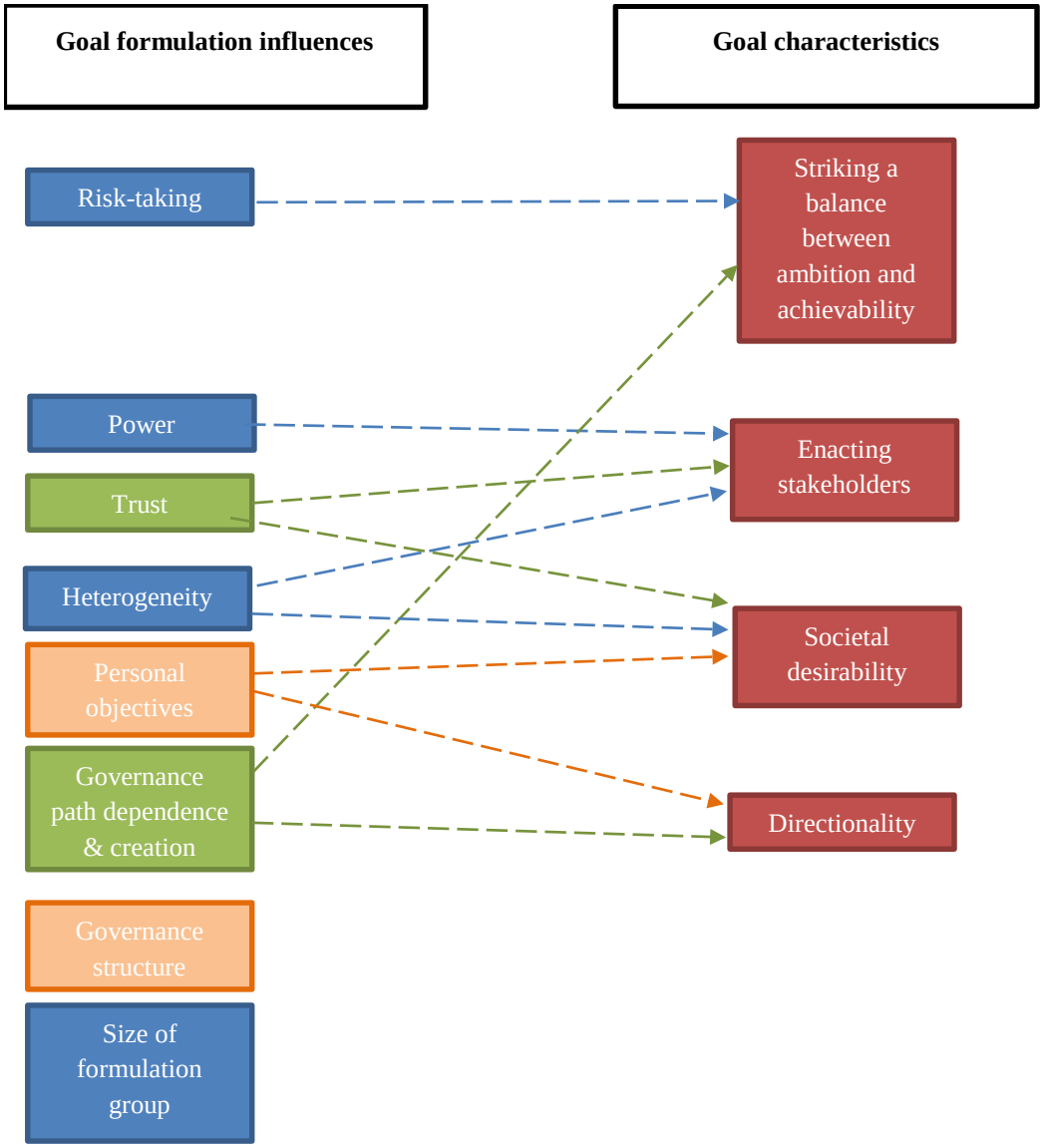
[3] Called objects by Van Assche et al. (2013), changed for understandability

[4] Called models by Van Assche et al. (20130, changed for understandibility

2.3 Conceptual framework

Section 2.1 combined three 'governance through goals' perspectives to establish four goal characteristics, shown on the right side of Figure 2. Section 2.2 established influences caused by the design of the formulation processes, which may have a positive or negative impact on the four goal characteristics. These influences are shown on the right side of Figure 2.

Figure 2. Visualization of the potential influences on the four goal characteristics. Blue goal formulation concepts (at the left side of the graph) are part of the network configuration. Green goal formulation concepts are part of the dependency configuration. The governance configuration is shown in orange.



3. Methodology

This comparative case study aims to explore the influences on goal characteristics by analyzing certain aspects of formulation processes, as current scientific knowledge concerning influences during goal formulation processes is limited. Researching patterns and influences within events are commonly done through qualitative approaches (Harvey, 1990). Accordingly, a qualitative abductive research approach is taken. Within an abductive research approach, there is room for changing and developing a theoretical framework by switching between inductive and deductive techniques (Thagard & Shelley, 1997). This suits the theoretical framework of this research as it gives room to test relations between influences and characteristics, while simultaneously exploring potential others. Furthermore, comparative case studies are able to formulate and assess generalizations across cases, complimenting the aim to establish influences on goal characteristics by aspects of goal formulation processes (Knight, 2001). Section 3.1 introduces the three cases. Secondly, section 3.2 explains the goal selection. Thirdly, section 3.3 discusses the operationalization of the variables. Furthermore, section 3.4 explains the research design. Section 3.5 discusses validity and reliability. Lastly, section 3.6 and 3.7 describe data collection and analysis.

3.1 Case selection

All three cases focus on the Dutch government from 2011 to present day. The Netherlands is an interesting case, as they have a history in long-term planning and collaborative policymaking, which are both aspects of goal-setting policies (Loorbach, 2010).

Topsectors policy

The topsectors policy is the former innovative governance structure of the Dutch government which was established in 2011. The policy focused on public-private collaborations to ensure innovation and economic growth. For the topsectors policy, three overarching goals were established and each topsector was responsible for formulating goals needed to reach them (Tweede Kamer der Staten-Generaal, 2011). The topsectors policy is an interesting case, in comparison to the other two cases, as it is the only case where economic potential played the biggest role in selecting and structuring the policy. Furthermore, it was a very innovative governance approach at the time.

Climate agreement

Since 2018, more than 100 parties have worked on the climate agreement. Five sectors[5], who needed to work on emission reduction, were identified (Rijksoverheid, 2019a). Every sector has its own goal, which is necessary to reach the main goal of the climate agreement. The CA is an interesting case in two ways: (1) it provided direction for MIP, which, since the goals were previously formulated, is interesting for the configuration of path dependence and (2) the CA provides the overarching sustainability goals of the Dutch government for the next 30 years.

Mission-driven topsectors and innovation policy

MIP is the Dutch version of mission-oriented innovation policy, where the structure of the topsectors policy was kept. The government found that there should be more room for societal challenges, as topsectors policy was mainly focused on economic opportunities. The Dutch government formulated 23 missions divided over four themes[6] (Rijksoverheid, 2019c). Furthermore, this case is interesting as: (1) MIP is becoming more popular in the EU (Mazzucato, 2018b) even though the empirical foundation of the theory is still insufficient and (2) multiple sectors and ministries needed to work together (Rijksoverheid, 2019c). The Dutch government recently switched to mission-oriented innovation policy, implying a lack of knowledge present concerning the effectiveness of the policy and the formulated missions. However, this research still analyzes the case to improve the empirical insights of MIP.

Due to time constraints, this research does not cover all of the goals and missions for the three cases. This thesis focuses on the goals formulated for and by the ministry of Infrastructure and Watermanagement. It is an interesting polar case, since the goal formulation processes show major differences in comparison to other goal formulation processes. Within the CA, the sector mobility was the only sector with multiple goals and non-quantified goals (linked to the characteristic of directionality). Secondly, the ministry was the only one to formulate more missions,

[5] Build Environment, Mobility, Industry, Agriculture and Land Use, and Electricity

[6] Energytransition & Sustainability, Agriculture, Water and Food, Health & Care and Safety

as the goals of the climate agreement did not cover all types of mobility and sustainability. In Appendix A, an overview of the formulated goals for the three cases is given in Dutch and English.

3.2 Operationalization

For some of the concepts, further explanations and additions to the theories utilized in this research are necessary for proper operationalization. This is further explained below. An overview of the concepts and their operationalization can be found in Appendix B1 for the goal characteristics, and B2 for the influences.

Directionality

Loorbach (2010) finds that long-term thinking is necessary to shape policy for persistent societal problems. Long-term thinking focuses on long-term goals of at least 25 years. Missions are also formulated to tackle persistent societal problems and therefore, the same timeframe for missions is expected.

Risk-taking

This research uses the article by Nicholson, Soane, Fenton-O'Creevy, & Willman. (2005), which found three different characteristics of risk-taking actors: people who perceive risks to be exciting, people who raise thresholds and they happily spend their time with bearing risks.

Governance structure

This thesis analyses two aspects to determine governance structure: the presence of a separate administrative entity and the decision-making process. The presence of a separate administrative entity automatically makes a governance structure a network administrative governance structure. However, if a separate entity is absent, the governance structure is determined by the decision-making process. In the case of one group member being responsible for decision-making and governing the formulation group, it will be a lead organization governance structure. When there is equality in the decision making process, it is a shared governance structure (Provan & Kenis, 2008).

3.3 Research design

Two data sources are used in this research: interviews and secondary data. Multiple sources are used for two reasons: to ensure data triangulation and secondly, to optimize the data collection procedure taking into account the number of concepts and the limited amount of time.

The data collection of this research consisted of three phases. The first phase included a document analysis using the theory-driven codebook. The document analysis provided relevant guidance and input for the interviews. Document analysis is a method where digital and printed documents are systematically reviewed and evaluated. Document analysis is a time-saving method and often used for data triangulation in qualitative research (Bowen, 2009).

After the researcher gained preliminary knowledge about the processes the second phase began. The second phase consisted of semi-structured interviews. Semi-structured means that the interview guide is closely followed, but with enough flexibility to obtain more detailed information and clarification. Interviews allow one to gain a deeper understanding of the phenomena under study (RWJF, 2008). Appendix C shows the standard interview questions in Dutch. For the CA and topsectors policy, it is clear who was part of the goal formulation group. There are seven individuals within the CA and nineteen individuals within the topsectors policy group. For the case of MIP, the documents only mention part of the formulation group (one person), and thus, this thesis used a snowball sampling technique to find the remaining parties.

The interviews provided new insights on the cases, codes and relevant documents. In the last step these new insights led to an addition of articles and the documents were analyzed again with the data-driven codebook.

3.4 Validity and reliability

The essence of reliability within qualitative research focuses on the consistency of the research. Leung (2015) proposes measures to ensure reliability in a qualitative research design. This research ensures reliability by using a constant comparison of data. Data analysis was an iterative process consisting of evaluating the theoretical framework and comparing the data extracted from the two data sources. By using multiple data sources this

research was able to compare the data, and thus examine the consistency of the data. Furthermore, by using multiple data sources, this research was able to triangulate data where necessary and therefore also ensure reliability. Lastly, an intercoder reliability check was performed with two peers during the data analysis phase and which is a form of data triangulation. Moreover, it is a method utilized to minimize the influence of the researcher, and thus also ensures the reliability of this research (Leung, 2015).

This research also uses the article of Riege (2003), who researched the necessary steps to ensure validity within case studies. Riege (2003) highlights the importance of using proven questions of other research to establish content validity. This research made an attempt to incorporate as many proven questions in the semi-structured interviews. During the interviews the researcher used respondent verification to ensure the validity of this research (Leung, 2015). Furthermore, Riege (2003) advises triangulation to ensure construct validity. Triangulation was reached by using multiple data sources and peer reviews by intercoder reliability checks.

3.5 Data collection

The following section describes the details of data collection procedures of this research.

3.5.1 Document analysis

Ninety-four documents were analyzed of which 26 were public documents for the topsectors case, 31 were public documents for the climate agreement and 37 were internal documents for the mission-oriented innovation policy. All documents were analyzed in Dutch as all documents were written in Dutch. A list of all documents analyzed can be found in Appendix D.

The topsector of logistics has its own database with documents. All reports in the database written before 2018 were analyzed in this research. Documents after 2018 focus on the goals formulated in the Dutch climate agreement, and thus not relevant for the case of topsectors policy. This research added documents from the database of the Dutch government concerning general evaluations of the topsectors policy. Topsectors policy is a former policy, so documents analyzed consisted of 5 interim reports, 11 evaluations and 10 roadmaps on how to reach the formulated goals.

The climate agreement also has a publicly available database. The climate agreement consisted of five sectors. All the documents related to the mobility sector were included in this research. The documents consisted of 4 researches on carbon dioxide reductions, 18 reports of processes, 3 news articles and 6 different versions of the climate agreement. After the interviews five documents were added as they were mentioned by interviewee(s).

The documents for the mission-oriented innovation policy are 24 reports of the processes, 5 interviews with external knowledge institutes and 8 final versions of documents explaining missions and mission programs. Almost all documents were not publicly available.

3.5.2 Interviews

Twenty semi-structured interviews were held across the three cases. This research did not use a selection procedure and thus all actors participating in the three goal formulation processes were approached. However, including only responding actors created a participation bias. Specific groups or people may be drawn to participate in studies due to personal motivations and/or characteristics. This leads to potential differences between the sample and targeted population (Fowler, 2013).

For the topsectors policy 18 participated in the formulation processes, only seventeen could be contacted, of which six were interviewed. In the case of the climate agreement 22 organizations participated in the formulation processes. Six participants were interviewed, representing 7 involved organizations in total. In the case of mission-oriented innovation policy, 15 employees of the ministry of Infrastructure and Watermanagement were part of the formulation processes, of which eight have been interviewed.

In the private sector, COVID-19 impacted the work (pressure) significantly and some organizations implemented a policy to focus only on COVID-19 related implications. This made it harder to interview for the case of topsectors policy or climate agreement. To counter the potential differences in data quantity per case this research focused on a thorough document analysis.

The first interview was an in-person interview held at the office of the Dutch Ministry of Infrastructure and Watermanagement in the Hague, however after the first interview social-distancing measures were taken by the Dutch government to battle COVID-19. The other nineteen interviews were through phone or teleconferencing interviews using the software of ZOOM or Skype. Not all interviewees had access to teleconferencing methods or they preferred an interview through phone, however the researcher aimed for teleconferencing methods as it provides extra information concerning facial expressions and body language.

All interviews were held between 11th of March and 24th of April 2020. The duration of the interviews was between 45 minutes and 70 minutes. All interviews were recorded with a mobile device and stored. The researcher asked permission to record at the beginning of every interview.

3.6 Data analysis

The next section explains the steps taken to analyze the documents and interviews. This research used a theory-driven and data-driven coding to match the abductive approach. The data analysis began with a theory-driven codebook. Taking the approach of DeCuir-Gunby, Marshall & McCulloch (2011), the researcher created a theory-driven codebook. The theory-driven codebook consists of codes, definitions and examples linked to the goal characteristics and the theoretically established influences of goal formulation processes. The influence of *personal objectives* was excluded from the theory-driven codebook as there are many different goals an actor may want to achieve with the goal formulation processes, and no categorization of personal objectives for goal formulation processes was found in the literature. The theory-driven codebook consisted of 41 codes in total, twenty-one of which were linked to goal characteristics and twenty were codes for the theoretically established influences of goal formulation processes. The theory-driven codebook was established by using the operationalization table of the goal characteristics (Appendix B1) and theoretically established influences (Appendix B2). This theory-driven codebook can be found in Appendix E. The examples were formulated by the researcher, as no data was analyzed yet and thus no real life example could be given.

NVivo 12, a coding software, was used to code. The theory-driven codebook was imported in the software. Next to the theory-driven codes, 33 data-driven codes were found during the analysis. Data-driven codes consist of findings which were not captured by any theory-driven codes. These data-driven codes were combined to a data-driven codebook and can be found in Appendix F. This codebook also consisted of codes, definitions and examples, however the examples in the data-driven codebook are real life examples subtracted from the interviews or documents. The next step was to connect the data-driven codes to the goal characteristics and influences. To minimize researcher influences on the data-driven codes and ensure reliability an intercoder reliability check was performed. Two fellow MSc Innovation Sciences students participated and were given the operationalization tables of the goal characteristics and influences in addition to the data-driven codebook. They checked the connection between data-driven codes and the goal characteristics or goal influences. Their constructive feedback changed the relation of two codes: *lobby for participation* and *driver*. *Lobby for participation* was removed from 'societal desirability' and connected to the characteristic 'enacting stakeholders'. *Driver* was removed from 'striking a balance between ambition and achievability' and connected to 'enacting stakeholders'.

