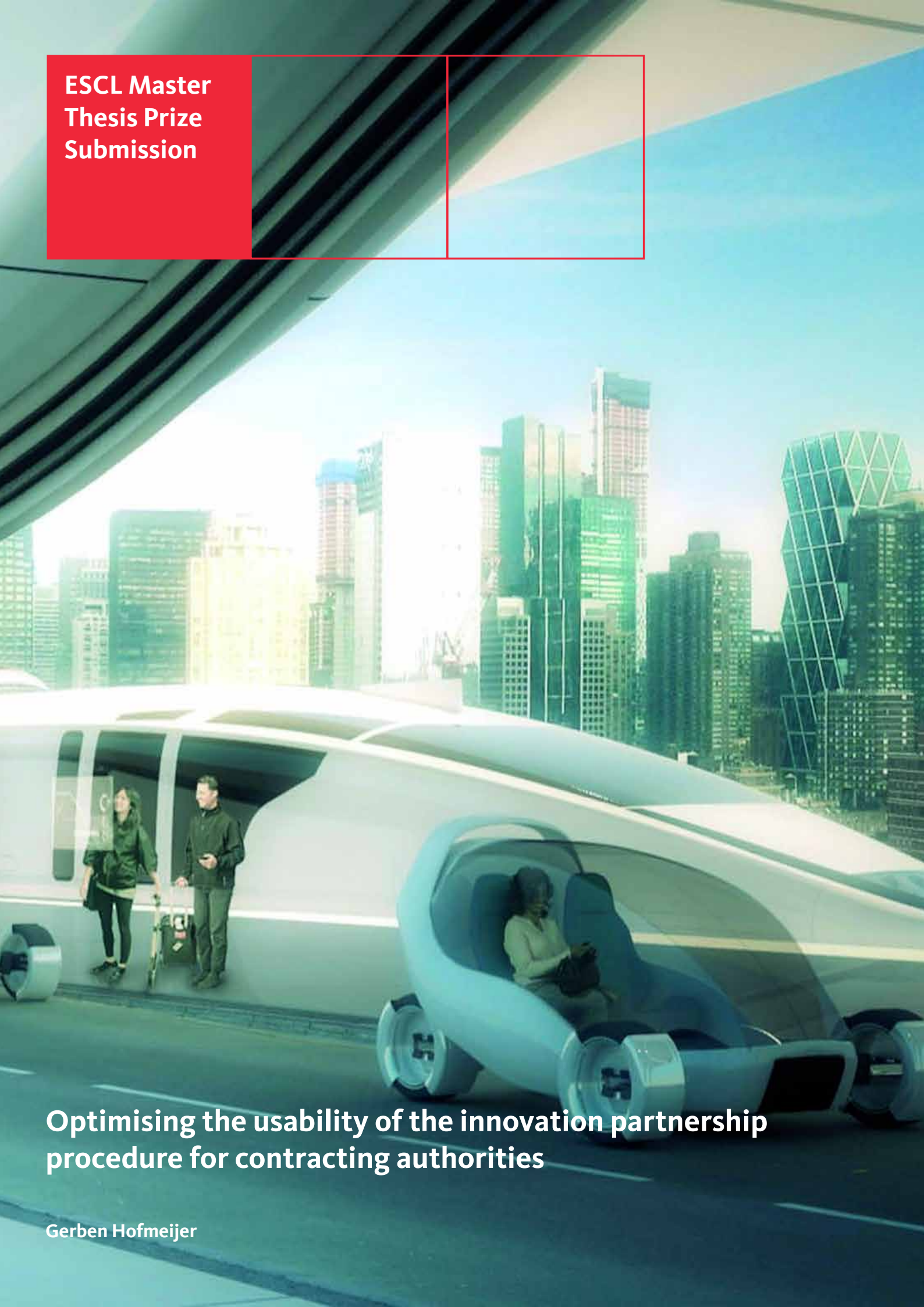
ESCL Master Thesis Prize Submission



Optimising the usability of the innovation partnership procedure for contracting authorities

Gerben Hofmeijer

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"The world we have created today as a result of our thinking thus far has problems which cannot be solved by thinking the way we thought when we created them."

A. Einstein, 1946

PREFACE

This thesis has become more than a research into the possibilities for sustainable procurement, as it was intended half a year ago. It has become a plea for a change of behaviour of public clients, to alter their tendering process as to stimulate the development of sustainable innovations. Equipped with this thesis, I will be visiting everyone who still needs convincing that public procurement of innovation and, specifically, tendering of sustainable innovations is possible in this day and age. Both companies and governments need to realise that the steps envisioned by global leaders in the Paris Agreements can be taken now, that there is no need to wait. I'm not saying that tendering of innovations will change the world, but it can be an important step in the right direction.

Acting with a social motive and exploring ways to gain societal benefits brought along interesting challenges with respect to the scientific value of this thesis. The gains are not numerical, financial profit was not a focal point, so how can the significance of an action be determined? What is best for people, for the world? There was no clear numerical distinction between right or wrong, between better and best. This research concerned explorations of new territory, namely this new tendering procedure that became available only two months before the graduation period started. It resulted in a project in which the viewpoints from different actors were explored, requiring knowledge from their individual practice. These explorations brought me to parts of The Netherlands I didn't know before and brought me into contact with fields of study I was unaware existed. The largest challenge I faced was to validate my findings, while no innovation partnership procedures have been finished nor evaluated. Here, my tutors at AT Osborne saved the day. The questionnaire and validation panels were sufficiently insightful to validate the findings. Maybe logical, for my research into innovation, making use of a novel procedure, I needed an innovative research project.

I started the graduation period August 1st, expecting to graduate in May. However, on September 4th my girlfriend and I found out that we are expecting a little lady. She accelerated the process. Still, I was keen to reach the quality I had set my mind to. Looking back, I'm glad that I accelerated the process as it forced me to focus and to be decisive in my actions and choices. Needless to say, I'm glad with my results.

The results themselves, specifically the innovation partnership roadmap, can in my opinion be a contribution to the fields of construction management and procurement law. While I created no new elements, I used known elements to formulate a novel process. In other words: using known ingredients I created a new dish. Hopefully my thesis shows that tendering is not an obstacle for innovation, it can be a driver.

Lastly, I owe much gratitude to the people who helped me to carry out my graduation research. My examination committee: Monika Chao, Ronald van Warmerdam, Leon Hombergen, Hans Wamelink, who gladly could attend the last two meetings, Ernest and Rudolf, who guided me through the project in my new environment at AT Osborne. My colleagues at AT Osborne, who were almost always available to answer even the easiest questions (“Does anyone know what EMVI is?!?”). Denise Roggeveen, who checked my English and was relatively kind to me afterwards. Lastly, my family: my mother who paid both attention and bills, my father who unfortunately couldn’t experience the last six years of my education, my sister who checked everything while understanding nothing and finally my wife, burdened with the task to read every word, listen to every consideration, and rehearse every presentation, while doing her own studies on the side. Thank all of you.

Gerben Hofmeijer, March 201

EXECUTIVE SUMMARY

This research project has been conducted in a changing world. In Europe climate change is considered a problem in need of urgent solutions. The European Commission (2010) formulated a strategy, EU2020 to realise a sustainable transition. New technologies are needed to achieve sustainable targets. Public parties have an important role in this transition and can accelerate the process, for instance by procurement of sustainable innovations. However, therefor another manner of tendering was required. The EC has included a new procedure in Directive 2014/24/EU to make this possible: the innovation partnership. The procedure has been set in motion in The Netherlands since July 1st, 2016. The threat exists that contracting authorities will not use the procedure because there are still many uncertainties considering its use. In this research project has been tried to optimize the usability of the procedure by identifying its strengths, weaknesses, opportunities and threats as well as formulating a strategy to make best use of these properties while taking away uncertainties by clarification.

The innovation partnership is a tendering procedure in which market parties can react to a tender invitation expressing the need for an innovative product. The market parties go through a number of predetermined R&D phases, after which the contracting authority can procure one or multiple of the developed innovations (Tendering Act 2012 (2016), article 2.126 subs b-d). The procedure is considered an addition to the available procedures as it fulfils the need for a procedure that combines R&D phases with direct procurement, which was legally impossible before.

The procedure's SWOT-properties have been derived from literature and interviews with professionals. The research literature included amongst others Directive 2014/24/EU, Tendering Act 2012 (2016), supporting legal literature by Essers (2013), and theory on product innovation with a public client: The OECD's Oslo Manual by Mortensen and Bloch (2005). The found properties are validated by means of a questionnaire that was distributed to professionals. The field research consisted of a series of interviews with professionals at contracting authorities, advisory firms and market parties, which were working with the procedure, or will potentially be working with it in the future. The findings from these interviews were validated by a panel of experts.

All properties that were found have been used as input to form a strategy to optimize the usability of the innovation partnership procedure, which has been validated by a validation panel. The innovation partnership procedures properties can be employed by a contracting authority by adopting a strategy consisting of:

- growing awareness of the possibilities for projects offered by the innovation partnership and its use for the stimulation of innovation;

- finding other contracting authorities to procure together, sharing risks, costs and ensuring a mutually beneficiary result;
- creating internal support in the contracting organisation(s) will ensure allocation and engagement of human resources needed in the procedure;
- explicitly taking the role of launching customer to accelerate the development and diffusion of innovations;
- involving (and cooperating with) market parties and technically competent advisors directly after the problem definition in a market consultation to help formulating specifications, selection criteria and award criteria, the R&D phases to be followed, the project scope (ensuring a profitable business case for the market parties), and the distribution of risks and costs;
- setting challenging functional or performance-based specifications and award criteria, based on a problem definition, to stimulate creative problem solving;
- stimulating a technology-push to develop radical innovations by involving start-ups, using university spillovers, and formulating challenging specifications and award criteria;
- involving innovators like artists or start-ups in the procedure to exploit their creative strengths by decreasing procedural barriers;
- using procedural degrees of freedom like the number end length of the R&D phases to accommodate the market parties' creative process; and
- using successful innovation partnerships to stimulate the industry to innovate and to enhance the image of the contracting authority.

Furthermore, a contracting authority should consider the following:

- Tailor-made contracts for an innovation partnership, depending on project characteristics, market situation and the client's situation;
- A strategy should be formulated for the allocation of the produced intellectual property, mitigating a possible threat of providing state aid;
- Ensuring competition between tenderers can improve the process and outcome;
- A vendor lock-in should be avoided by awarding the contract to multiple parties or by making sure that the developed solution can be supplied by multiple parties;
- An investment in the procedure can result in a better outcome; and
- Innovation requires mutual trust between market parties and clients, a contracting authority 'boldly' exciting an innovation partnership will take away trust for future projects.

Demonstrated in this thesis are possibilities for public parties to tender (sustainable) innovations, along with how these possibilities can be exploited. The results can be used by contracting authorities to regard different options for tendering procedures. Moreover, it is shown that the procedure can be used to stimulate the development of sustainable innovation industry-wide.