After the intercoder reliability checks the theory-driven codebook and data-driven codebook were combined. In the combined codebook the theory-driven examples were replaced with real life examples subtracted from the documents or interviews. Furthermore, two theory-driven codes[7] were removed as they were not found in the data. The final step of data analysis was the creation of categories and themes. By revisiting the data, the codes from the hybrid codebook were categorized based on how the interviewees and documents discuss the codes. Lastly, the researcher defined overarching themes by connecting the categories. The themes lead to overarching explanations linking multiple categories and codes. Furthermore, this allowed the researcher to make sense of the various patterns emerging from the data (Green et al., 2007). The codebook containing the categories and themes is shown in Appendix G.

Almost all interviewees mentioned influences during goal formulation processes which were not part of the theoretically established influences. The twofold division of characteristics (outcome formulation processes) and

[7] Short goal duration & absence of path dependence

theoretically established influences appeared to be inadequate after data analysis. After defining categories, the researcher established a threefold division replacing the twofold division of characteristics and influences. This was done by dividing influences into two types of influences: internal and external. Where some theoretically established influences are categorized as internal influences (e.g. actors competences such as heterogeneity and risk-taking). Internal influences are influences caused by elements of the formulation process or group. External influences are influences caused by elements outside the formulation process, such as path dependence and creation. The internal and external influences were established to cover the theoretically established influences and the empirically established influences.

4. Results

The results section is structured in two subsections. Section 4.1 will provide a description concerning the four goal characteristics and their position in each of the three cases. The second section covers the influence on the four goal characteristics by the internal and external influences which includes the theoretically established influences described in Section 2.2.

4.1 Description cases

The following section explains the outcome of the formulation processes in terms of the four goal characteristics per case. They are discussed in the following order: striking a balance between ambition and achievability, enactment of stakeholders, societal desirability and directionality.

Topsectors policy

Topsectors policy mainly consisted of private actors using a business approach in terms of setting the goals. This led to goals with a high level of ambition, e.g. highest possible ranking World Logistics Index and a 233% increase in financial contributions in 2020 (Cornelissen et al., 2011). All goals can be found in Appendix A1. Multiple interviewees mentioned that the goals had an unreachable level of ambition, but some interviewees did not perceive this negatively (Interviewee 11 & 18). The interviewees who did not perceive it negatively found it to provide a clear direction and enactment of stakeholders. Given that they are private sector actors who are used to taking risks, however, this could mean that they wouldn't recognize the potential negative effects. Other interviewees acknowledged that the high level of ambition led to some goals being unreached during topsectors policy (Interviewee 4 & 17). Thus, the interviewees and evaluations show mixed results with achieved and unachieved goals. Two examples of achieved goals are: an increase in the amount of qualified professionals (goal E) and an increase of innovation output of large logistic companies (Dialogic, 2017a; Topsector Logistiek, 2014; Topsector Logistiek 2015).

Theoretically, a high level of ambition will not only lead to unachievable goals, but it is also a hindering factor in enacting stakeholders. When looking at the enactment of stakeholders they partially succeeded. They failed to enact SMEs, who were also excluded from the formulation processes. Some interviewees mentioned enactment as being the hardest challenge within the logistics sector, as the fragmentation makes it impossible to enact everyone simultaneously (Interviewee 4, 11 & 17). But, this can also be caused by the formulation of goals which are too ambitious and more unachievable for SMEs than incumbents. An evaluation of topsectors policy showed that the formulation group was successful in creating a vision and direction which is being followed by the ministries (Infrastructure and Watermanagement and Economic Affairs), knowledge institutes and innovative front runners (Dialogic, 2017a). Interviewees mentioned that involving these three types of stakeholders made it easier for people to recognize their part in the goals which lead to an increase in commitment (Interviewee 5 & 8). This commitment is also shown in the increase of investment size from 14 million in 2012 to 141 million euro in 2013 (Ministerie van Economische Zaken, 2014b).

The goals of topsectors policy were partially connected to societal problems. The topsectors policy was primarily economically focused. The Key Performance Indicators (KPIs) were focused on the macroeconomic effects of topsectors policy (e.g. added value), but some KPIs were connected to societal problems (e.g. employment). Most policy measures within the topsectors policy had positive side effects on societal problems. For example, using trucks more efficiently led to carbon dioxide reductions. Furthermore, topsectors policy shifted over time and KPIs were added focusing on sustainability and decreasing the amount of kilometers driven in the logistics sector (Dialogic, 2017b; Topsector Logistiek, 2014).

In terms of directionality, goals were analyzed on three aspects: measurability, the presence of an end-time and problem centered or solution centeredness. For topsectors policy all goals were quantified or binary, making them measurable and easy to evaluate. All goals were problem focused and specified 2020 as the end year, which is within 25 years from formulating the goal and thus, not long term framing as defined by Loorbach (2010). By being measurable, time bound and problem centered the goals provide a clear direction, however, they have a short-term framing.

Climate agreement

The climate agreement consists of ambitious goals, as all goals go beyond the previous formulated goals of the energy agreement. The energy agreement planned on a 17% reduction in 2030, compared to 49% in the climate agreement (SER, n.d). All goals can be found in Appendix A2. All the goals of the climate agreement are perceived as ambitious by the interviewees (Interviewee 7, 15, 16, 19 & 20). This corresponds with the strategy of the Dutch government, who want to use the climate agreement as an opportunity for the Netherlands to establish a prominent position in terms of innovation, products and services which will guide this transition (Ministerie van Economische Zaken, 2018a). However, the proposed formulated goals by the formulation group had a higher level of ambition, than the final politically accepted goals. The changes made by the government on the proposed goals and measures will from now on be called the political intervention. For example, a change was made during the political intervention leading to a 50% decrease of the ambition for renewable energy within mobility. The formulation group proposed 60% renewable energy use in 2030, where the final version of the climate agreement aspires to reach only 30%. The Dutch environmental assessment agency (PBL) has calculated the goals and with the lower ambition the goals are estimated to lead to a 49% decrease in carbon dioxide emissions by 2030 (Ministerie van Economische Zaken, 2019). The research of PBL focused on the achievability of the goals formulated for the climate agreement. They concluded that the goals of the climate agreement are achievable with the measures proposed by the formulation group. They also looked at the costs of the transition and concluded that reaching the goals requires lower financial assets than expected. This will increase the achievability of goals as less investments are necessary (Ministerie van Economische Zaken, 2019).

The government acknowledged the importance to enact all stakeholders, as failure to do so will make the goals for 2030 otherwise unreachable (Ministerie van Economische Zaken, 2018b). Most interviewees feel committed to the goals and are motivated to reach them (Interviewee 2, 7, 15 & 19). However, the political intervention had a negative impact on the enactment of some of the formulation group members. They indicated that they will still do their part, however, they feel less of a connection to the agreement and thus will not give their 100% (Interviewee 16 & 20). Interviewees expressed concern that not all projects are currently being worked on (Interviewee 19 & 20). The government has set up some teams who are actively checking stakeholders, but with other projects there has been no progress since signing the climate agreement and no one actively checking and motivating stakeholders. This is potentially caused by uncertainties within the government about who has the responsibility to do so (Interviewee 19 & 20).

The climate agreement goals are connected to societal problems. The assignment given to the formulation members highlighted the importance to make societal interests a number one priority (Ministerie van Economische Zaken 2018b). However, the measures written down in the climate agreement are evaluated on consistency, achievability and political desirability. So, the final decision about choosing measures will not be evaluated on societal desirability.

Within the climate agreement all goals are quantified or binary leading to measurable goals. Furthermore, all goals are problem centered and refer to the year 2030 or 2050. The mid-term goals of 2030 are within the 25 year framing of Loorbach (2010), but the main goal is set in 2050 and has a long-term framing of over 25 years. So, the 2050 goals provide a clear direction and a long-term framing, where the 2030 (mid-term) goals provides a more manageable direction, which is therefore easier to work on.

Mission-oriented innovation policy

All goals for the case of mission-oriented innovation policy can be found in Appendix A3. All interviewees are part of the Ministry of Infrastructure and Watermanagement and mentioned the relevance of the goals formulated for mission-oriented innovation policy, when looking at the Ministry of Infrastructure and Watermanagement's ambitions. Interviewees determined that these were the right goals for the Ministry and that they were in line with the agreements of the climate agreement (Interviewee 9, 12). All interviewees perceived the goals as ambitious and no concerns regarding the achievability of goals were mentioned by the interviewees. However, several interviewees mentioned that the goals are a bit vague, which could make it harder to evaluate goals and their effectiveness in a couple of years. The formulation of the goals is not quantitative or binary goals, which makes it harder to evaluate. Moreover, only a minor change will already lead to achievable goals (e.g. reducing the risks

of failures of the cybersecurity within ICT networks and data management). Thus, it's uncertain if the goals are ambitious.

It is still uncertain if the goals will lead to the enactment of stakeholders. Positive and negative remarks were made by the interviewees. Interviewee 10 mentioned that the connection between the climate agreement and topsectors will hopefully have a positive effect on the enactment of stakeholders. Interviewee 9 mentioned that the subjects (e.g. innovation & safety issues ICT) mentioned in the SKIA are rising in importance within and outside the Ministry of Infrastructure and Watermanagement, which makes it easier to enact stakeholders. However, even though multiple interviewees expressed positive arguments, doubts were raised concerning the enactment of governmental actors (Interviewee 1, 6, 10 & 12). The priorities of governmental actors are more based in the present leading to an underinvestment in future focused projects.

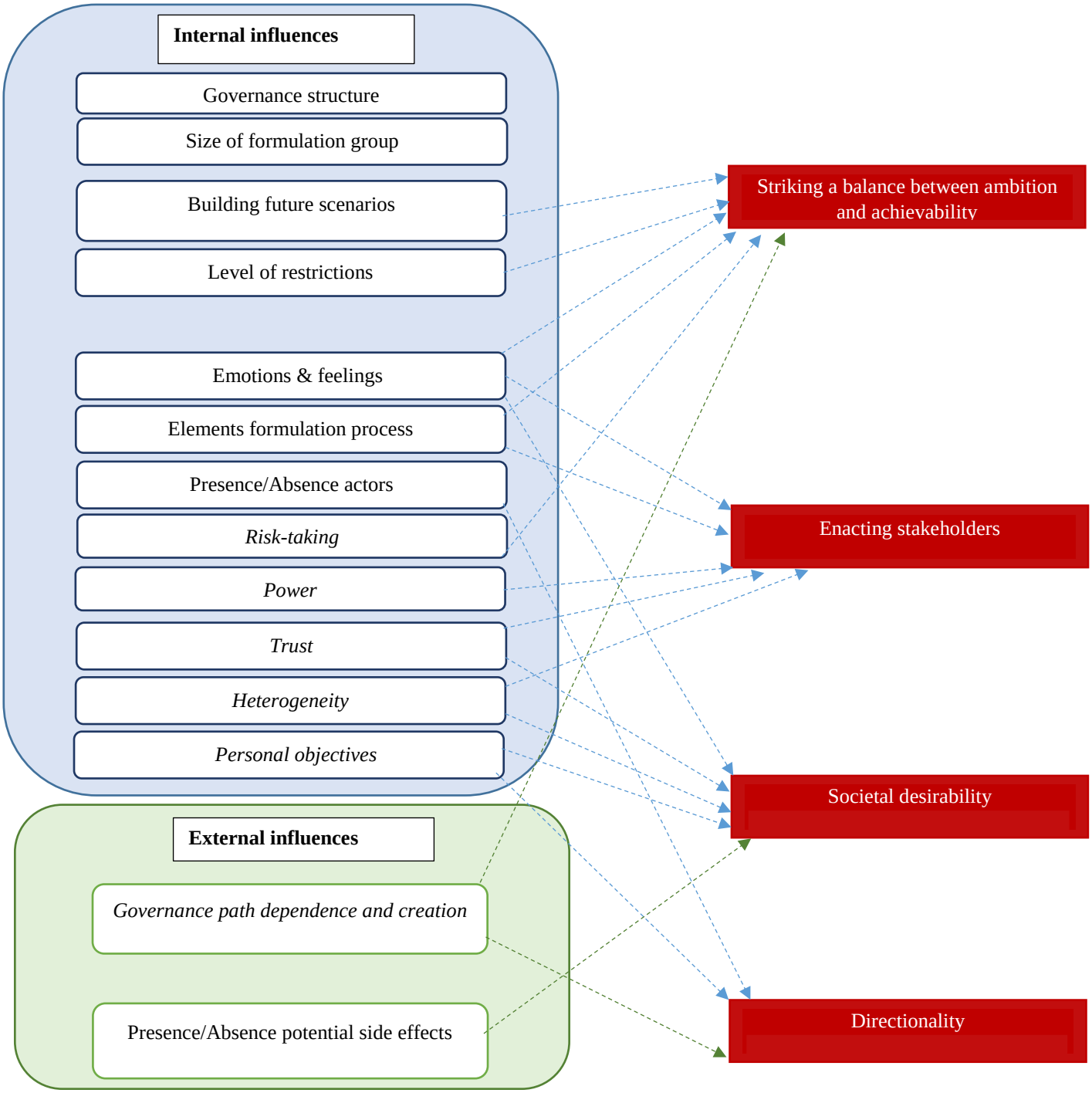
All goals for mission-oriented innovation policy are connected to societal problems. Half of them are focused on climate change and the other half is focused on improving safety, e.g. decreasing the amount of road casualties. It was often highlighted that resolving societal challenges is the main goal of mission-oriented innovation policy and thus, goals are formulated with societal problems in mind (Interviewee 1, 6 & 13).

Within mission-oriented innovation policy there are differences between formulated goals. Two out of five are time bound with a long term framing (main goal and goal 1). Two goals are binary or quantitative, and thus measurable (goal 1 and 2). Four goals are problem centered and goal 3 is solution-centered by mentioning the use of smart mobility to reduce road casualties. Multiple interviewees also mentioned the vagueness of formulated goals (Interviewee 6, 9 & 12). So, the direction provided by the formulated goals for mission-oriented innovation policy is unclear.

4.2 Overview influences

Figure 3 provides an updated version derived from the empirical analysis of the conceptual model and thus, includes the internal and external influences per characteristic which are both theoretically and empirically established. The following section will discuss these internal and external influences per goal characteristic.

Figure 3. The right side of the figure shows the four goal characteristics. The blue influences represent the empirically and theoretically found internal influences. The green influences represent the external influences. The theoretically established influences are highlighted in italics, whereas the influences discovered in the empirics are displayed in normal font



4.3 Striking a balance between ambition and achievability

Figure 3 shows five internal influences and one external influence impacting the characteristic of striking a balance between ambition and achievability. Two of these are theoretically established influences. Risk-taking will be discussed in the subsection of internal influences and path dependence & creation will be discussed within the subsection of external influences.

A general explanation concerning the characteristic of striking a balance between ambition and achievability is that different types of actors handle ambition and achievability differently. The three cases show that formulation groups with private actors tend to formulate goals with a high level of ambition sometimes leading to unachievable goals. Governmental actors tend to focus more on achievability by decreasing the level of ambition. Moreover, they formulate goals in such a way that the level of ambition is unclear or they invest time and resources in researching goal achievability.

4.3.1 Internal influences

Within this research five internal influences were found to impact the balance between achievability and ambition: building future scenarios, elements of the formulation process (e.g. barriers in the formulation process), level of restrictions, emotions and feelings, and one theoretically established influence: risk-taking.

Building future scenarios

Activities analyzing the future pay attention to building future scenarios and establishing plans to acquire missing resources and capabilities. The presence of building future scenarios seems to improve the achievability of goals. This is because it is an opportunity for the formulation group to think about their role in achieving the goals. Notably, in the case of the climate agreement, the first measures the actors could take are clearly defined (Rijksoverheid, 2019a). There is also evidence that scenario building will improve the level of ambition, as it helps with visualizing the desired end goal, leading to higher level of ambitions to reach this desired state (Klimaatakkoord, 2018b; Interviewee 7 & 20). In the case of topsectors policy there was no negative influence due to the absence of analyzing the future, however, there was already a very clear idea regarding which scenarios the formulation group wanted to achieve and thus, visualization was already established. In conclusion, visualization by formulation actors due to scenario building or future planning may improve the characteristic of striking a balance between ambition and achievability.

Elements formulation process impacting achievability

The presence/absence of integration (e.g. integration between projects, problems, actors etc.), an element of the formulation process, may seem to influence the characteristic of striking a balance between ambition and achievability. Current societal problems cross sectoral boundaries, but responsibility is distributed across ministries, groups et cetera, which appears to have a negative influence on achievability. As people are working independently leading to overlap of activities without them being aware (Interviewee 2, 16 & 20). Furthermore, different sectors are dependent on each other to reach the goals. Integration and communication after formulation processes was indicated as enabling the achievability of goals (Ministerie van Economische Zaken, 2018a; Interviewee 11 & 15). In the case of mission-oriented innovation policy formulation actors tried to break sectoral boundaries and place the problems concerning mobility in a broader context. However, they experienced how hard it is to let governmental actors work outside of their own expertise (Interviewee 1, 17 & 20). So, it seems like the presence of integration activities has a positive impact on striking a balance between ambition and achievability, but due to current inflexibilities in the governance structure it is hard to reach effective integration.

Level of restrictions

The level of restrictions influence focuses on the restrictiveness experienced by formulation members when formulating goals due to rules they must follow (e.g. which topics can be discussed). The level of restrictions can influence the freedom formulation members have to discuss potential trajectories, measures and desired end goals (Interviewee 16 & 20). This freedom influences the characteristic of striking a balance between ambition and achievability, as certain potentially successful trajectories and/or measures are not to be discussed. During the formulation processes of the climate agreement the formulation actors were instructed that the agreements defined in the energy agreement and coalition agreement should be the starting point. Other measures could be discussed, however they needed to be evaluated on the aspects of political and societal support (Ministerie van Economische

Zaken, 2018a). The formulation group was not permitted to discuss certain measures and directions. For example, a focus on reducing mobility instead of green mobility, carbon pricing and systematic changes (Interviewee 16, 19 & 20). This is the opposite for the case of mission-oriented innovation policy, where formulation group members were reminded of the societal challenges lying ahead and advised to focus on the future instead of only the present (Ministry of Infrastructure, personal communication, 2018). Moreover, a focus on the future could have provided more room for ambitious goals. However, different types of actors seem to handle ambition differently and thus, the governmental actors could also have handled the freedom of low restrictions differently. It is unsure if the formulation group members of mission-oriented innovation policy made use of this freedom and thus, no definite conclusions can be made about the effect of the level of restrictions on striking a balance between ambition and achievability.

Emotions and feelings

The presence of one emotion was found during the case of the climate agreement which impacted the characteristic striking a balance between ambition and achievability. Interviewees mentioned multiple reasons why political actors were reluctant to have formulated goals with a high level of ambition. The political intervention which caused the decrease in the level of ambition was implemented because the government was afraid of the potential negative impact the climate agreement could have. Moreover, the government was afraid civilians would not accept it which could affect the eligibility of political parties and lead to the loss of societal support. Furthermore, they were scared to go against current interests of incumbents, thus, leading to the exclusion of carbon pricing measures within the climate agreement (Interviewee 2, 16 & 20).

"I hoped this would have been the moment for a breakthrough and that people would have ignored the political sensitivities of carbon pricing. That they would have said: let's implement carbon pricing and ignore whatever VVD or Telegraaf says about it. But yeah, they were too scared." (NOS, 2018)

Feeling afraid during the formulation processes seems to have a negative impact on the characteristic of striking a balance between ambition and achievability, as it makes actors hesitant to formulate ambitious goals due to the potential implications.

Risk-taking

Differences have been found in the composition of formulation groups in terms of risk-taking actors and those actors who do not take as many risks. Moreover, by analyzing the outcome it seemed that types of actors handle ambition differently.

Within the case of topsectors policy, all interviewees are risk taking actors. They all expressed the excitement and/or confidence they experience when taking risks. Almost all interviewees were active in the private sector and said they often have to take risks. As mentioned before, they all acknowledged that the goals were set too ambitiously, but they didn't experience that as a failure. However, they did acknowledge that by setting the goals too high they made them unachievable (Interviewee 4 & 17). Their experience with taking risks and their confidence could have led to the unachievable goals they formulated (Interviewee 11, 17 & 18). Dialogic (2017b) also found that members of the topsector were more innovation minded than governmental actors.

Within the formulation group of the climate agreement just one interviewee was a risk-taking actor. Furthermore, there was an even amount of risk bearing and risk averse actors. Members mentioned a high amount of pressure to deliver timewise (e.g. provide feedback within 24 hours) and to come up with the highest level of ambitions and measures to reach the desired carbon dioxide reduction (Interviewee 16 & 19). This pressure could have pushed them outside their comfort zone as risk bearing or risk averse actors, leading to a higher level of ambition than they would have liked. The political intervention seemed to occur due to governmental actors being scared of the implications as was discussed in the previous section. Furthermore, this political intervention led to a significant reduction of ambitions. Therefore, it can be stated that a powerful risk averse actor seems to have considerable negative influences on the level of ambition.

There was an even distribution between the three types of actors in the case of mission-oriented innovation policy. However, risk taking and risk bearing actors mentioned that most governmental employees are risk averse (Interviewee 1, 10, 12 & 13). All interviewees mentioned the presence of huge differences in terms of willingness

to take risks between governmental actors. Experience in transitions, innovation and/or developing strategies had made them more risk taking or bearing.

It seems that different types of actors handle risks, and thus, the level of ambition for formulated goals differently. However, experience in transitions, innovations and developing strategies and thus experience in projects with a high level of uncertainty can make an actor more risk-taking or bearing.

In conclusion, looking at three cases, a mix of risk taking and risk averse or bearing actors is the most optimal as both ambition and achievability will be looked out for. However, the presence of a powerful risk averse actor may have considerable implications. Furthermore, this research found that applying pressure or experience with uncertainty may lead to more risk taking activities from risk bearing or averse actors.

4.3.2 External influences

One external influence on achievability was theoretically found: governance path dependence & creation.

Governance path dependence & creation

The absence of path dependence is removed from this research as it was not mentioned in the three cases. Given that no data regarding the absence of path dependence was gathered in this research no concrete conclusions could be made. Nevertheless, further reflections are discussed in the discussion.

Within the case of topsectors policy the formulation group decided to focus on a mix of known problems and some new subjects. Using known problems helps with the commitment of involved parties (Dialogic, 2017b). Furthermore, the formulation group tried to have a more corporate approach, with clearly formulated ambitious goals (Interviewee 4 & 17). Former processes ended in unclear goals, making them both harder to evaluate and to measure achievability (Interviewee 5 & 18). These former processes were often unsuccessful as the unclearness of the goals makes it hard to keep involved parties responsible. All interviewees found that there was ample room for path creation and that they could easily shape their own process.

The case of the climate agreement exhibits a learning element in the formulation process (Klimaatakkoord, 2019b). The lack of political support for the energy agreement made it harder to implement measures and subsidies. For the climate agreement there was a political intervention where political parties could adjust or adapt certain aspects of the proposed measures and goals. Secondly, strong influences of former agreements were presented during the formulation processes of the climate agreement. The climate agreement should meet the requirements of the Paris agreement and the formulation group was told that the coalition agreement and the energy agreement should be at the basis of their proposed measures (Ministerie van Economische Zaken, 2018b). The coalition agreement and the energy agreement impacted the content of the climate agreement, as measures from the energy agreement and coalition agreement would be easily accepted and other measures would need additional evidence. The government mentioned room for path creation if proposed ideas are proven to be better and can be tested on both political and societal acceptance. Interviewees mentioned that the energy agreement had a relatively small influence on the content, as the climate agreement was a more ambitious project with a main goal of a 49% reduction. However, there was almost no path creation compared to the coalition agreement. A political actor outside the formulation group raised questions on how much room for path creation there truly was. Furthermore, the actor stated that formulation group members were often reminded that if carbon pricing was a measure the whole agreement would be declined (NOS, 2018).

Interviewees found the formulated goals and themes similar to former formulated goals in the case of mission-oriented innovation policy (Interviewee 3, 6, 10, 12 & 13). Some interviewees thought it was just a summary of all of the different projects already present in the Ministry of Infrastructure and Watermanagement (Interviewee 10, 12 & 13). One of the goals is copied from the climate agreement. The themes of the formulated goals have already been present for some time within the ministry, these include subjects like safety, accessibility and livability. However, given that wicked problems require a long time to be resolved, this could be the reason for little differentiation amongst goal themes. In the case of mission-oriented innovation policy, path dependence again has a learning aspect. The former SKIA was not effective and did not enact any stakeholders. The formulation group held sessions to evaluate the former SKIA and to see which themes are still relevant and which themes are missing. All interviewees felt freedom to differentiate from former processes. For example, within the

former process narrow research questions were defined during the new formulation process. During these formulation processes, the formulation group wanted to create a narrative and direction for knowledge development, providing more room for actors to find their own research question within the direction provided by the goals.

In conclusion, path dependence is common when formulating goals especially for wicked problems. Furthermore, it may have a positive influence on the characteristic of striking a balance between ambition and achievability when it has a learning function. All cases began with evaluating what aspects worked and did not work in former processes. Accordingly, adjustments were made to increase the effectiveness of the policy and thus improve its achievability. Path dependence may also have an influence on the content of the goal which can be positive or negative. It is positive when there is enough room for path creation and negative when there's not enough room for path creation. If there is no room for path creation actors lack the room to differentiate from former goals, and this may impact the level of ambition negatively.

4.4 Enacting stakeholders

Figure 3 shows five internal influences and no external influences impacting the characteristic of enacting stakeholders. Three theoretically established influences will be discussed: power, trust and heterogeneity. The two empirically established influences are: elements of the process (e.g. slow phases) and emotions and feelings (e.g. feeling of commitment).

A general explanation which can be given when examining these three cases is that representation appears to be leading to the enactment of stakeholders. Moreover, it helps people to recognize their part which leads to commitment. However, enacting governmental actors for future-focused policies seems to be more difficult as they are primarily focused on current problems.

4.4.1 Internal influences

Two influences were found empirically as internal influences on the enactment of stakeholders: elements of the process and the experience of certain emotions by formulation group members.

Elements process impacting enactment of stakeholders

This research looks at which barriers and advantages actors experienced during the formulation process and how this influenced their enactment.

Slow phases during the formulation process appears to have a negative influence on the enactment of stakeholders. All cases experienced some effects of slow processes. Process supervisors should pay attention at two different moments where it's particularly difficult to keep formulation actors motivated: at the beginning when there are still a lot of insecurities about the process and the role of formulation actors and secondly, between different phases (e.g. after providing feedback on a proposed version it's important to provide an updated version rather quickly). Slow processes lead to a decrease in motivation, frustration and actors quitting the process (Interviewee 13, 16, 17 & 18). In the case of mission-oriented innovation policy there was a slow start and long breaks between phases, resulting in some actors quitting the process (Interviewee 3 & 12).

A driver seems to have a positive influence on the enactment of stakeholders outside the formulation group. A driver is defined as an actor actively lobbying for the formulated goals and/or the formulation processes. Furthermore, a driver persuades actors to implement the goals, invest in the goals and/or participate in the formulation processes (Interviewee 4 & 11). Topsectors policy and mission-oriented innovation policy interviewees mention the importance of a driver for their formulation processes. A driver is an important actor at the beginning of the process making it clear why the project is relevant and important (Interviewee 6). Multiple interviewees mention that it's important to know the relevance of the project, before investing their time and resources. If this is unclear they will not invest time or resources (Interviewee 4 & 5).

Lastly, interviewees of topsectors policy and the climate agreement mentioned the importance of jointly creating a vision and formulating goals within public and private parties, both of which are necessary to reach the goals (Topsector Logistiek, 2015; Interviewee 5, 11, 15 & 20). For private parties the presence of public parties was important, knowing the plans made would have their (financial) support (Interviewee 5 & 13). Accordingly, this

led to increased motivation to work on implementing the goals in the private sector. Where public parties found it important that they knew the involved private parties would work on the goals and that their policy would be effective (Interviewee 15 & 17). By working together it would provide security on both sides making them willing to take risks and thus appears to be leading to the enactment of stakeholders.

Emotions and feelings

The feeling of commitment and ownership is important for the enactment of stakeholders. The three cases show different ways to achieve commitment, with variable results.

The government recognizes the importance of commitment as it was an evaluation variable for the goals during the topsectors policy and climate agreement, as commitment leads to less policy interventions necessary to reach the goals (Cornelissen et al., 2011; Ministerie van Economische Zaken, 2019). The topsectors policy included respected actors in the formulation processes, which helps with creating commitment (Interviewee 5 & 11). The political intervention during the climate agreement was done to ensure long term political commitment. However, it caused a lot of frustration with formulation actors. The political intervention had a negative influence on their sense of ownership (Interviewee 16 & 20). If the sense of ownership and commitment is lost, it seems to negatively influence the enactment of stakeholders. For the case of mission-oriented innovation policy it shows that including actors in the formulation processes is not enough for ensuring commitment. Actors need to feel their work is relevant, important and will impact others, to ensure their motivation and commitment (Interviewee 6, 12 & 13). The three cases show different ways to ensure and lose commitment, which may impact the enactment after the formulation processes. It's important that commitment is monitored during the formulation processes, so adjustments can be made to ensure enactment of stakeholders after the formulation processes.

Power

In the case of topsectors policy there were differences in terms of dependencies within the formulation group. The members were relatively easy to replace, however the figurehead (director) of the team was hard to replace. The figurehead needs to have a certain level of authority within the sector to ensure activities, while not being directly responsible for a company (Interviewee 5 & 18). The figurehead was the most powerful actor during the formulation processes. During the formulation processes there would be open discussions, reformulating and searching until consensus was reached. However, the figurehead had the power to make a decision at one point in time (Interviewee 5, 11 & 18). His power seemed to be limited, though, as it should be in line with the standpoints of the formulation group in order to ensure commitment.

The actors during the climate agreement were not very dependent on one another as long as all stakeholders were represented during the formulation processes (Interviewee 2 & 7). In other words, if one actor representing the private sector would leave the formulation group, this was not seen as a problem as long as there were other actors representing the private sector. The process supervisor was not highlighted as a powerful influence, however the government served as an external power influence during the formulation processes. Moreover, the government limited the topics which could be discussed and changed the outcome of the formulation processes without an opportunity to reach consensus again within the formulation group (Interviewee 7, 15, 16 & 20). Multiple interviewees understood the importance of political support, however the absence of an opportunity to make decisions democratically and reach consensus between the political parties and the formulation group led to frustrations (Interviewee 7, 16 & 20). Multiple interviewees feel a distance to the final version of the climate agreement, leading to minimal effort to do their part.

The case of mission-oriented innovation policy is similar to the case of topsectors policy. There were no dependencies between the members of the formulation group. During the formulation processes some actors were replaced by colleagues. However, the supervisor of the process would be hard to replace as the commitment of formulation actors was partly connected to the supervisor as he was the one who motivated them to join (Interviewee 1, 9 & 14). During the formulation processes actors had the opportunity to vote, discuss and provide feedback on the propositions of the supervisor. The supervisor was the most powerful actor as he made the final decision. Multiple interviewees mentioned that their feedback was not take into account by the supervisor and so some parts of their vision were missing in the final version (Interviewee 1, 3, 12 & 14).

In conclusion, the supervisor/figurehead most times has the final say and thus is a powerful actor. Therefore, it is important that the supervisor does not have personal gains or interests during the formulation processes. The decisions of the supervisor should be in line with the standpoints of the formulation members to ensure commitment and the enactment of the formulation group members. But, a powerful supervisor can help with ensuring external activities to reach the goals. In the case of the climate agreement there are influences of powerful external actors. Reaching consensus seems to be important for the enactment of stakeholders, as their ownership can be affected by interventions of powerful actors and a lack of ownership may lead to a hampered effect on their enactment.

Trust

All interviewees mentioned the presence of trust within the topsectors policy formulation group. Most interviewees mentioned that the participants already knew each other and worked together before the formulation group. Interviewees explained that the presence of trust and former experiences together made the formulation processes easier. This is because they knew what to expect from each other, what every actor could offer and the level of experience and/or knowledge the actor could contribute to the process (Interviewee 4, 5 & 18).

Multiple formulation group members of the climate agreement also mentioned the importance of being aware of each other's interests and personal gains to move forward in the formulation process. After knowing the interests and personal gains of other members there was room to compromise and to try to find a solution which was beneficial for everyone. However, there was distrust present in the formulation group of the climate agreement. Some incumbents disliked the presence of relatively small players (Interviewee 7 & 20). Multiple interviewees also felt that some participants were only present to lobby for their own interests. Furthermore, the political intervention had a negative effect on the level of trust. The Secretary of State stated that she would attempt to restore trust (Klimaatakkoord, 2019a). However, multiple interviewees have lost trust due to the political intervention and have not regained it (Interviewee 15, 16 & 20). This, therefore, makes the climate agreement the only case in this research with an absence of trust.