Content

TABLES AND FIGURES

Abbreviations

ARW:	Aanbestedingsregelement Werken
CA:	Contracting Authority
CD:	Competitive Dialogue
CPN:	Competitive Procedure with Negotiation
DBFM:	Design Build Finance Maintain
EC:	European Commission
EU:	European Union
MaaS:	Mobility as a Service
MEAT:	Most Economically Advantageous Tender
NL:	The Netherlands
OECD:	Organisation for Economic Cooperation and Development
PCP:	Pre-Commercial Procurement
R&D:	Research and Development
RWS:	Rijkswaterstaat
SBIR:	Small Business Innovation Research
SER:	Sociaal-Economische Raad

1. Introduction

1.1 Topic

1.1.1 Context

Climate change is currently one of human kind's main challenges. The earth's temperature is rising with disastrous consequences. Polar ice shields are melting, the sea is rising and weather conditions are becoming more extreme. At the same time conventional energy sources are used up rapidly and the need for land to grow the food we need outgrows the actual availability of land. This is all happening due to human acts. We know what to change to solve these issues, the time to make these changes is now.

New solutions are currently rapidly being developed, offering sustainable alternatives for commodities. These product innovations require less or sustainable energy, or make sure the raw materials used are less polluting and reusable. The Netherlands needs to stimulate these innovations to reach the targets set in the Paris Agreement of 2015 (Sociaal-Economische Raad, 2013, 2015; United Nations, 2015). The SER advocates an ambitious transition agenda whereby the Netherlands can become a global leader in a number of industries. However, they argue, public procurement should be changed as well, as many public entities still choose for established options and not for sustainable alternatives (Sociaal-Economische Raad, 2016).

The tendering procedure considered in this thesis can be a solution that takes away the barriers that exist for contracting authorities to tender sustainable innovations. The research is crucial to exploit the opportunities that are offered nowadays.

1.1.2 Motive

The driver for the topic of this research is *sustainable growth*. Sustainable growth is one of three priorities stated in the Europe 2020 strategy (European Commission, 2010, p. 5). An important ambition of this strategy is to change the *energy* system from dispensable to renewable sources (European Commission, 2010, pp. 5 - 6). This research focusses on the *accessibility* sector, which entails both mobility and infrastructure. The energy transition also takes place within accessibility, such as electric vehicles, public loading docks, and mobility as a service (MaaS) (Sociaal-Economische Raad, 2013, pp. 99 - 104). Mobility is rapidly innovating, and many of the new means of mobility need a supporting infrastructure. Investments in infrastructure annually surpasses 10 billion euros in the Netherlands. This money can be invested in innovative sustainable solutions for future mobility. The *public sector* has an important role in this transition, through for example stimulating sustainable developments and taking responsibility in the *public procurement* of works. In fact, Aschhoff and Sofka (2009) found that public procurement is the best tool

to stimulate market parties to innovate. *Product innovations* are crucial, the Europe 2020 goals cannot be achieved with the technologies currently available (European Commission, 2010, p. 17; Labandeira, 2015). The new *innovation partnership* procedure was specifically designed for the procurement of innovations, at the request of contracting authorities (Telles & Butler, 2014, p. 24).

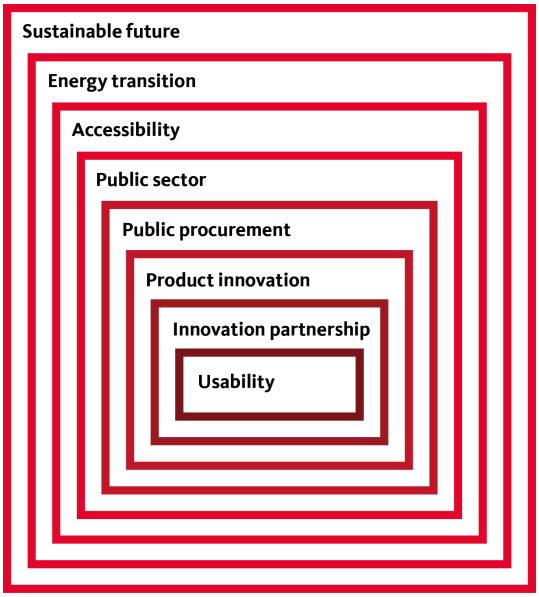

Figure 1: Research framing

1.1.3 Problem

The new innovation partnership tendering procedure has just become available since July 1st of 2016. Not more than a handful of current projects are known to use the procedure. Opinion multipliers in Dutch news sources have reacted to the new procedure with doubts, suggesting potential problems (Beukema, 2015; De Koning, 2015; De Wijs & Van der Kooi, 2016; Velthuizen, 2014).

The uncertainty amongst contracting authorities regarding the application of the innovation partnership causes hesitation to use it. This hesitation might in turn lead to the procedure not being used to its full potential, missing its inherent opportunity to stimulate innovations.

1.1.4 Objective

The goal of this thesis is to take away hesitation to choose the innovation partnership by optimising its usability by finding its strengths and potential pitfalls and use these to develop a strategy for the optimal use of the procedure. Uncertainties of a contracting authority can be taken away by finding and presenting the procedures' properties and the following strategy in a clarifying graphical model.

1.2 Research questions

The main research question is:

> *What strategy allows for the optimal utilisation of the innovation partnership's properties, in order to maximize its usability for contracting authorities regarding product innovations in the accessibility industry in The Netherlands?*

'Properties' in this case entails the helpful and harmful effects the procedure has on the internal process of procurement and its external stakeholders: strengths, weaknesses, opportunities and threats.

'Utilisation' in this case indicates that both negative and positive properties can serve a purpose in forming the strategy.

The sub-questions to be addressed in order to answer the main research questions are:

1. What are the SWOT-properties of the innovation partnership that can be derived from literature?
    i. What is the innovation partnership procedure in the field of procurement law?
    ii. Which factors determine the choice of a contracting authority for a tendering procedure?
    iii. What is the context in which the innovation partnership is used?
    iv. What is product innovation in the construction industry?
2. What are the SWOT-properties of the innovation partnership that professionals foresee?
    i. Which policy instruments are used to stimulate innovations?
    ii. How are new tendering procedures adopted into practice?
    iii. What are professionals' predictions concerning the innovation partnership procedure?
3. What can be learned by comparing the theoretical SWOT-properties with the SWOT-properties found in practice?
4. How can the SWOT-properties of the innovation partnership procedure be exploited in order to optimise its usability?

1.3 Scope

This research covers multiple fields of interest: tendering law, public policymaking, innovation management and construction management. Therefore, it is important to have a clear scope. First of all, this thesis is written as a graduation project for construction

management and engineering and focusses on working with the EC directive and Tendering Act as would a project manager in that field. Because the recommendations in this research are intended for executive services, guidelines concerning the innovation partnership are studied but seen as a given, not to be potentially altered. Only Directive 2014/24/EU and the current version of the Tendering Act 2012 (July 1st, 2016) have been studied for the sake of this research, directive 2014/25/EU (for utilities) and the ARW are outside of this scope.

Furthermore, the research entails public organisations in the Netherlands, concerned with accessibility issues: Rijkswaterstaat, the Ministry of Infrastructure and the Environment, provinces, water boards, municipalities and other similar authorities. Accessibility is chosen as a focal point because an innovation partnership is currently being used for an accessibility issue in The Netherlands, and this offers a rare opportunity to study a running case. However, the scope of the research is broader than this project alone and other projects and actors in the accessibility industry have been researched. Accessibility issues in this thesis entail 'mobility'- and 'infrastructure'-projects.

1.4 Structure of the report

This report follows the sub-questions from chapter 1.2. in chapter 2 the research methodology is presented. Chapter 3 is a literature study, answering questions 1.i to 1.iv. The results of the literature study are presented in a SWOT analysis in chapter 4, herewith answering question 1. Questions 2.i to 2.iii are addressed in chapters 5: field research and chapter 6: practical SWOT answers question 2. In chapter 7 the two SWOT analyses are combined and compared, answering question 3. Furthermore, chapter 7 to 9 answer question 4 and the main research question by showing how the properties can be exploited in the form of a strategy as well as recommendations for use of the procedure. In the discussion, chapter 10, the conclusions are interpreted and the method and recommendations for further research are shortly reflected upon.

2. Research methodology

2.1 General

The objective in this exploratory research project is to support the usability of the innovation partnership procedure by diagnosing its properties, designing a strategy to exploit these properties and presenting the procedure and its flexibilities in a graphical roadmap. The beneficiary is a governmental agency planning to procure an innovative solution for an accessibility issue.

It is an empirical research project with descriptive, qualitative results. An exploratory research carries the risk of losing focus, because every exploration in the matter brings new considerations and research questions (Saunders, 2011, pp. 139 - 140). This was avoided by setting and sticking to a clear goal. With this goal in mind, every research exploration could be assessed based on expedience.