In the case of mission-oriented innovation policy no issues were mentioned concerning the level of trust. Interviewees named a few reasons why there were no issues: people already know each other and work together, and there were no conflicting interests present in the formulation group (Interviewee 1, 3 & 6).

In conclusion, the presence of trust seems to have a positive influence on the formulation process, especially if trust is formed due to past interactions. Past interactions allow actors to become aware of each other's personal gains, interests and abilities, making it easier to reach consensus during formulation processes. Consensus will lead to formulation members experiencing the agreements and goals as their own, which appears to benefit the enactment of stakeholders. Secondly, knowing each other's interests will speed up the process which also helps enactment. Slow processes will lead to actors losing their interest during the formulation processes and thus negatively impact their enactment (also see section *Elements process impacting enactment of stakeholders*).

Heterogeneity

In terms of the heterogeneity of the formulation group there are considerable differences between the three cases. Topsectors policy consists of a large group of actors working in the private sector. Furthermore, there is an almost equal distribution between governmental actors, NGO's, intermediaries and knowledge institutes (Cornelissen et al., 2011). Interviewee 11 mentioned that it was harder for him/her to make other actors listen to him/her, as knowledge institutes were underrepresented. An underrepresentation of governmental actors was deliberately chosen for, as the government had a passive spectator role i.e. only stepping in when things would go the wrong way (Dialogic, 2017b). As mentioned before, many stakeholders were enacted within the logistics sector by the topsectors policy, specifically larger companies who were also fairly represented in the formulation group.

A large part of the formulation group for the climate agreement consists of NGO's. However, of the eleven NGO's, eight are lobby groups representing businesses and/or employers. For the rest the group consists of governmental actors, businesses and intermediaries (Rijksoverheid, 2018). The underrepresentation of governmental actors could have been a reason why certain projects lack progress at the moment, as governmental actors feel less responsible for the climate agreement. The actors within the formulation group are certain they will do their part

as promised (Interviewee 15, 16 & 20). One interviewee mentioned the importance of having the right actors present during the formulation processes.

In the case of mission-oriented innovation policy all actors were public actors, who work in different departments within the Ministry of Infrastructure and Watermanagement. Regarding the case of mission-oriented innovation policy, it's still uncertain if stakeholders will be enacted. Even though fifteen governmental actors were involved it could be that by only including certain teams of the Ministry of Infrastructure and Watermanagement, this formulation group does not represent the whole Ministry, and thus, may lead to differences in enactment of stakeholders (Interviewee 3, 12 & 13). Furthermore, multiple interviewees mentioned that they found it hard to formulate goals. Some of them mentioned that there was not enough knowledge present to properly formulate the goals (Interviewee 9, 12 & 14).

Table 2. Shows the distribution between the different types of actors present in the formulation group for the three cases.

Case/Type of actors	Governmental	Business	NGO	Intermediary	Knowledge institutes	Civilian	Total
Topsectors policy	3	10	1	2	2		18
Climate agreement	2	5	11	2	0	0	20
Mission-oriented innovation policy	15	0	0	0	0	0	15

In all three cases an underrepresentation of knowledge institutes and civilians is present. Incorporating civilians is required when working on societal problems and thus their presence was expected in the cases of the climate agreement and mission-oriented innovation policy. However, the climate agreement did incorporate lobby groups (e.g. ANWB) which represent certain types of civilians and had an evaluation moment with NPBO.

In conclusion, if the actors who need to implement changes are not represented, they seem to be uncommitted to the goals. This can, therefore, negatively affect support for the goals, and also the enactment of stakeholders. Furthermore, by incorporating knowledge institutes or business actors with experience or knowledge on formulating goals it may impact the clearness of directionality provided by the formulated goals. When the direction is unclear it can negatively affect the enactment of stakeholders seeing that they would not know for certain what they should invest their time and money in. Lastly, there's an underrepresentation of civilians and knowledge institutes which is troubling when formulating goals for societal challenges. Moreover, societal support is necessary for the legitimization of the formulated goals for societal challenges.

4.4.2 External influences

No external influences on the enactment of stakeholders were found in this research.

4.5 Societal desirability

Figure 3 shows four internal influences and one external influence impacting directionality. Three theoretically established influences will be discussed as internal influences: trust, heterogeneity and personal objectives. The fourth internal empirically established influence is the presence of certain emotions and feelings. The external influence is the presence of potential side effects.

When looking at each of the three cases, they convey the importance of the assignment given to the formulation group for societal desirable goals. When societal challenges are highlighted in the assignment it appears to lead to societal desirable goals. However, evaluation methods and KPI's are still limited in covering the societal aspect of policy performances.

4.5.1 Internal influences

Four internal influences potentially affecting the characteristic of societal desirability are discussed. The first is an empirically established influence, emotions and feelings, following three theoretically established influences: trust, heterogeneity and personal objectives are presented.

Emotions and feelings

In section 4.3.1 this thesis discussed the potential influence of feeling scared on the characteristic striking a balance between ambition and achievability. In this section the potential influence of feeling scared on societal desirability is discussed. During the case of the climate agreement multiple interviewees mentioned that some actors were scared of the potential impact the climate agreement may have (Interviewee 2, 16 & 20). The political intervention was done by political parties which focused on lowering the level of ambition as they were afraid of civilian acceptance. Moreover, they were afraid that societal acceptance would be lost if ambitions were too high. Political parties were also very focused on ensuring an affordable agreement given that households will be responsible for some of the transition costs. This was also done to increase social acceptance. Despite the fact that political parties give the reason of societal acceptance, multiple interviewees think political parties were not ready to set ambitious goals (Interviewee 2, 15 & 20). So, societal desirability can be used as a justification for lowering ambitions which may negatively impact the level of ambition. Furthermore, it may lead to an effectiveness in resolving societal problems and thus can negatively impact the societal desirability of formulated goals.

Trust

This research found no strong evidence of an influence of trust on the characteristic of societal desirability. During the formulation processes there was a high level of trust and it was mentioned by interviewees that they trusted the intentions of other participants. Most interviewees for topsectors policy and mission-oriented innovation policy argued that everyone was there to improve the logistics sector (Interviewee 3, 9, 5, 17 & 18). The confidence about others' intentions was not present during the case of the climate agreement as there were a multitude of lobby groups with differing intentions (Interviewee 7, 16 & 20). Interviewee 20 also mentioned that representing new interests against established lobby groups was difficult, as the incumbents often felt threatened. Interviewee 16 explained that knowing each other's intentions helps with the willingness to work together, but it was not clear how this willingness to work together may have impacted the societal desirability of formulated goals. Therefore, it is uncertain how the trust in others' intentions may affect the level of societal desirability as interviewees did not provide any answer on how trust may have impacted the characteristic of societal desirability.

Heterogeneity

The difference between topsectors policy and the other two cases may be explained by the composition of the formulation group, as the composition partly determines if civilian interests are looked out for. Interviewees stated that civilian interests were partly covered during the formulation processes of the climate agreement and mission-oriented innovation policy. During the case of the climate agreement it was covered by the many lobby groups which represented different roles of the civilian (Interviewee 19 & 20). During mission-oriented innovation policy, the government mainly looked out for the interests of civilians, which is inherently part of their job function (Interviewee 3, 9 & 13). During topsectors policy the formulation group consisted mostly of private sector actors, which may have affected the societal desirability of goals, as the interests of the private sector are mostly looked out for. However, the initial assignment given to the formulation group could have also determined the level of societal desirability. For the topsectors policy, for example, the initial assignment had a more economic focus, while in the other two cases societal desirability was highlighted in the assignment. Therefore, it is unclear if heterogeneity may have led to socially desirable goals or the assignment given to the formulation group.

Personal objectives

No strong evidence of personal objectives influencing societal desirability was found. Certain aspects of the formulation processes may have hampered the influence of personal objectives on societal desirability. Firstly, most formulation group members described their role as providing knowledge and information (e.g. about their members as a lobby group). Multiple interviewees mentioned an intrinsic motivation to improve the logistics sector (Interviewee 3, 9, 5, 17 & 18). Furthermore, they did not participate to push certain agendas. Secondly, for all cases the supervisor/figurehead was named as the only powerful actor in the formulation group, as described

in *power* (section 4.4.1). Processes were aimed to reach consensus between the formulation group members. These aspects, therefore, may have led to little room for personal objectives to impact the societal desirability of goals.

4.5.2 External influences

One external influence on the characteristic of societal desirability was found: the presence or absence of potential side effects.

Presence/Absence potential side effects

The external influence 'presence/absence of side effects' looks at the potential negative side effects the formulated goals can cause. Scenario building was previously positively linked to the characteristic of striking a balance between ambition and achievability, but it's also related to societal desirability. During the climate agreement the government actively worked to prevent potential negative side effects, e.g. high societal costs and influencing job security. Transitions are expensive and the government would only accept cost effective measures in order to ensure affordability for Dutch citizens. Furthermore, different task forces were set up to look after employment security and education, e.g. who will lose job security and the possibility to educate them for alternative employment (Klimaatakkoord, 2018b). Concluding, by actively working on the prevention of potential negative side effects the formulation group may preserve the societal desirability of formulated goals and scenario building can be a helpful tool.

4.6 Directionality

Figure 3 shows two internal influences and one external influence impacting the direction of change provided by the formulated goals. Two theoretically established influences will be discussed: personal objectives as an internal influence and path dependence and creation as an external influence. An empirically established internal influence of 'the presence or absence of actors' will also be discussed.

Generally speaking, having measurable goals provides a clear direction, otherwise actors can experience the direction of change as vague. Providing goals with a long-term time framing is found to be the most complicated. The climate agreement showed the best end-result in terms of directionality by providing a clear direction, mid-term goals and a long-term time framing.

4.6.1 Internal influences

Two internal influences will be discussed: the presence/absence of actors and personal objectives.

Presence/Absence actors

The internal influence of 'presence/absence actors' looks at how the absence or presence of certain actors influence the formulated goals. The presence of actors with knowledge and/or experience on formulating goals may help with the formulation of goals and appears to lead to a better understanding of the directionality.

Topsectors policy included Connekt, a network of knowledge institutes and public and private parties, in the formulation processes. Moreover, these actors knew the current problems of the logistics sector and had the necessary knowledge to quantify goals, leading to more clearly formulated goals (Interviewee 5, 8 & 11). Furthermore, the formulation participants had experience in formulating and implementing goals. Multiple interviewees mentioned their experience in the private sector had taught them a lot about formulating clear goals (Interviewee 11, 17 & 18).

In the case of mission-oriented innovation policy there was a lack of knowledge concerning the current problem making it difficult to define goals. For example, the current disturbance of vibrations experienced by civilians living close to highways was not researched, and thus it's hard to quantify the goal. Multiple interviewees mentioned that they had a hard time formulating the goals and prior research would have helped the process (Interviewee 3 , 9 & 10).

So, when assembling the formulation group it may be important to analyze the level of experience with goal formulation processes and the current level of knowledge about the problem. If knowledge about current problems is still lacking in the formulation group it appears that the knowledge must be acquired before formulating the

goals. This may be done by incorporating other formulation members or letting external parties research the problem.

Personal objectives

In terms of personal objectives there are sizable differences between the three cases. During the topsectors policy formulation members joined out of their personal connections to and interest in the logistics sector. Their objective was to improve the logistics sector as they felt responsible for it (Interviewee 3, 9, 5, 17 & 18). During the climate agreement most interviewees had the objective to represent the interests of their members, as most of them were lobby groups. Another important objective was contributing their part in reducing carbon dioxide emissions (Interviewee 15, 16, 19 & 20). Lastly, for mission-oriented innovation policy most interviewees felt obligated to participate as it is part of their work (Interviewee 6, 9, 12 & 14). Additional reasons mentioned included: interviewees found it an interesting process or interviewees were scared to miss important decisions impacting their work (Interviewee 6, 12 & 13).

Interviewees mentioned the influence of their personal objective on the motivation they feel. For example, members of the topsectors policy were more motivated than the actors participating during the mission-oriented innovation policy processes. As formulation actors of the mission-oriented innovation policy felt their presence was obligatory. However, it is unclear how their motivation might have influenced the directionality of goals as no answers were given by interviewees regarding how this might have impacted the directionality.

4.6.2 External influences

One theoretically established external influence on directionality will be discussed: governance path dependence & creation.

Governance path dependence & creation

Two of three cases show path dependence which appears to impact the directionality of goals. Firstly, during the climate agreement the end goal of a 49% reduction was pre-determined by the Paris agreement. Furthermore, the coalition agreement and energy agreement seem to hold influence on the directionality as the measures from the energy agreement and coalition agreement would be more easily accepted and other measures would need additional argumentation. The measures determine which solutions will be stimulated and which will be discouraged. The government mentioned room for path creation, if proposed ideas can be proved to be better and can be tested on political and societal acceptance (Ministerie van Economische Zaken, 2018a). Secondly, during the mission-oriented innovation policy previously defined ambitions and transition goals of the Ministry of Infrastructure and Watermanagement impacted the formulated goals (Interviewee 3, 6, 10, 12 & 13). For example subjects like safety, accessibility and livability as they are already present for some time within the ministry. Also, goals were in line with activities already undertaken by governmental actors (Interviewee 10, 12 & 13). So, previously formulated agreements, goals and activities seem to influence the directionality of newly formulated goals.

Most formulated goals in the case of the climate agreement and mission-oriented innovation policy are connected to wicked problems which are hard to resolve (Rijksoverheid, 2019c; Ministerie van Infrastructuur en Waterstaat, Memo Strategische Kennis en Innovatieagenda 2019-2022, 10 January 2020). Given that wicked problems require a long term commitment, pre-determined goals can still be relevant when formulating new goals. However, it is important to keep room for path creation. Directionality needs to be partly renewed to cover new problems which arise or focus areas to keep stakeholders enacted. The topsectors policy and mission-oriented innovation policy had around a 50/50 ratio of new and former determined goals, which seems to be a suitable ratio when ensuring a positive influence by balancing path dependence and creation (Dialogic, 2017b; Interviewee 3 & 5).

4.7 Unlinked theoretically established influences

This section describes the effect of two theoretically established influences that were not linked to a characteristic: governance structure and the size of the formulation group.

Governance structure

The topsectors policy exhibits a hybrid structure combining a shared governance structure and a network administrative structure. A team of four actors was formed with governmental actors and actors employed by

Connekt who were responsible for administrative duties (Cornelissen et al., 2011). These actors were not part of the formulation group. However, during the goal formulation processes actors mentioned that decisions would be based on open discussion, reformulating and reviewing until consensus was reached (Interviewee 5, 11 & 18). The figurehead made the final decision, but the decision was in line with the majority of the standpoints of the formulation group to ensure commitment. Having open discussions to reach a final version of formulated goals is in line with a shared governance structure.

The climate agreement formulation group underwent the formulation processes as a lead organization structure, where the government limited the topics they could discuss. Secondly, the political intervention done by political parties on the proposed climate agreement shows indications of a lead organization structure, as no opportunity was given to reach consensus within the formulation group after the political intervention (Interviewee 7, 15, 16 & 20). This political intervention seems to have some effect on sense of ownership and commitment and thus appears to have a negative impact on the enactment of stakeholders (see also *Emotions and feelings* and *Power* in section 4.4.1).

In the case of mission-oriented innovation policy there was also no separate administrative entity present during the formulation processes. The process supervisor and another actor carried out the administrative duties for the formulation group (Interviewee 1 & 3). Furthermore, during the formulation processes actors had the opportunity to vote, discuss and provide feedback on the propositions of the supervisor. However, multiple interviewees mentioned that their feedback was not taken into account (Interviewee 1, 3, 12 & 14). So, the formulation processes seemed to have a shared governance structure, but, eventually, moved more towards a lead organization structure.

In conclusion, different governance structures were present during the three cases. One case shows a hybrid form of two governance structures and two cases show a lead organization structure. As mentioned earlier, reaching consensus is important for ensuring commitment and thus the enactment of stakeholders (*Power* in section 4.4.1). The shared governance structure ensures equal decision making and thus seems to have a positive influence on the enactment of stakeholders. The presence or absence of a separate administrative unit did not appear to have any influence on a goal characteristic as no interviewee mentioned if or how this could have affected any.

Size of formulation group

Loorbach (2010) stated that the formulation group should be between 10-15 members. The cases of the topsectors policy and climate agreement had a formulation group over 15 members, respectively 18 and 20 members (Cornelissen et al., 2011; Rijksoverheid, 2018). Interviewees for both cases mentioned that the large groups complicated the formulation processes. A large group makes the formulation process more chaotic and accordingly, slows the process. This makes it hard for formulation actors to stay motivated (Interviewee 2, 11, 17 & 18). As explained in section 4.4.1 a slow process has a negative influence on the characteristic enacting stakeholders. In conclusion, a large formulation group (over 15 members) may negatively impact the enactment of stakeholders.