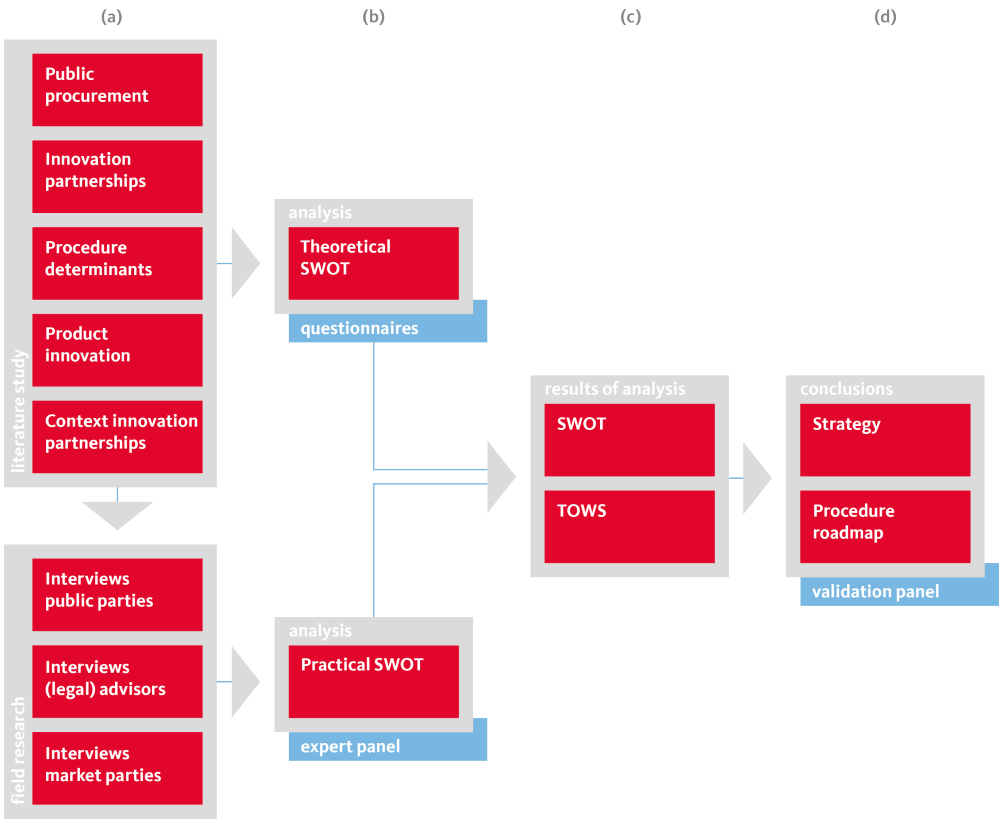

Figure 2: Research framework

The research is structured according to Figure 2. It starts with a literature review, in which theoretical strengths, weaknesses, opportunities and threats of the innovation partnership are identified and presented in the theoretical SWOT analysis. These findings are complemented by collecting experiences from professionals in the field by a series of interviews with market parties, public parties and advisors. The interviewees have either

worked with, know or could be involved in the procedure. The interview approach was adapted to suit the experience of the interviewee. The interviewees' perceptions of the strengths, weaknesses, opportunities and threats were derived and incorporated into the practical SWOT analysis. The theoretical SWOT analysis is validated by means of a questionnaire that was distributed to the interviewees and their direct relations, as well as other professionals familiar with the procedure. The practical SWOT analysis was nourished and validated by an expert panel. The findings from the theoretical SWOT, practical SWOT and questionnaire were used to comprise an all-inclusive SWOT/TOWS analysis. This analysis reflects the explored findings and was used to find strategies for optimal usability. Based on this last step, conclusions and recommendations including the graphical roadmap were made. The outcomes of the research project were validated using a validation panel. The research steps are further elaborated on in this chapter.

The fact that there is very little data available on the implementation of the innovation partnership is a complication in this research. Only 3 projects making use of the procedure have started: Dehydration monitors for the elderly in Denmark; sustainably powered trains in Germany (PIANOo, 2017); and the smart mobility project 'Talking Traffic' in The Netherlands (Ministry of Infrastructure and the Environment, 2017). Only the latter has been considered, for it was both within the scope of the research and available to study. The challenge was to test the hypotheses without actual (completed and evaluated) cases.

2.2 ESCL Master Thesis Prize disclaimer

For the purpose of length, the full disquisition of the used research tools was not included. The tools and activities described in the original version were:

- The literature study methodology, including
    - Porter's five forces model (Porter, 1979);
- The field research methodology, including
    - Semi-structured interviews (Saunders, 2011, pp. 320 - 323);
    - The grounded theory (Saunders, 2011, p. 509); and
    - Questionnaires (Saunders, 2011, pp. 320 - 323);
- The analysis methodology, consisting of:
    - The SWOT analysis (Weihrich, 1982) and
    - The SWOT/TOWS analysis (Weihrich, 1982); and
- The method of validation, consisting of
    - The expert panel; and
    - The validation panel.

3. Literature study

The literature study consists of five subchapters. In the first subchapter, the relevant concepts of public procurement in the Netherlands will be introduced. Next, the innovation partnership itself is studied by giving a description of the procedure as it is written in Directive 2014/24/EU and the Dutch Tendering Act 2012 (2016). Important for answering the research question on the usability of the innovation partnership procedure is to find determinants for the choice for a tendering procedure. After this product innovation in the construction industry is introduced. Lastly, the external forces acting on and with the innovation partnership will be introduced.

The goal of the literature study is to find a theoretical basis for this graduation research project. The studied literature is used to develop an understanding of the matter and the findings will be presented in a theoretical SWOT-analyses and will serve as input for the field research. The method is introduced in subchapter 2.2.

3.1 Public procurement in The Netherlands

3.1.1 ESCL Master Thesis Disclaimer

The full study of the relevant concepts of tendering in The Netherlands can be found in the original text. The most important theory is presented in a summary.

3.1.2 Summary

An overview of the relevant concepts of tendering in The Netherlands is presented by giving a definition and an overview of the basic principles. It is clarified by more in-depth information on the different procedures that are used, who they are used by, and the process of tenders.

The definition being used in this thesis is formulated by Brackmann and Verlinden-Bijlsma (2011, p. 17):

> *"Tendering is a process of procurement in which the client transparently and objectively awards the contract to a contractor who meets certain requirements and made the best offer."*

Procurement law is a European initiative aimed at eliminating barriers to ensure free movement of people in all member states to improve economic well-being in all member states. The tendering directives are based on four basic principles, of which two are stated in the same article of the Dutch procurement law: non-discrimination and equality (art. 1.8), transparency (art. 1.9), and proportionality (art. 1.10) (Ministry of Economic Affairs, 2016). The rules from the European directive are implemented in the Dutch law by the

affiliated ministry of The Netherlands (in this case the Ministry of Economic Affairs). (Pijnacker Hordijk, Van der Bend, & Van Nouhuys, 2009, p. 24).

The Dutch Tendering Act 2012 (2016) and Directive 2014/24/EU describe a total of 14 tendering procedures. Also, the EC provided the pre-commercial procurement procedure.

The tendering process is followed through a sequence of steps. These steps must be published in order to ensure transparency. These are, in chronological order: question, orientation, tender invitation, selection of participants, information exchange, assessment and award (Tendering Act 2012 (2016) art. 2.58 – 2.131) (Wolswinkel, 2015, p. 25).

3.2 The innovation partnership procedure

In this subchapter the innovation partnership is described using the European Directive 2014/24/EU and the Dutch Tendering Act 2012 (2016). The description includes remarks by authors on the directive, the changes in the Tendering Act 2012 (2016) and affiliated documents. The information in the directive is graphically shown in Figure 3, which is a graphic interpretation of the theoretical procedure.

3.2.1 The innovation partnership in the European directive

Article 31 of Directive 2014/24/EU of the European Commission (2014, pp. 112-113) describes the innovation partnership. The guidelines concerning works are:

Art. 31 lid 1. In innovation partnerships, any market party can request to participate in response to a notice by providing the information that is requested by the contracting authority. The contracting authority can only request works that are not (yet) available on the market and must set minimum requirements for tenders. The information in the notice must be precise enough for the market parties to be able to determine scope and nature of the assignment;
The contracting authority can decide whether to set up the innovation partnership with one or multiple partners, conducting their R&D activities parallel;
The contracting authority must select participants for the procedure from the received tenders;
The contracts shall be awarded on the sole basis of the award criterion for the most economically favourable tender.

Art. 31 lid 2. The innovation partnership shall aim at the development of works and the subsequent purchase of the resulting works, provided that they correspond to the performance levels and maximum costs agreed between the contracting authorities and the participants;

The innovation partnership shall be structured in successive phases following the sequence of steps in the research and innovation process. The innovation partnerships shall set intermediate targets to be attained by the partners and provide for payment of a remuneration in appropriate instalments;
After each phase, based on the targets, the contracting authority can terminate the innovation partnership or individual contracts.

Art. 31 lid 3. After each but the last tender submission, the contracting authorities shall negotiate with tenderers. The minimum requirements and the award criteria shall not be subject to negotiations.

Art. 31 lid 4. The basic principles of procurement law apply, which means that:

a. the contracting authority shall not provide information in a discriminatory manner which may give some tenderers an advantage over others;
b. they shall inform all tenderers whose tenders have not been eliminated of any changes to the technical specifications or other procurement documents other than those setting out the minimum requirements; and
c. contracting authorities shall provide sufficient time for tenderers to modify and re-submit amended tenders, as appropriate.

The contracting authority shall not reveal confidant information of one tenderer to the others without its agreement.

Art. 31 lid 5. Negotiations during an innovation partnership may take place in successive stages in order to reduce the number of tenders to be negotiated by applying the award criteria specified in the contract notice. This must be indicated beforehand.

Art. 31 lid 6. The selection criteria applied by the contracting authority shall concern the candidates' capacity in the field of research and development and of developing and implementing innovative solutions;
In the procurement documents, the contracting authority shall define the arrangements applicable to intellectual property rights.

Art. 31 lid 7. The contracting authority is responsible for the structure of the partnership and in particular ensures:

a. the duration and value of the different phases reflect the degree of innovation of the proposed solution and sequence of the research and innovation activities required;

b. the estimated value of supplies, services or works shall not be disproportionate in relation to the investment required for their development.

3.2.2 Comments on the innovation partnership in the directive

Reflecting on the directive, Chao (2014, pp. 224 - 225) and Europa Decentraal (2012) state that with this directive the European Commission aims to stimulate procurement of innovation and to help the member states achieve targets of innovation. Furthermore, the provision on the design of the partnership and word choices such as 'contracting authority' suggest that the partnership is a procurement process during the research and development phases, while other word choices like 'partner' indicate a contractual phase. Therefore, it is unclear whether the European legislator views the innovation partnership as a pre-contract tendering phase or a contractual phase, which is relevant for the application of the procurement law (Chao, 2014, p. 228).

The innovation partnership can only be used when there is a need for a new or significantly improved solution. Significantly improved solutions entail solutions that cannot be found without extra research and development. The improvements can be achieved on all aspects, including functionality, sustainability, life cycle costs, reliability or safety (PIANOo, 2016a).

3.2.3 The innovation partnership in Dutch law

The innovation partnership is included in the Dutch Aanbestedingswet 2012 (BWBR0032203) (Ministry of Economic Affairs, 2016), to be referred to as 'Tendering Act 2012 (2016)', applicable since July 1st, 2016. This is the Dutch transposition of the directive. Tendering Act 2012 (2016) includes a definition as well as guidelines for the innovation partnership procedure.

In article 1.1[1], the procedure for the innovation partnership is defined as: "Procedure in which all entrepreneurs can propose a request to participate after a notice of a contract aimed at the development and procurement of an innovative supply, works or service that is not already available on the market and in which is worked towards definitive tenders by means of negotiation with one or multiple of them."

[1] "*procedure van het innovatiepartnerschap:* procedure waarbij alle ondernemers een verzoek tot deelneming mogen indienen naar aanleiding van een aankondiging voor een opdracht die is gericht op de ontwikkeling en aanschaf van een innovatief product of werk of een innovatieve dienst welke niet reeds op de markt beschikbaar is en waarbij door middel van onderhandelingen met een of meer van hen naar definitieve inschrijvingen wordt toegewerkt;"

In article 2.31b[2], the procedure steps are listed as follows. “The contracting authority:

1. publishes the notification of the public contract;
2. assesses whether a candidate complies to the grounds for exclusion;
3. assesses whether a non-excluded candidate complies to the, by the contracting authority formulated suitability requirements;
4. assesses whether a non-excluded and non-rejected candidate complies to the, by the contracting authority formulated selection criteria;
5. invites selected candidates to propose a first tender;
6. negotiates the first and successive tenders with the tenderers, retaining the definitive tender, to improve the content of the tender, while not negotiating award criteria and minimal requirements;
7. assesses the definitive tenders based on award criteria and minimal requirements to the most economically advantageous tender;
8. makes a record of the commissioning;
9. announces the award decision;
10. can close the deal; and
11. publishes the announcement of the awarded public contract”

Article 2.99 lid 1 specifies in that the contracting authority can limit the number of parties it will invite to tender for a public contract. Art. 2.99 lid 3 states that at least three parties must be invited. All parties must be invited in written fashion at the same time (art. 2.105 lid 1).