In total 15 members contributed during the case of mission-oriented innovation policy, however most of the times there were less than 10 members per meeting. However, this research could not find an influence on one of the characteristics from a small formulation group as no interviewee made remarks about how or if a small group would impact one of the goal characteristics.

5. Conclusion

This research aimed to address three knowledge gaps by researching three Dutch examples of 'governance through goals' perspectives. By analyzing the Dutch case of mission-oriented innovation policy this research aimed to improve the empirical foundation of mission-oriented innovation policy. Secondly, it was uncertain how goals need to be formulated to ensure goal effectiveness and how formulation processes may impact the course of innovation goal-setting policies. To address these three knowledge gaps the following research question was defined:

How did goal formulation processes influence the goal characteristics of three Dutch goal-setting policies?

First, by combining three 'governance through goals' perspectives four goal characteristics were established: striking a balance between ambition and achievability, enacting stakeholders, societal desirability and directionality. The combination of the three goal-setting perspectives provides a framework to direct formulation processes to a desired end-goal. As the presence of these goal characteristics is important for goal effectiveness. These characteristics may determine the scope of activities undertaken to reach the goal, and thus, ultimately the success of the (innovation) goal-setting policy. By creating this framework this research was the first to establish a prescriptive guideline for formulation processes.

Secondly, this research was the first to highlight both the delicateness of formulation processes and how a multitude of internal and external influences may impact the course of the goal-setting policies. The internal and external influences show that the design of formulation processes can positively or negatively impact the goal characteristics, and thus their effectiveness. The main discovery of this research is the importance of formulation processes and how their design may have long-term effects on the success of (innovation) goal-setting policies. Table 3 shows an overview of all the internal and external influences found per characteristic. It shows that decisions concerning *how* formulation processes are done and with *who* can improve or hinder the processes.

Table 3. Provides an overview of the main results of this research by summarizing the effect of empirically and theoretically established influences per goal characteristic.

Characteristic	*Factors found to be of influence:*
Striking a balance between ambition and achievability	• *Presence activities analyzing the future:* scenario building is an important aspect of formulation processes as it helps with visualization of the desired end goals, leading to a positive influence on striking a balance between ambition and achievability. • *Presence of integration*: activities to integrate and communicate between groups working on societal problems seems to have a positive effect on the characteristic of striking a balance between ambition and achievability, however the ability to do this seems to be missing. • *Level of restrictions:* it seems that a low level of restrictions could lead to a higher level of ambition by providing the freedom to discuss different potential trajectories, measures and desired end goals. But, the opportunity of having no restrictions should be grasped and thus having low restrictions doesn't directly implicate a higher level of ambition. • *Presence of fearful actors:* feeling afraid about the implications of the goals seems to create hesitance which impacts the level of ambition of formulated goals. In this research only governmental actors experienced this feeling of being afraid. • *Risk-taking:* different types of actors seems to handle risks and thus level of ambition differently. A mix between risk seeking, bearing and averse actors is important as there are actors looking out for achievability and ambition. However, if there is a powerful risk averse actor present it seems to have significant negative implications on the level of ambition. • *Governance path dependence and creation:* path dependence has a positive effect on achievability when it has a learning function. It can have a positive or negative influence on ambition, when path creation is accepted it can have a positive influence. When path creation is limited the freedom to differentiate from former agreements is restricted, which may have a negative influence on the level of ambition.
Enacting stakeholders	• *Elements process impacting enactment:* jointly creating a vision between public and private parties appears to decrease insecurities and thus increases the willingness to take risks. This seems to have a positive influence on the enactment of stakeholders. Secondly, slow phases during the formulation processes appears to lead to actors distancing themselves from the process and potentially leads to problems with the enactment of these actors. There are two phases which require extra attention of process supervisors. Thirdly, a driver seems to be an important actor leading to the enactment of stakeholders outside the formulation group. • *Emotions and feelings:* feelings of commitment and ownership seem to be important for the enactment of stakeholders. There are different ways to ensure or lose commitment during formulation processes. • *Power:* reaching consensus seems to be important for the enactment of stakeholders. If powerful actors overly push their own interests without reaching consensus, actors may not feel committed to reach the goals, and thus, this influences their enactment. However, a powerful group formulation supervisor can help with ensuring external activities to reach the goals. • *Trust:* trust built by former interactions seems to have a positive influence on the enactment of stakeholders. For actors who know each other's interests and abilities it is easier to reach consensus. Reaching consensus will lead to a sense of ownership, which seems to benefit the enactment of stakeholders. • *Heterogeneity:* representation seems to lead to necessary commitment from stakeholders. A troubling underrepresentation of civilians and knowledge institutes is found. Secondly, lacking experience and/or knowledge about formulating goals can lead to an unclear direction which appears to be hindering the enactment of stakeholders. • *Size of formulation group:* large formulation groups (over 15 members) can hinder the formulation, which appears to have a negative influence on the enactment of stakeholders. As processes are slowed down, this seems to lead to actors distancing themselves from the process. It is not clear if and how a small formulation group may have impacted the enactment of stakeholders or other goal characteristics. • *Governance structure:* a shared governance structure seems to have a positive effect on the enactment of stakeholders by creating an open environment to reach consensus and equal decision-making.
Societal desirability	• *Emotions and feelings:* governmental actors feeling afraid can use societal desirability as an excuse to lower ambitions. Lowering these ambitions can negatively affect the societal desirability of goals, as goals may be ineffective in resolving societal problems. • *Trust:* it is uncertain if and how trust impacts societal desirability, as no clear answers were provided by interviewees. • *Heterogeneity:* it remains unclear if the assignment given to the formulation group or the composition may impact the societal desirability of formulated goals. • *Personal objectives:* no influence of personal objectives was found on societal desirability, however certain aspects of the formulation processes may have led to little room for an influence. • *Presence/Absence potential side effects:* scenario building can help with finding potential side effects. Focusing on potential side effects may preserve the societal desirability of formulated goals.
Directionality	• *Presence/Absence actors:* when assembling the formulation group it seems to be important to have two types of actors present to ensure a clear direction of change. First, actors who have experience with formulating goals may help with providing a clear direction. Secondly, actors who know which problems need to be addressed by the goal and have sufficient knowledge about these problems. If these actors are not present the formulation group can incorporate other formulation members or let external parties research the problem. Prior to starting formulation processes it seems to be important to analyze the formulation group on current knowledge and experience with formulation processes in order to properly account for potential influences on directionality. • *Personal objective:* personal objectives seem to influence the motivation of formulation group members. However it remains unclear if and how this motivation may have impacted the directionality of formulated goals. • *Path dependence and creation:* former determined ambitions, goals and agreements seem to influence the directionality of newly formulated goals. This is normal when focusing on wicked problems which will be relevant for some time. It appears that a 50/50 balance of new goals and former goals is a suitable ratio. This allows room for path creation, but also ensures room for former goals which have not yet been resolved and still have the support of stakeholders.

In conclusion, the shift to goal-setting policies seems to made the formulation phase significantly important for the success of innovation policies and the formulation phase has been found to impact the course of three Dutch (innovation) policies. This research has shown the complicated web of internal and external influences on the four goal characteristics and how these influences can create long-term effects on the effectiveness of goals, and thus, the innovation policy. To conclude, this research emphasizes the importance for policy makers to design formulation processes while acknowledging this design can determine the effectiveness of goal-setting policies.

6. Discussion

The following section describes the theoretical implications of this research. Secondly, provides an in-depth review of the results given in section 5. Thirdly, it explains the shortcomings of this research and presents directions for further research.

6.1 Theoretical implications

Firstly, while using the three perspectives to establish goal characteristics, this research found some strengths and weaknesses of the three perspectives. A first weakness found is a lack of acknowledgment of the interdependencies between systems/sectors within the NT perspective, while GGS and MIP acknowledge the interdependencies between systems. To tackle wicked problems it is important to acknowledge that goals are not secluded to one sector, discipline or type of actor. The formulation of goals should enable activities across sectors and disciplines. By using the NT perspective the formulation of goals could potentially exclude important sectors or stakeholders by ignoring interdependencies between sectors. Furthermore, MIP was the perspective with the highest level of prescriptiveness for goal characteristics, making it a more useful perspective for policy makers. It is clearer how the goal characteristics should take shape in the formulated goals, e.g. for directionality MIP states the goals need to be quantitative or binary. However, all three perspectives remained unclear about how the other goal characteristics can be expressed in the formulation of goals. Especially GGS has a very high level of descriptiveness and was unclear about how to incorporate the goal characteristics in the formulation.

By combining the three perspectives this research was able to limit the influence of their weaknesses and present a parsimonious framework rooted in three different goal-setting policies. Establishing these goal characteristics paves the way for the scientific community to test this newly established framework and to try to improve the theoretical understanding of formulation processes for goal-setting policies and their outcome in terms of goal characteristics. Furthermore, this framework is a useful tool for policymakers to evaluate the outcome of formulation processes and to analyze if the formulated goals will be able to effectively resolve grand societal challenges. By adding a higher level of prescriptiveness the framework provides a guideline for the explicit formulation of goals for prospective goal-setting policies, however there's still room for improvement in the level of prescriptiveness for the goal characteristic of 'striking a balance between ambition and achievability'. Furthermore, the framework may provide explanations regarding the (in)effectiveness of former (goal-setting) policies and thus establish focus areas to ensure effectiveness for future (goal-setting) policies.

Secondly, the shift to goal-setting policies made the formulation phase significantly important for the success of innovation policies. Hekkert et al. (2020) agree that formulation processes may impact the scope of innovation activities undertaken. Not only the presence/absence of goal characteristics may impact the innovation activities undertaken, but this research also found internal and external influences affecting the goal characteristics. This research combined evolutionary governance theory and the notion of the transition arena to create a prescriptive framework for internal and external influences on goal characteristics. By combining these, this research created a prescriptive framework while staying theoretically grounded. This research further expanded the current understanding of potential sources of influences by empirically finding additional internal and external influences. The theoretically and empirically established influences are highly relevant for the scientific field to see how formulation processes may have long-term effects on the scope of innovation activities undertaken.

Fourthly, earlier theories show that goal-setting can create the right intrinsic motivation for stakeholders to change (Gómez-Miñambres, 2012). However, this research goes beyond this and states that enacting and motivating stakeholders is a delicate process, which needs efforts beyond just goal-setting and providing direction. The goal formulation processes may impact the long-term motivation of stakeholders, and thus goal effectiveness. Furthermore, this research has shown the importance of goal formulation processes for goal-setting policies, which is in contradiction with older perspectives on innovation policy, where innovation policy was a generic and facilitative instrument of the public sector (Kallerud, 2011). This research showed the importance of new collaborations and providing a clear direction to ensure the success of innovation policies.

Finally, while mission-oriented innovation policy is growing in popularity within Europe, empirical research is still limited. By analyzing the Dutch case of mission-oriented innovation policy, this research has contributed to the empirical foundation of MIP. Hekkert et al. (2020) found an absence of an appropriate framework for the

design of MIP. By establishing the goal characteristics framework and empirically testing it, this research contributed to the current scientific understanding of the formulation phase of MIP and other goal-setting policies.

6.2 Policy recommendations

Section 5 already brushed upon policy recommendations by explaining the results. This section will provide an in-depth analysis of the results, which have shown strong evidence for their importance and could be translated to clear and prescriptive recommendations for policy makers.

By combining multiple literature strands this research established a guideline for policy makers on how to formulate missions and goals. Moreover, it delineated which characteristics need to be present to ensure the success of the formulated goals. A second implication of this research regards the evidence which conveys the importance of formulation processes on innovation policies. Policy makers need to acknowledge the impact formulation processes may have and consider how to account for this. Investing more time and resources in the formulation processes may have long term benefits. Slacking on certain areas may lead to a lack of enactment of stakeholders, vaguely formulated goals and/or unambitious/unachievable goals.

This research recommends that policy makers focus on five aspects of the formulation processes. First, it is recommended to begin the formulation process with a thorough screening of the parties necessary to reach the goals. A stakeholder analysis can help with inviting the right persons to formulate goals and thus ensure the enactment of stakeholders as representation leads to enactment. Bourne (2016) agrees and highlights the importance of incorporating the right stakeholders to gain and maintain their support and commitment. Additionally, if innovation policies are aiming to resolve societal problems it is recommended that civilians are represented in the formulation processes. Societal support is necessary for legitimization of the formulated goals for societal challenges and for facilitating implementation (Bengtsson et al., 2018; Wesseling et al., 2020)

Stakeholder analysis is also found to be a useful tool for the identification of powerful stakeholders (Bourne, 2016; Bryson, 2004). Incorporating a stakeholder analysis will thus have an additional benefit for policy makers, as it can highlight the potential powerful actors who may have a negative influence on formulation processes. Policy makers can decide if they will exclude these stakeholders or actively work on both containing their power and managing their expectations. Stakeholder analysis techniques are an extensive theoretical field and various research has shown the benefits and weaknesses of several stakeholder techniques (Bourne, 2016; Bryson, 2003; Pacheco & Garcia, 2012). However, it remains unclear which stakeholder analysis matches the quadruple helix character (i.e. collaboration between industry, civil society, government and academia) of goal-setting policies. Most stakeholder analysis techniques only focus on two types of actors. So, in this thesis no recommendation can be made about which stakeholder analysis technique can help policy makers with stakeholder identification for goal-setting policies.

Secondly, experience with goal-setting processes seems to stimulate goal formulation processes. In addition, in-depth knowledge concerning the problems seems to benefit formulation processes, so investigating the present knowledge and experience within the formulation group is recommended. Actors who have previously formulated goals may help with providing a clear direction and actors who recognize current problems may help with framing the right direction.

Thirdly, after assembling the formulation group it is recommended to incorporate activities focusing on scenario building and vision forming. These activities seem to positively influence three characteristics: ‘striking a balance between ambition and achievability’, ‘enacting stakeholders’ and ‘societal desirability’. The formulation group may benefit from scenario building, as it may allow them to properly visualize the desired end-goal. Furthermore, it helps with finding potential side effects of the desired end-goal. Moriarty (2005) agrees with the benefits of scenario building, however the process of scenario building can be complex and thus, Moriarty (2005) advises that a maximum of five scenarios be researched. The desired end-goal established through scenario building can further be translated into a vision. Jointly creating a vision with the formulation group can decrease insecurities the formulation group may experience regarding the formulated goal.

Fourthly, after activities focusing on scenario building and vision forming, it may help to include an evaluation of former processes. Policy-setting policies are on the rise and experience from former goal-setting policies is still

limited. But, as mentioned before, the Dutch government has a long history of collaborative policymaking and long-term planning (Loorbach, 2010). Thus, there are experiences present concerning reaching consensus with external parties, focusing on long-term future scenarios, enacting stakeholders et cetera. Most innovation policies are built upon former policies and making room for evaluation of former policies and goals may ensure the learning aspect of path dependency. It provides an opportunity for policy makers to implement or remove certain aspects of former policy processes and thus to build upon experiences from former (goal-setting) policies.

Lastly, throughout the entire formulation process it is recommended to stay close to a shared governance structure. Equal decision making and reaching consensus together seems to improve the feeling of ownership, and thus the enactment of the stakeholders present. It is recommended that policy makers create an open environment to reach consensus by equal decision making and to limit the possibility of powerful actors pushing their visions on the formulation group. In combination with the first policy recommendation, the necessary parties required to reach the goals will feel a sense of ownership, and thus, help with the enactment of the right parties. Thomas, McGarty, Stuart, Smith & Bourgeois (2019) also highlight the importance of consensus to reach social change. The degree of consensus leads to motives being internalized and commitment to social change. Reaching overall consensus may be impossible to achieve, but Thomas et al (2019) advises to reach the highest level possible. Overall consensus is not necessary to experience internalized motives and commitment. The shared governance structure may help with reaching the highest level of consensus possible and thus further enables social change and commitment.

6.3 Limitations research

Section 6.3 will discuss six limitations found due to unforeseen implications of choices made when establishing the methodology of this research.

Firstly, ‘enacting stakeholders’ is relevant during the formulation processes, but is also an essential characteristic for the success of (innovation) policies after the formulation processes. Moreover, enacting stakeholders has a dual nature. Thus, it can be an internal influence and it can be a goal characteristic. It was found difficult to handle this dual nature of ‘enacting stakeholders’ during the interviews. This could have led to data being wrongly classified as an influence on the characteristic instead of an outcome of formulation processes, or the other way around.