The contracting authority selects the winner of the public contract based on the best price-quality ratio (art. 2.114 lid 1 & 2.126b lid 1). The criteria are related to the public contract and can cover, inter alia (art. 2.115 lid 1-2):

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[2] “De aanbestedende dienst:

a. maakt een aankondiging van de overheidsopdracht bekend;
b. toetst of een gegadigde valt onder een door de aanbestedende dienst gestelde uitsluitingsgrond;
c. toetst of een niet-uitgesloten gegadigde voldoet aan de door de aanbestedende dienst gestelde geschiktheidseisen;
d. beoordeelt de niet-uitgesloten of niet-afgewezen gegadigden aan de hand van de door de aanbestedende dienst gestelde selectiecriteria;
e. nodigt de geselecteerde gegadigden uit tot het doen van een eerste inschrijving;
f. onderhandelt met de inschrijvers over hun eerste en daaropvolgende inschrijvingen, met uitzondering van de definitieve inschrijving, om de inhoud ervan te verbeteren, met dien verstande dat niet wordt onderhandeld over de gunningscriteria en de minimumeisen;
g. beoordeelt de definitieve inschrijvingen aan de hand van door de aanbestedende dienst gestelde minimumeisen en het door hem gestelde gunningscriterium de economisch meest voordelige inschrijving op basis van de beste prijs-kwaliteitverhouding en de nadere criteria, bedoeld in artikel 2.115;
h. maakt een proces-verbaal van de opdrachtverlening;
i. deelt de gunningsbeslissing mee;
j. kan de overeenkomst sluiten;
k. maakt de aankondiging van de gegunde overheidsopdracht bekend.”

- (technical) quality;
- esthetical and functional characteristics;
- accessibility;
- fitness for use;
- social, environmental and innovative characteristics;
- the organisation;
- customer service and technical aid;
- delivery conditions.

Articles 2.126b to 2.126d in the Dutch Tendering Act 2012 (2016) cover the information described in Directive 2014/24/EU, art. 31.

3.2.4 Comments on the innovation partnership in the Tendering Act

Essers and Van Blaaderen (2015, p. 205) state, in response to the concept bill to alter the Tendering Act, that the difference between the innovation partnership procedure and the competitive procedure with negotiation is minimal. Differences found are e.g. the tenders in an innovation partnership procedure are aimed at participation in the partnership; the procedure can be followed with a single participant and the mandatory award criterion is best quality-price ratio.

Jansen (2016, p. 157) argues that the innovation partnership procedure is actually not a tendering procedure: "It is a way to divide a scarce privilege, namely participation in a partnership with a contracting authority with possibly a contract as result". As Essers and Van Blaaderen, he considers the procedure similar to the competitive procedure with negotiation.

3.2.5 Visualisation of the innovation partnership procedure

A. A contracting authority needs works that are not (yet) available on the market (Directive art. 31 lid 1)
B. The contracting authority must decide whether to set up the innovation partnership with one or multiple partners (Directive art. 31 lid 1)
C. The contracting authority publishes a request for proposal (Directive art. 31 lid 1; Tendering Act art. 2.31b)
D. The contracting authority assesses whether a candidate complies to the ground for exclusion (Directive art. 31 lid 1; Tendering Act art. 2.31b)
E. The contracting authority receives tenders (Directive art. 31 lid 1)
F. The contracting authority assesses whether a candidate complies to the suitability requirements (Directive art. 31 lid 1; Tendering Act art. 2.31b)
G. The contracting authority assesses whether a candidate complies to the selection criteria (Directive art. 31 lid 1 & 31 lid 5; Tendering Act art. 2.31b)