Secondly, some differences in data coverage per characteristic were found. This occurred most notably in the first two characteristics. The first two characteristics had more data than ‘societal desirability’ and ‘directionality’. An explanation could be the mismatch between the definition of directionality and a qualitative research method. Researching influences on the goal characteristic directionality with qualitative methods has been found difficult using the current definition of directionality. The definition focuses on the quantitative aspects of directionality and thus it was harder to assess the qualitative impact of directionality. Multiple interviewees mentioned the importance of ‘a sense of direction’, which is arguably more of a qualitative concept.

Thirdly, it was hard to provide explanations about the importance of societal desirability during the formulation processes as most interviewees were governmental actors who experience their work as socially desirable. The document analysis was therefore used to ensure a more in-depth objective analysis of ‘societal desirability’ and analyzing the KPI’s and evaluation methods of governmental actors may have helped with objectivity.

Fourthly, this research found some interference effects between goal characteristics, making it harder to evaluate the impact of internal and external influences of goal formulation processes on the characteristics. For example, providing directionality seems to have a positive impact on ‘enacting stakeholders’ and the enactment of stakeholders impacts the achievability of goals. This impacts the validity of the research as it is uncertain if the internal or external influences found within this research are solely responsible for the positive or negative effect on the characteristic, as it could also be influenced by another characteristic. However, this does not mean the influences found within this research are non-existent but it could be that there were more influences due to other characteristics.

Fifthly, for the case of mission-oriented innovation policy only governmental actors were interviewed. This may have led to a one sided perspective on the formulation processes and goal characteristics. In hindsight a focus

group could have ensured more objective outcomes. Multiple external actors could have evaluated the goals on the goal characteristics, providing a more parsimonious perspective on the formulation of the goals.

Lastly, for the climate agreement and the case of mission-oriented innovation policy the formulated goals lay in the future, making it harder to evaluate the goal effectiveness of the formulated goals and missions. As the goal effectiveness is determined by the progress, the mission or goal created. This may have implications for the established goal characteristics in the future. It might appear that additional goal characteristics are necessary to ensure long-term progress and the success of missions or goals, outside of the four goal characteristics found within this research. Or it could be that some goal characteristics may appear less essential. However, for the case of topsectors policy progress the success of goals could already be evaluated and thus multiple evaluations were included.

6.4 Further research directions

The pressure put on the evolution of governance by wicked problems will require new scientific research and knowledge on these new governance forms (Mazzucato, 2018a). One of the consequences present today is a shift to goal-setting policies with new forms of collaboration (Ansell & Gash, 2008; Binder & Tews, 2004; TNO, n.d.). Furthermore, Hekkert et al. (2020) find it critical to know how policy makers can organize mission formulation processes. This research took the first step in researching goal formulation processes and in this section potentially beneficial research directions are recommended. By establishing these research directions, this research attempts to assist the scientific community in further researching this emerging field. Four recommendations for further research are derived from the limitations and five additional recommendations are inspired by the conclusions of this research.

6.4.1 Recommendations derived from limitations

The first recommendation focuses on the methodological aspect of researching directionality with a more qualitative definition. This would require including sense of direction in the definition of directionality. It is advised to keep the quantitative definition of directionality, but to add a more qualitative side to it. The quantitative side aids in the formulation of clear goals, where directionality is understandable for actors and makes the evaluation of goals easier. The qualitative side may have other implications for formulation actors and goal effectiveness, and thus, could be a potentially interesting subject for further research.

The second recommendation focuses on the potential interference effects between characteristics. By potentially having interference effects between goal characteristics, it is unsure if the internal and external influences found in this research are solely responsible for the impact on the goal characteristics and thus the goal effectiveness. For example, providing a clear direction seems to have a positive influence on the ‘enactment of stakeholders’. Therefore, expanding current knowledge on interference effects provides a more parsimonious overview of the potential effects present during and after formulation processes on goal effectiveness.

Thirdly, this research could not provide conclusions for all internal and external influences and their effect on the goal characteristics. The impact of four theoretically established influences were unclear: *a small formulation group* on ‘enacting stakeholders’, *trust* and *heterogeneity* on ‘societal desirability’ and *personal objectives* on ‘directionality’. It would therefore be helpful if future research focuses on these internal and external influences in order to properly determine if they are an influence during formulation processes.

The last recommendation derived from the limitations of this research is to repeat this research when there is more knowledge present on the success of missions and goals for the climate agreement and mission-oriented innovation policy. Further research on the completeness of the four goal characteristics is necessary to improve our current understanding of the first phase of mission-oriented innovation policy and to ultimately help policy makers with practically formulating missions and goals for (innovation) policies. This research used preliminary results of goal effectiveness for the two cases and additional research using (mid-term) evaluations will strengthen the position of the current established goal characteristics. Further research can also substantiate the established influences of this research and potentially discover more relevant internal and external influences, providing a parsimonious overview of all the potential internal and external influences on goal effectiveness.

6.4.2 Recommendations inspired by research findings

The first recommendation inspired by the outcomes of this research focuses on how the representation of stakeholders is necessary for the commitment and thus the enactment of stakeholders. This recommendation for further research is linked to the first policy recommendation, concerning the identification of stakeholders. Stakeholder analysis has extra benefits outside of the benefits found in this research, as stakeholder analysis can highlight potential powerful actors who may have a negative influence on formulation processes and secondly, incorporating stakeholders seems to help with understanding and managing their expectations (Bourne, 2016). Policy makers can decide if they will exclude these stakeholders, or actively work on containing their power and managing their expectations or use their power to achieve the enactment of stakeholders outside the formulation group. Bryson (2004) further argues that careful use of stakeholder analyses can help frame issues that are solvable in ways that are technically feasible, politically acceptable and advance the common good.

However, there's a lack of methodological theories focused on stakeholder identification for multi-sector collaboration. Most theories focus on stakeholder identification limited to two types of actors (e.g. industry and governmental). Specifically, there is a lack of knowledge on incorporating civilians and most stakeholder identification techniques do not provide any guidelines on how to do this.

Furthermore, this research found that large formulation groups hold a negative influence. However, by incorporating four types of actors, who are required to represent multiple sectors and disciplines, formulation groups tend to incorporate more than 15 actors, which slow down formulation processes. Furthermore, slowing down processes may negatively impact the enactment of stakeholders. Therefore, an additional research avenue could look at how differing types of actors feel represented and what type of governance structure is required.

In total there are three research directions recommended based on the conclusion of this research that representation of stakeholders is important for commitment. First, further studies can research how a stakeholder analysis before formulation processes may benefit the four goal characteristics. Bryson (2004) found a connection with the goal characteristics of 'striking a balance between achievability and ambition' and 'societal desirability'. Secondly, future research could analyze the appropriate method of stakeholder identification for quadruple helix collaborations. Incorporating civilians and multiple types of actors may require new stakeholder identification techniques or an adjustment of formerly established techniques. Thirdly, this research showed that representation leads to enactment, but also that large formulation groups hamper the enactment of stakeholders. Future research could focus on how to create a feeling of representation within a certain formulation group structure, which does not hamper the formulation processes.

Secondly, this research improved the prescriptiveness of the three goal-setting perspectives. As mentioned before, however, there is still room for improvement, for example in 'striking a balance between ambition and achievability'. Further research could focus on how ambition assessment criterias for every goal, as recommended in Rietbergen et al. (2015), could help with the formulation of ambitious goals. Furthermore, this research found that the benefits of scenario building help with the achievability of goals. Moriarty et al. (2005) also highlights two extra benefits of scenario building as it helps the formulation group with establishing alternative developments to reach the goal, which decreases the chances of a lock-in. Furthermore, scenario building goes beyond visualizing the end-goal as it also prepares the formulation group for these potential end-goals and their trajectories. Further research could look into the potential positive influences of using ambition assessment criteria and scenario building on goal characteristics.

Thirdly, this research combined three goal-setting perspectives and tested the assimilated framework on three cases. Two of these perspectives were also cases within this research; climate agreement as NT and the Dutch example of mission-oriented innovation policy. It would be interesting to see if the framework of goal characteristics would also be relevant for the case of a global goal setting policy, e.g. the goal characteristics framework could be tested on the case of the sustainable development goals.

Fourthly, the growing popularity of mission-oriented innovation policies and the absence of a suitable framework inspired the creation of a new innovation system: Mission-oriented Innovation System (MIS). Hekkert et al (2020) acknowledges the importance of the formulation processes and sees a potential link with the scope of innovation activities inspired by formulated missions. They propose multiple promising research directions and one of these

focuses on how the boundaries of an innovation system may be influenced by the emergence of an MIS, where the emergence of an MIS is linked to the formulation processes. It would be interesting to see if the internal and external influences during formulation processes which were found in this research may influence the boundaries of a MIS, and thus impact innovation activities. Furthermore, the absence/presence of the four goal characteristics could also potentially influence the scope of innovation activities created by the formulated goals.

Lastly, this research found a lack of integration between projects, problems, and actors which is potentially caused by rigid governance structures. Integration of policy domains and establishing new governance structures is often linked to third generation innovation policies (CORDIS 2003; Lacrosse 2005). Third generation innovation policy is highlighted as a transformative policy which tackles societal problems (Hekkert et al., 2020). Two cases analyzed in this research are examples of third generation innovation policies, i.e. climate agreement and MIP. However, this research found the lack of ability to integrate due to a certain level of inflexibility in current governance structures. It would be interesting to see if further research could analyze how this inflexibility and lack of integration may hinder the success of third generation innovation policies. Further research could compare different European countries to see how the ability to integrate and the flexibility of governance structures differs between these countries and what potentially needs to change to successfully implement third generation innovation policies.

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Appendix A1 – Goals topsectors policy (Dutch & English)

There are three different topsectors linked to the ministry of IandWM: energy, HTSM and logistics. However, for the case of topsectors policy the ministry of IenW was working the closest with the topsector of logistics. For the case of topsectors policy this research looks at the goals formulated for the topsector logistics.

The goals are copied from the document (Cornelissen et al., 2011). One main goal is defined and five subgoals for the topsector logistics.

In 2020 heeft Nederland een internationale toppositie (1) in de afwikkeling van goederenstromen, (2) als ketenregisseur van (inter)nationale logistieke activiteiten en (3) als land met een aantrekkelijk innovatie- en vestigingsklimaat voor verladend en logistiek bedrijfsleven.

A. Nederland is in 2020 nummer één van alle Europese landen in de World Logistics Performance Index (nu is Nederland nummer drie na Duitsland en Zweden).
B. De bijdrage van ketenregiediensten aan het BBP is gestegen tot 10 miljard euro in 2020 (nu: ruim € 3 miljard).
C. Het aantal bedrijven dat zich in Nederland vestigt om logistieke redenen is in 2020 toegenomen met 30%.
D. De beladingsgraad van transportmiddelen stijgt van 45% (nu) naar 65% in 2020.
E. De uitstroom van logistieke professionals naar de arbeidsmarkt is in 2020 met 50% verhoogd.

Translated in English:

In 2020, the Netherlands will have an international leading position (1) handling flow of goods, (2) as chain director of (inter)national logistic activities and (3) a country with an attractive innovation- and establishing climate for businesses concerning logistics and loading.

A. In 2020, the Netherlands are number one in the World Logistic Performance Index for all European countries
B. The financial contribution of chain management services to the GDP is increased to 10 billion euros in 2020
C. In 2020, a 30% increase of businesses with logistic activities setting up in the Netherlands
D. Increasing the load factor of modes of transport from 45% to 65% by 2020
E. Increase of qualified professionals with a logistics education in the labor market with 50% in 2020

Appendix A2 – Goals climate agreement (Dutch & English)

For the climate agreement this research will looks at the goals formulated for the sector mobility.

The goals are copied (Rijksoverheid, 2019c). One main goal is defined and four subgoals.

Emissieloze mobiliteit voor mensen en goederen in 2050.

A. In 2030, zijn er 1,9 miljoen elektrische vervoersmiddelen
B. In 2030, is 1/3 van het energieverbruik in de mobiliteit hernieuwbaar
C. In 2030, maken we 8 miljard minder zakelijke (auto)kilometers
D. In 2030, hebben minimaal de 32 grootste gemeenten zero-emissiezones voor stadslogistiek

Translated in English:

Zero emission mobility for freight and passenger transport by 2050 (Rijksoverheid, 2019a). The four subgoals are:

A. In 2030, there are 1,9 million electric modes of transport
B. In 2030, the energy use of mobility is for 1/3 renewable
C. In 2030, there's a decrease of 8 billion business related (auto)kilometers
D. In 2030, do at least 32 of the biggest municipalities have emission free zones for urban logistics

Appendix A3 – Goals mission-driven topsectors and innovation policy (Dutch & English)

For the case of mission-driven topsectors and innovation policy this research will look at the extra missions who were formulated next to the climate agreement.

The missions are copied from the internal SKIA, which is not a publicly available document (Ministerie van Infrastructuur en Waterstaat, Memo Strategische Kennis en Innovatieagenda 2019-2022, 10 January 2020).

It consists of one main goal and four subgoals clustered in two categories: smart and green.

Het mobiliteitssysteem is uiterlijk in 2050 met emissievrije energie geïntegreerd en is toegankelijk voor een ieder.

Green

1. De missie van de directoraten mobiliteit, luchtvaart en maritieme zaken is een CO2- emissiearm (2030) en tegen 2050 een CO2- emissievrij mobiliteitssysteem.
2. De duurzaamheidsopgave voor het mobiliteitssysteem en logistieke processen omvat het beperken van geluidhinder, de hinder van trillingen en het ruimtebeslag

SLIM

3. De mogelijkheden van slimme mobiliteit in het hele mobiliteitssysteem (weg, water, rails) optimaal te benutten voor het verbeteren van de bereikbaarheid en het sterk reduceren van het aantal letselgevallen en verkeersslachtoffers
4. De risico's van het falen van de cybersecurity van de ICT netwerken en het databeheer tot een minimum te beperken

Translated in English:

Mobility is eventually in 2050 with emission free energy integrated and accessible for everyone.

Green

1. The mission for mobility, aviation and maritime is CO2 emission low (2030) and around 2050 a CO2 emission free mobility system
2. The sustainability challenge for the mobility system and logistic processes includes reducing noise pollution, vibrations and spatial footprint

SMART

3. To optimally utilize the opportunities of smart mobility in the whole mobility system (road, water, rails) and improving the accessibility and reducing the amount of road causalities
4. Reducing the risks of failures of the cybersecurity within ICT networks and data management.

Appendix B1 – Operationalization table goal characteristics

Characteristic	*Definition*	*Dimension*	*Indicator*	*Data source*	*Source*
Striking a balance between ambition and achievability	*The trade-off between ambition and achievability*	Ambition	1. Goal goes beyond former goals and agreements	Documents & interviews Q1	(Lin & Levesque, 1998; Rietbergen et al., 2015; Schleussner et al., 2016)
		Achievability	3. Possible achievable scenarios to reach the goal are known 4. Necessary resources and capabilities for the goal are present. Or plan was made to accumulate missing resources and capabilities	Documents & interviews Q2 & Q3	
Enacting stakeholders	*Incentivize the right composition of actors to ensure the necessary actions*		Every type of stakeholder is engaged by the goal	Interviews Q4 till Q6	(Binder & Tews, 2004; Schmidt & DeShon, 2007)
Societal desirability	*Desirable outcome for the whole society*		1. Connection to societal problems 2. No potential cause and effects of the formulated goal	Documents & interview Q7 till Q9	(Binder & Tews, 2004; Mazzucato, 2018b)
Directionality	*Direction of change*	Measurable Time bound Targeted	1. Goal is quantified or binary 2. Goal has a timeframe over 25 years from the formulation of the goal 3. Goal is not specified to just one solution	Documents	Mazzucato (2018b)

Appendix B2 – Operationalization table influences

Influences	*Dimension*	*Indicator*	*Data source*	*Sources*
Risk-taking *Trait of actors concerning risk-taking*	-	Actors who: 1. think risks are intrinsically excited 2. raise thresholds 3. happily spend their time with bearing risks	Interviews Q10 & Q11	Nicholson et al. (2005)
Power *Power relations within the formulation group*	Dependence	Actors within the formulation group are dependent on each other	Interviews Q12 till Q14	Beunen et al. (2015)
Trust *A state where vulnerability is expected because of positive expectations of behavior and intentions*	Interorganizational trust	Actor has positive expectations of the behavior and intentions of the organizations present in the formulation group	Interviews Q15 & Q16	Rousseau et al. (1988)
Heterogeneity *Even distribution between the types of actors*	-	Even distribution within the formulation group between actors from the government, NGO's, knowledge institutes, intermediaries and businesses	Documents	Loorbach (2010)
Personal objectives *End goal the individuals within the formulation group want to achieve*		The end goal the actor aimed at in the formulation processes	Interviews Q17	Van Assche et al. (2013)
Governance path dependence and creation *(Breaking through) the rigidness of governance evolution caused by former governance processes and goals*	Dependence Creation	Actor feels like former goals and agreements influenced the formulation processes Actor feels like the former governance structure influenced the formulation processes The actor feels like the formulation group broke through the dependencies present caused by former goals and processes during the formulation processes	Interviews Q18	(Golembiewski, 2000; Hellström, 2013; Van Assche et al., 2013; beunen et al., 2015)

Governance structure *Governance structure of the formulation group*	Lead organization Network administrative Shared governance model	1. Presence/absence separate entity 2. Presence/absence equal decision making	Documents Interviews Q19 & Q20	(Provan & Kenis, 2008; Van Assch et al., 2013)
Size of formulation group	-	Amount of actors in the formulation group	Documents	Loorbach (2010)

Appendix C – Interview questions

The interview questions are clustered per concept.

Interview questions

GOAL CHARACTERISTICS

General: which organization did you represent during the formulation processes?

Striking a balance between ambition and achievability (within group)

Q1: Heeft u het gevoel dat de doelen die jullie hebben geformuleerd ambitieuzer waren dan eerder geformuleerde doelen?

- ➔ Waarom wel/niet?
- ➔ Heeft u dit gevoel voor alle geformuleerde doelen? Of zijn er een aantal die hiervan verschillen?

Q2: Zijn/waren de geformuleerde doelen haalbaar voor uw organisatie? En in het algemeen voor Nederland?

- ➔ Zo ja: hoe hebben jullie dit bereikt?
- ➔ Zo nee: waardoor komt dit?

Q3: Zijn de benodigde resources en capaciteit aanwezig geweest om de doelen te bereiken?

- ➔ Zo nee: Waardoor komt dit?
- ➔ Zo nee: is er een plan opgesteld om eventueel missende resources en capaciteiten te vergaren?

Enacting stakeholders

Q4: Heeft het doel stakeholders buiten de formuleringsgroep gestimuleerd om actie te ondernemen?

Q5: Hoeveel prioriteit hebben/hadden (topsectorenbeleid) deze doelen voor uw organisatie tov andere doelen of de operationele kant van uw organisatie?

- ➔ Kan u hier een percentage/verhouding aankoppelen?

Q6: Hoeveel uur spendeert/spendeerde uw organisatie gemiddeld gespendeerd aan het behalen van de doelen per maand?

Societal desirability

Q7: Zijn de geformuleerde doelen gerelateerd aan maatschappelijke problemen?

- ➔ Zo ja: op wat voor manier?
- ➔ Zo nee: waarom niet?

Q8: Vindt u dat het geformuleerde doel voor elke stakeholder even aantrekkelijk is?

- ➔ Zo niet: voor welke minder/meer?

Q9: Overziet u eventuele negatieve gevolgen gerelateerd aan deze geformuleerde doelen?
Q9 (topsectoren): Hebben de geformuleerde doelen onvoorziene negatieve gevolgen gehad?

- ➔ Zo ja: hoe komt dit? Is hier niet over nagedacht tijdens het formuleren?

INFLUENCES

Risk-taking

Q10: Houdt u er van om risico's te nemen?

➔ Waarom wel/waarom niet?

Q11: Vindt u dat het nemen van risico's hoort bij het formuleren van de missies?

➔ Waarom wel/waarom niet?

Power

Revisited and translated version of Jiang et al. (2013).

Q12: Hoe moeilijk zou het zijn geweest om vervanging te vinden als iemand uit de formuleringsprocessen was gestapt?

➔ Verschilt dit per persoon?

Q13: Had u het gevoel dat u afhankelijk bent van anderen om uw werk te kunnen doen?

➔ Zo ja/ zo nee: hoe heeft dit een rol gespeeld tijdens het formuleren van de doelen?

Q14: Was er een partij naar uw mening die meer invloed kon uitoefenen dan de andere partijen tijdens de formuleringsprocessen?

➔ Zo ja: hoe heeft dit een rol gespeeld tijdens het formuleren van de doelen?

Trust

Revisited and translated version of Jiang et al. (2013).

Q15: Hielden de actoren in de formuleringsgroep rekening met de belangen van partijen buiten de groep?

➔ Zo ja/zo nee: Kan u hier misschien een voorbeeld van geven?

Q16: Had u vertrouwen in de intenties van de andere organisaties binnen de formuleringsgroep?

➔ Waarom wel/niet?
➔ Is dit altijd zo geweest?

Personal objectives

Q17: Waarom heeft uw organisatie meegedaan met het formuleren van de doelen?

Governance path dependence & creation

Q18: Zijn er oude doelen of processen geweest die relateren aan jullie formuleringsproces en doelen?

➔ Zo ja: hebben deze het nieuwe doel sterk vormgegeven?
Zo nee: hoe is deze afhankelijkheid doorbroken?
Zo ja: hoe hebben deze het nieuwe doel beïnvloed?

Governance structure

Q19: Hoe zag het besluitvormingsproces eruit binnen de formuleringsgroep?

➔ Was daarin iedereen gelijk?

Q20: Was er een groep of organisatie buiten de formuleringsgroep waar jullie aan moesten rapporteren?

➔ Zo ja: bepaalde deze organisatie of groep ook wat de formuleringsgroep moest doen?

Appendix D – List of Documents

Topsectors policy

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Appendix E – Theory-driven Codebook

Characteristic	*Code*	*Definition*	*Example*
Striking a balance between ambition and achievability	Ambitious goal	The goal goes beyond former established goals and agreements by decreasing the time frame, increasing the emission cut etc. Or Current goal is perceived as ambitious	"Yes, these goals are way more ambitious than former goals" "Oh yes, these goals are really ambitious."
	Unambitious goal	The goal does not go beyond former established goals and agreements by decreasing the time frame, increasing the emission cut etc. Or Current goal is not perceived as ambitious	"No I don't think these goals are improved compared to former goals" "No these goals are not even close to what we should do, so I don't find them very ambitious."
	Building future scenario's	There were people responsible (internal or external) for defining future scenarios on how to reach the goal	"The team hired *Name* to establish potential ways how to reach the goal"
	No scenario building	There were no people responsible (internal or external) for defining future scenarios on how to reach the goal	"There were no people concerned about how we would reach these goals"
	Availability necessary resources and capabilities	There were people (internal or external) who analyzed which resources and capabilities (knowledge, time, money, collaborations etc.) would be needed to reach the goal	"*Name* asked the ministries and topsectors how much time and money they would potentially invest in the goal"
	Plan present to acquire missing resources and capabilities	A plan was formed to acquire the missing resources and capabilities to reach the goal	"We knew the raw materials needed for electric vehicles are limited and strong partnerships with knowledge institutes would be necessary to come up with substitutes"
	No plan to acquire missing resources and capabilities	No plan was formed to acquire the missing resources and capabilities to reach the goal	"We have not figured out yet how we are going to come up with the money necessary for the measurements we need to take to reach the goal"

Enacting stakeholders	Enactment stakeholders	Stakeholders invest energy and time to reach the goals	"Yes our sector is investing a lot of work to reach that goal"
	Failure to enact any stakeholders	Stakeholders are not investing time or energy to reach goals	"No the goal did not have any effect and they are still not working to move to a more sustainable mobility system"
	Failure to enact certain stakeholders	Some stakeholders are not investing time and energy to reach goals	"Yea some people are working really hard, but the small parties are just not doing anything"
Societal desirability	Connection societal problems	Goals are connected to societal problems or formulated while keeping certain societal problems in mind	"Yea we knew road causalities were increasing, so that's why we wanted a goal to address that"
	Partly connected to societal problems	Societal problems were not the number one reason for formulating the goals	"Yeah by investing more in knowledge development the sector benefited, but we also created more jobs"
	No connection to societal problems	Goals are not connected to societal problems or are not formulated while keeping certain societal problems in mind	"Oh no we just wanted to increase revenue, we did not formulate the goal because it was beneficial for society"
	No unexpected side effects	No negative consequences are expected from the formulated goals	"No, these goals can only improve current conditions"
	Potential side effects	Negative consequences are expected from the formulated goals	"We are scared that this transition will not be affordable for people with lower incomes, leaving them behind"
Directionality	Measurable goal	Goal is quantified or binary	"A 25% reduction of emissions"
	Unmeasurable goal	Goal is qualitative	"Maximum achievable reduction of emissions"
	Time bound	Goal has a timeframe over 25 years after the formulation date of the goal	"In 2045 a 50% reduction will be achieved (formulated in 2010)"
	Short goal duration	Goal has no timeframe or a timeframe within 25 years after the formulation date of the goals	"In 2025 there are zero road causalities (formulated in 2020)"
	Problem centric goal	Goal is not specified to one solution	"We will reduce road causalities"
	Solution centric goal	Goal is specified to one solution	"With the help of autonomous vehicles we will reduce road causalities"

Influences	*Code*	*Definition*	*Example*

Risk-taking	Risk taking actor	An actor who thinks risks are excited and has no problem with risks	"I love taking risks, it's an opportunity to grow and achieve more"
	Risk bearing actor	An actor who is okay with taking risks in certain cases	"I'm okay with taking risks if it could not go horribly wrong for my business"
	Risk averse actor	An actor who is not likely to take risks in any situation	"No most of the times I don't take any risks as I don't like it when I don't know an outcome"
Power	Dependencies between actors	Actors are dependent on each other within the formulation group	"No I could have not done my part without her"
	Autonomous actors	Actors are not dependent on each other within the formulation group	"It was easy to find substitutes, so it didn't derail the process when she quit"
	Presence powerful actor(s)	One or more actors had significant impact on the process and the formulation of goals	"Yea that organization was really loud and was always pushing their own ideas"
	Absence powerful actor(s)	No actor had more impact on the process and the formulation of goals than the other actors in the formulation group	"No it was very democratic and we all had equal say in the process"
Trust	Presence trust	Actor is positively about the behavior and intentions of the organizations	"Everyone was really trying to do their best to work together and achieve the best possible outcome"
	Absence trust	Actor is negatively about the behavior and intentions of the organizations	"They were only pursuing that to benefit their own organization, they did not care about the rest of us"
Heterogeneity	Heterogeneous formulation group	Even or almost even distribution within the formulation group between actors from the government, NGO's, knowledge institutes, intermediaries and businesses	"All parties were represented equally"
	Homogeneous formulation group	One or multiple types of actors are outnumbering the other types of actors	"We had like 10 actors representing the scientific community and only one person was representing the government"
Governance path dependence and creation	Presence of path dependence	Former goals and agreements or their processes influenced the formulation processes	"Yea we could not look at other options as it was expected to design the process relatively similar to the last one"
	Absence of path dependence	Former goals and agreements or their processes did not	"No we were free to do our own thing and come up with our own goal and process"

		influence the formulation processes	
	Presence of path creation	The formulation group broke through the dependencies present caused by former goals and processes during the formulation processes	"Yea we knew that was not the right thing to do as we experienced last time, so we tried to do it different this time"
	Absence of path creation	The formulation group did not break through the dependencies present caused by former goals and processes during the formulation processes	"Even though the former process wasn't successful, this time we just did the same"
Governance structure	Presence separate entity	The formulation goup was supported by a separate administrative entity	"Yea *Name organization* was responsible for the administrative tasks"
	Absence separate entity	The formulation group was not supported by a separate administrative entity	"No we were all just responsible for the administrative tasks"
	Presence equal decision making	Decisions within the formulation group were made by equal decision making	"Everyone had a say and could give feedback on the text"
	Absence equal decision making	There was no equal decision making present within the formulation group	"No *Name organization* could make the final decision"
Size of formulation group	Size of formulation group	The amount of actors who formulated the goals	"They participated 50 parties"

Appendix F – Data-driven Codebook

Characteristic or Influence		*Code*	*Definition*	*Example*
Enacting stakeholders		Lack of motivation	Lack of motivation to participate in certain processes or projects	"Cause, getting colleagues involved is pretty hard. A lot of colleagues are working on projects concerning current problems, and they are not concerned about the future and strategies for the future."
Governance structure		Presence process supervisor	A person responsible for designing and/or making sure the formulation process runs smoothly	"So the different tables were guided by professional supervisors. Respected people, who were good in mentoring the group and could handle all the different interests. They were a positive influence."
Striking a balance between ambition and achievability		Lack of integration	The lack of integration between projects, problems or groups of actors during the formulation processes is mentioned	"There's no effort being done, as far as I know, to get an overview of all the measurements. There a lot of measurements, a lot. Hundreds. But to see where they overlap. Which actors we should bring together as they are kind of doing the same thing."
Risk-taking		Future minded actors	Actors who are actively working on and/or thinking about the future, future strategies or scenarios	"Colleagues working at the Unit Strategy are more easy to involve than colleagues from other management groups. They are often working on projects with a more narrow scope."
Risk-taking		Here and now minded actors	Actors who are working on the present or current problems and projects	"A lot of colleagues are more working on concrete projects rather than the future or strategies."
Striking a balance between ambition and achievability & Societal desirability		Scared of impact	When actors are scared about the potential affects the goals may have	"And when the government changed the goals it was reduced to 1/3 of electric cars. They were like we can't do this, civilians won't accept this."
Striking a balance between ambition and achievability		Decisions impacting achievability of goals	Decisions who are named as events who impact the achievability of goals substantially	"We all realized that the goals were too ambitious. But you better have a clear idea which direction you

				want to go, even though you are not going to reach it."
Enacting stakeholders		Unsure of enactment stakeholders	When an actor is still unsure if the goal will or had enact stakeholders	"I mentioned it earlier that mission driven policy often is viewed as a way to get financial resources. So, it looks like a lot of people are invested in the approach. But I wonder how interested they are."
Striking a balance between ambition and achievability		Requirements achievability	When certain requirements (actions, changes, motivation, participation of certain actors etc.) are mentioned to achieve goals	"That's a clear sign that our members are happy with the outcome, however as long plans are going to be made about achievability for certain members and affordability."
Governance structure		Poldermodel	When actors mention the Dutch consensus based decision-making process or culture (poldermodel)	"It's a product of long and extensive negotiations, with a lot of people. Which we are proud of in the Netherlands, the '*poldercultuur'*."
Enacting stakeholders		Actors presence questioned	Actors presence was questioned by other actors or actors questioned why certain actors were not present in the formulation processes	"The civilian.. No he was not represented, yea maybe through the ANWB, but still.."
Enacting stakeholders		Slow process	When the entire process or segments of the formulating process were considered slow	"Yea you have to hurry with these kind of things and come up with some concrete results. And that took a long time."
Enacting stakeholders & Striking a balance between ambition and achievability		Barriers process	Barriers the actor experienced during the formulation processes	"Yea I guess so, because people don't know what they need to do, why they need to do it and where it leads. Than they are sitting there like what am I doing here?"
Enacting stakeholders		Advantages process	Advantages the actor experienced during the formulation processes	"You asked what could increase the commitment.. One thing is searching for a connection with matters who are important for the ministry right now."
Personal objectives		Conflict of interests	Notions of conflict of interests and/or how they tried to deal with them	"Not yet optimal, because everyone was busy bringing up their own thing. Everyone brought up their own

				projects. You had four or five different sectors and everyone was representing their own project."
Enacting stakeholders		Joined by request	Actor participated in the formulation processes because they were asked	"Well not my personal goal. I was invited to join and provide some input about my expertise."
Enacting stakeholders		Personal behalf	Participants did not represent a certain organization during the formulation processes	"Well in principle you joined on personal behalf."
Striking a balance between ambition and achievability		Unachieved goal	When an actor mentions a former goal is not achieved	"But if it was succesffull, I don't know for sure. I find it hard to judge that. So we didn't reach the goals, but I don't think the other topsectors reached their goals. That is partly due because the goals were more ambitious than achievable."
Striking a balance between ambition and achievability		Barriers to achieve goals	Barriers the actor experienced to achieve the formulated goals	"If you look at the direction that's imposed by higher orders than we decide to build more infrastructure. But you could also direct your efforts, which would solve the issue concerning congestion."
Personal objectives		Personal goal	The personal goal of actors to participate in the formulation processes	"That we could participate in the discussions concerning innovation and to include our visions."
Enacting stakeholder		Driver	An actor whose efforts are named as an substantial force in the process	"Especially *Name* was the driver of the whole process and did a lot of the work."
Enacting stakeholders		Commitment	The level of importance actors felt for the goals and/or how this affected the formulation processes	"And the lack of ownership impacts the commitment."
Enacting stakeholders		Ownership	Actors feel responsible for the goals, goal formulation processes and/or the outcome	"I think they felt ownership as they were also involved in the previous phase with Dinalog."
Enacting stakeholders		Lobby for participation	Actors actively lobbied/pursued to be part of formulation processes	"Well we acted pretty proactive. When people started talking about the climate agreement we took action especially in the direction of the

				Ministry of Infrastructure and Watermanagement to get involved.
Directionality		Direction	Actors mentions the notion of providing direction by goals or formulation processes and/or the effect of this direction	"Yea giving a bit of direction and hopefully create some ownership along the way."
Striking a balance between ambition and achievability		Integration present	Integration between projects, problems or groups of actors during the formulation processes	"I thought it was a bit hard that we wanted to connect everything with each other."
Striking a balance between ambition and achievability		Goals reached	Former goals are reached or an actors feels like a former goal was successful	"If you look at the past 12 years, the whole program is very successful. Really successful. The logistic sector has been very innovative and then I'm talking about the top 20/30 businesses. They completely changed in the past 12 years."
Enacting stakeholders		Skepticism	Actor is skeptical about the formulation process, goals or other actors	"Yea and it already happens. It already happens in the departments, so I don't really get it. I don't see the point."
Enacting stakeholders		Frustration	When an actor expresses their frustration about the formulation process, goals or other actors	"And then the political parties interfered and then something came out of which I thought what the fuck are you doing to me. That's not possible, you can't do that. So we felt pretty stiffed."
Striking a balance between ambition and achievability		Ambitious framing	An unrestrictive framing (= rules about which topics (goals, measurements, future scenario's) can be discussed) which was found ambitious by participants	"The SKIA focuses on mobility in a more broad, future oriented, societal framing"
Striking a balance between ambition and achievability		Unambitious framing	A restrictive framing (= rules about which topics (goals, measurements, future scenario's) can be discussed) which was found unambitious by participants	"There was no room for the most important measurement (carbon dioxide tax) as we were not allowed to discuss measurements outside the coalition agreement"
Striking a balance between		New goals formulated	When former goals are reformulated or	"These are not the goals the topsector began with. The biggest

ambition and achievability			new goals are added to the process	difference is the adjustment to 17.3 billion euro (former 10 billion)”

Appendix G – Final version codebook

Characteristic	*Theme*	*Category*	*Code*	*Definition*	*Example*
Striking a balance between ambition and achievability	Outcome formulation processes in terms of ambition	Level of ambition of formulated goals	Ambitious goal	The goal goes beyond former established goals and agreements by decreasing the time frame, increasing the emission cut etc.	"Yea they are very ambitious, but that's common sense. Without ambitious goals there will be no enactment/movement in the right direction."
			Unambitious goal	The goal does not go beyond former established goals and agreements by decreasing the time frame, increasing the emission cut etc. Or Current goal is not perceived as ambitious while knowing former goals	"Mobility did not deliver anything that isn't already included in current policies and/or market development. Unsatisfactory."
	Internal events and/or elements of formulation processes impacting achievability	Presence /absence future analysis	Building future scenario's	There were people responsible (internalal or externalal) for defining future scenarios on how to reach the goal	"An integrated design of a future proof way to finance our mobility system. This includes how we generate income through taxes and ticket sales."
			Plan present to acquire missing resources and capabilities	A plan was formed to acquire the missing resources and capabilities to reach the goal	"The transition to a new mobility system requires investment: fiscal incentives or subsidies to cross the first phase."
			No scenario building	There were no people responsible (internal or external) for defining future scenarios on how to reach the goal	"So we have the transition goals, but what are the transition roadmaps we are going to take."
			No plan to acquire missing resources and capabilities	No plan was formed to acquire the missing resources and	"Yeah we agree with the climate agreement, but only when it's achievable and affordable. We have faith that eventually they will come with a good plan."

				capabilities to reach the goal	
		Events impacting achievability	Decisions impacting achievability of goals	Decisions who are named as events who impact the achievability of goals substantially	"We all realized that the goals were too ambitious. But you better have a clear idea which direction you want to go, even though you are not going to reach it."
		Elements formulation process impacting achievability	Integration present	Integration between projects, problems or groups of actors during the formulation processes	"I thought it was a bit hard that we wanted to connect everything with each other."
			Lack of integration	The lack of integration between projects, problems or groups of actors during the formulation processes is mentioned	"There's no effort being done, as far as I know, to get an overview of all the measurements. There a lot of measurements, a lot. Hundreds. But to see where they overlap. Which actors we should bring together as they are kind of doing the same thing."
	External (events and or elements outside the formulation processes) impacting achievability	External elements impacting achievability	Barriers to achieve goals	Barriers the actor experienced to achieve the formulated goals	"If you look at the direction that's imposed by higher orders than we decide to build more infrastructure. But you could also direct your efforts, which would solve the issue concerning congestion."
			Availability necessary resources and capabilities	There were people (internalal or externalal) who analyzed which resources and capabilities (knowledge, time, money, collaborations etc.) would be needed to reach the goal	"The coalition agreement describes additional resources to reach the climate goals."
	Internal (events and or elements outside the formulation processes) impacting achievability	Emotions and feelings actors experience(d) during the formulation processes and about the formulated goals (subcategory: doubt)	Requirements achievability	When certain requirements (actions, changes, motivation, participation of certain actors etc.) are mentioned to achieve goals	"That's a clear sign that our members are happy with the outcome, however as long plans are going to be made about achievability for certain members and affordability."
			Scared of impact	When actors are scared about the potential affects	"And when the government changed the goals it was reduced to 1/3 of electric cars. They were like we can't

				the goals may have	do this, civilians won't accept this."
	Outcome formulation processes in terms of achievability	Level of achievability of formulated goals	Unachieved goal	When an actor mentions a former goal is not achieved	"But if it was successful, I don't know for sure. I find it hard to judge that. So we didn't reach the goals, but I don't think the other topsectors reached their goals. That is partly due because the goals were more ambitious than achievable."
			Goals reached	Former goals are reached or an actors feels like a former goal was successful	"If you look at the past 12 years, the whole program is very successful. Really successful. The logistic sector has been very innovative and then I'm talking about the top 20/30 businesses. They completely changed in the past 12 years."
			New goals formulated	When former goals are reformulated or new goals are added to the process	"These are not the goals the topsector began with. The biggest difference is the adjustment to 17.3 billion euro (former 10 billion)"
	Internal events and/or elements of formulation processes impacting ambition	Level of restrictions formulation processes	Ambitious framing	An unrestrictive framing (= rules about which topics (goals, measurements, future scenario's) can be discussed) which was found ambitious by participants	"The SKIA focuses on mobility in a more broad, future oriented, societal framing"
			Unambitious framing	A restrictive framing (= rules about which topics (goals, measurements, future scenario's) can be discussed) which was found unambitious by participants	"There was no room for the most important measurement (carbon dioxide tax) as we were not allowed to discuss measurements outside the coalition agreement"
Enacting stakeholders	Outcome formulation processes (in terms of enactment stakeholders)	Level of enactment stakeholders	Enactment stakeholders	Stakeholders invest energy and time to reach the goals	"All involved parties generally agree with the proposition and want to motivate the other stakeholders."
			Failure to enact any stakeholders	Stakeholders are not investing time or energy to reach goals	"It's a weak spot of the SKIA. There's a lot of energy in the production process and no energy in the execution."

			Failure to enact certain stakeholders	Some stakeholders are not investing time and energy to reach goals	"Due to the characteristics of this sector it's hard to incorporate everyone. There's a large mid layer consisting of SME businesses who are hardly innovating and hard to incorporate in the topsector."
			Unsure of enactment stakeholders	When an actor is still unsure if the goal will or had enact stakeholders	"I mentioned it earlier that mission driven policy often is viewed as a way to get financial resources. So, it looks like a lot of people are invested in the approach. But I wonder how interested they are."
	Internal events and/or elements of formulation processes impacting enactment of stakeholders	Elements process impacting enactment of stakeholders	Slow process	When the entire process or segments of the formulating process were considered slow	"Yea you have to hurry with these kind of things and come up with some concrete results. And that took a long time."
			Driver	An actor whose efforts are named as an substantial force in the process	"Especially *Name* was the driver of the whole process and did a lot of the work."
			Barriers process	Barriers the actor experienced during the formulation processes	"Yea I guess so, because people don't know what they need to do, why they need to do it and where it leads. Than they are sitting there like what am I doing here?"
			Advantages process	Advantages the actor experienced during the formulation processes	"You asked what could increase the commitment.. One thing is searching for a connection with matters who are important for the ministry right now."
		Effect of presence/absence actors	Joined by request	Actor participated in the formulation processes because they were asked	"Well not my personal goal. I was invited to join and provide some input about my expertise."
			Lobby for participation	Actors actively lobbied/pursued to be part of formulation processes	"Well we acted pretty proactive. When people started talking about the climate agreement we took action especially in the direction of the Ministry of Infrastructure and Watermanagement to get involved.
			Personal behalf	Participants did not represent a certain organization during the	"Well in principle you joined on personal behalf."

				formulation processes	
			Actors presence questioned	Actors presence was questioned by other actors or actors questioned why certain actors were not present in the formulation processes	"The civilian.. No he was not represented, yea maybe through the ANWB, but still.."
		Emotions and feelings actors experience(d) during the formulation processes and after about the formulated goals	Commitment	The level of importance actors felt for the goals and/or how this affected the formulation processes	"And the lack of ownership impacts the commitment."
			Ownership	Actors feel responsible for the goals, goal formulation processes and/or the outcome	"I think they felt ownership as they were also involved in the previous phase with Dinalog."
			Skepticism	Actor is skeptical about the formulation process, goals or other actors	"Yea and it already happens. It already happens in the departments, so I don't really get it. I don't see the point."
			Frustration	When an actor expresses their frustration about the formulation process, goals or other actors	"And then the political parties interfered and then something came out of which I thought what the fuck are you doing to me. That's not possible, you can't do that. So we felt pretty stiffed."
			Lack of motivation	Lack of motivation to participate in certain processes or projects	"Cause, getting colleagues involved is pretty hard. A lot of colleagues are working on projects concerning current problems, and they are not concerned about the future and strategies for the future."
Societal desirability	Outcome formulation processes (in terms of connection to societal problems)	Level of connection to societal problems of formulated goals	Connection societal problems	Goals are connected to societal problems or formulated while keeping certain societal problems in mind	"It's obvious that the agreements within the climate agreement should be more than the personal gains of the participants. Public interest should be number one for all participants."
			Partly connected to societal problems	Societal problems were not the number one reason for formulating the goals	"Working together on improving the competitiveness of the Dutch transport sector and solve societal challenges."

			No connection to societal problems	Goals are not connected to societal problems or are not formulated while keeping certain societal problems in mind	"The government needs to review the agreements of the participants on consistence, practical achievability and political desirability."
	External (events and or elements outside the formulation processes) impacting societal desirability	Presence/Absence side effects	No unexpected side effects	No negative consequences are expected from the formulated goals	"I don't expect any negative consequences. If you are working on carbon dioxide reduction and you reach your goals, it can never be negative."
			Potential side effects	Negative consequences are expected from the formulated goals	"The proposed measures contain risks. The increase of electric vehicles is dependent on internalational prices. It's also unsure if there will be enough bio fuel. Thus it's unsure if we will reach the goals and what will happen to our world. "
	Internal events and/or elements of formulation processes impacting societal desirability	Emotions and feelings actors experience(d) during the formulation processes and after about the formulated goals	Scared of impact	When actors are scared about the potential affects the goals may have	"And when the government changed the goals it was reduced to 1/3 of electric cars. They were like we can't do this, civilians won't accept this."
Directionality	Outcome formulation processes (in terms of directionality)	Level of directionality of formulated goals	Measurable goal	Goal is quantified or binary	"A 25% reduction of emissions"
			Unmeasurable goal	Goal is qualitative	"They are so vague and formulated freely that they can't hold you accountable."
			Time bound	Goal has a timeframe over 25 years after the formulation date of the goal	"In the climate agreement we agreed to reduce the carbon dioxide emissions of mobility in 2030 with 7.3 Mton. "
			Problem centric goal	Goal is not specified to one solution	"In the climate agreement we agreed to reduce the carbon dioxide emissions of mobility in 2030 with 7.3 Mton. "
			Solution centric goal	Goal is specified to one solution	"By using ICT innovations we can optimally use the current infrastructure capacity."
	Impact goal characteristics	Effect of directionality	Direction	Actors mentions the notion of providing direction by goals or formulation processes and/or	"Yea giving a bit of direction and hopefully create some ownership along the way."

				the effect of this direction	

Influences	*Theme*	*Category*	*Code*	*Definition*	*Example*
Risk-taking	Internal events and/or elements of formulation processes	Qualities actor	Risk taking actor	An actor who thinks risks are excited and has no problem with risks	"I love taking risks, it's an opportunity to grow and achieve more"
			Risk bearing actor	An actor who is okay with taking risks in certain cases	"I'm okay with taking risks if it could not go horribly wrong for my business"
			Risk averse actor	An actor who is not likely to take risks in any situation	"No most of the times I don't take any risks as I don't like it when I don't know an outcome"
			Future minded actors	Actors who are actively working on and/or thinking about the future, future strategies or scenarios	"Colleagues working at the Unit Strategy are more easy to involve than colleagues from other management groups. They are often working on projects with a more narrow scope."
			Here and now minded actors	Actors who are working on the present or current problems and projects	"A lot of colleagues are more working on concrete projects rather than the future or strategies."
Power		Formulation group attributes	Dependencies between actors	Actors are dependent on each other within the formulation group	"No I could have not done my part without her"
			Autonomous actors	Actors are not dependent on each other within the formulation group	"It was easy to find substitutes, so it didn't derail the process when she quit"
			Presence powerful actor(s)	One or more actors had significant impact on the process and the	"Yea that organization was really loud and was always

				formulation of goals	pushing their own ideas"
			Absence powerful actor(s)	No actor had more impact on the process and the formulation of goals than the other actors in the formulation group	"No it was very democratic and we all had equal say in the process"
Trust			Presence trust	Actor is positively about the behavior and intentions of the organizations	"Everyone was really trying to do their best to work together and achieve the best possible outcome"
			Absence trust	Actor is negatively about the behavior and intentions of the organizations	"They were only pursuing that to benefit their own organization, they did not care about the rest of us"
Heterogeneity			Heterogeneous network	Even or almost even distribution within formulation group between actors from the government, NGO's, knowledge institutes, intermediaries and businesses	"All parties were represented equally"
			Homogeneous formulation group	One or multiple types of actors are outnumbering the other types of actors	"We had like 10 actors representing the scientific community and only one person was representing the government"
Governance path dependence and creation	External (events and or elements outside the formulation processes)	Level of path dependence during formulation processes	Presence of path dependence	Former goals and agreements or their processes influenced the formulation processes	"Yea we could not look at other options as it was expected to design the process relatively similar to the last one"
	Internal (events and or elements outside the formulation processes)	Level of path creation during formulation processes	Presence of path creation	The formulation group broke through the dependencies present caused by former goals and processes during the	"Yea we knew that was not the right thing to do as we experienced last time, so we tried to do it different this time"

				formulation processes	
			Absence of path creation	The formulation group did not break through the dependencies present caused by former goals and processes during the formulation processes	"Even though the former process wasn't successful, this time we just did the same"
Governance structure	Internal events and/or elements of formulation processes	Network attributes	Presence separate entity	The formulation group was supported by a separate administrative entity	"Yea *Name organization* was responsible for the administrative tasks"
			Absence separate entity	The formulation group was not supported by a separate administrative entity	"No we were all just responsible for the administrative tasks"
			Presence equal decision making	Decisions within the formulation group were made by equal decision making	"Everyone had a say and could give feedback on the text"
			Absence equal decision making	There was no equal decision making present within the formulation group	"No *Name organization* could make the final decision"
			Presence process supervisor	A person responsible for designing and/or making sure the formulation process runs smoothly	"So the different tables were guided by professional supervisors. Respected people, who were good in mentoring the group and could handle all the different interests. They were a positive influence."
			Poldermodel	When actors mention the Dutch consensus based decision-making process or culture (poldermodel)	"It's a product of long and extensive negotiations, with a lot of people. Which we are proud of in the Netherlands, the '*poldercultuur'*."
Size of formulation group			Size of formulation group	The amount of actors who	"They participated 50 parties"

				formulated the goals	
Personal objectives	Internal events and/or elements of formulation processes	Formulation group attributes	Conflict of interests	Notions of conflict of interests and/or how they tried to deal with them	"Not yet optimal, because everyone was busy bringing up their own thing. Everyone brought up their own projects. You had four or five different sectors and everyone was representing their own project."
		Qualities actor	Personal goal	The personal goal of actors to participate in the formulation processes	"That we could participate in the discussions concerning innovation and to include our visions."