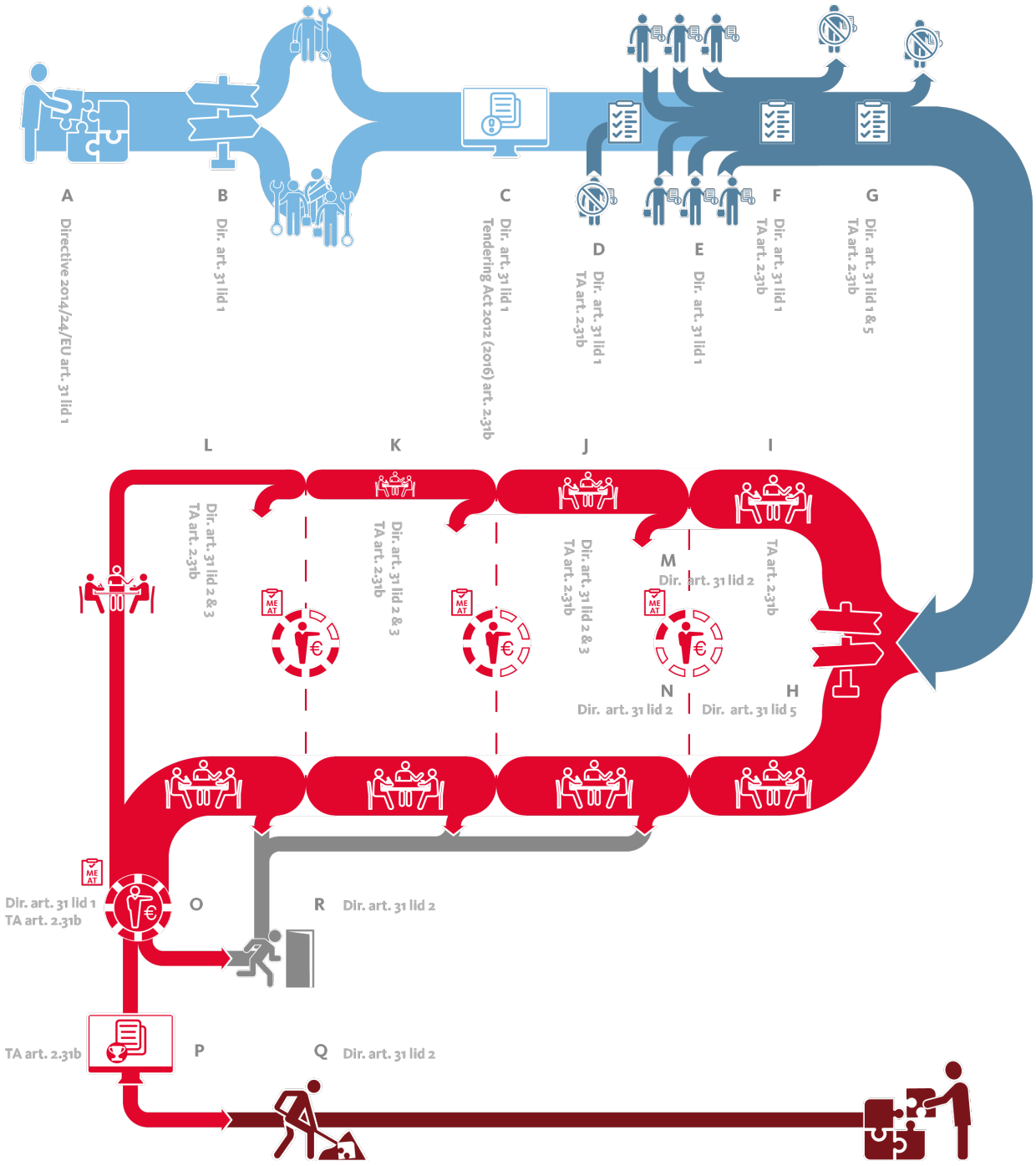

Figure 3: Visualisation of the innovation partnership procedure

H. The contracting authority chooses whether to reduce the number of tenders in successive stages (Directive art. 31 lid 5)
I. The selected tenderers propose a first tender (Tendering Act art. 2.31b)
J. Negotiation round to improve the content of the tender following the innovation process (Directive art. 31 lid 2-3, Tendering Act art. 2.31b)
K. See J
L. See J
M. After each phase the contracting authority can terminate individual contracts (Directive art. 31 lid 2)

N. The innovation partnership shall set intermediate targets to be attained by the partners and provide for payments when these targets are achieved (Directive art. 31 lid 2)
O. The contracting authority shall award the contract based on the criterion for the most economically advantageous tender and announce the decision (Directive art. 31 lid 1; Tendering Act art. 2.31b)
P. The contracting authority publishes the announcement of the awarded public contract (Tendering Act art. 2.31b)
Q. The contracting authority purchases the works resulting from the procedure (Directive art. 31 lid 2)
R. The contracting authority may decide after each phase to terminate the innovation partnership (Directive art. 31 lid 2)

3.3 Choosing a tendering procedure

In this section, currently used tendering procedures are examined as well as the determinants that lead to the choice for a certain procedure. This in turn will help find determinants for the usability of the different procedures which will be used to determine the usability of the innovation partnership.

3.3.1 Often used procedures

The tendering procedures discussed in this thesis are to fulfil the need for works with a non-recurring nature. For these cases two kinds of tendering procedures are widely used: the open procedure and the restricted (Brackmann & Verlinden-Bijlsma, 2011, p. 87). The restricted procedure lets the contracting authority pre-select the tenderers and is therefore used in cases where a larger number of tenderers leads to significantly higher transaction costs or when the number of market players expected to tender is relatively high (Twynstra Gudde, 2016).

An examination of TenderNet (2016) shows that of all available notifications and tender invitations for works available on the site published between September 8th, 2015 and September 8th, 2016 (a total of 1553):

- 835 are open procedures;
- 637 are restricted procedures;
- 42 are negotiated procedures;
- 39 are competitive dialogues;
- 0 are negotiated procedure without prior publication; and
- 0 are innovation partnerships.

The key factors that lead to the choice for one of the procedures are presented in the next paragraph.

3.3.2 Determinants of influence to the choice of tendering procedures

Determinants that influence the choice for a particular tendering procedure are found in several sources: scientific decision support models by Okunlola and Olugbenga (2010), Gordon (1994), Mohsini (1993) and Alhazmi and McCaffer (2000); and practical guidelines by PIANOo (2016b) and Twynstra Gudde (2016).

The decision support models and practical guidelines show a total of 43 determinants that influence the choice for a tendering method, which can be divided into 6 categories: law and regulations, project characteristics, market situation, 'cost, time and scope', degree of risk avoidance by the contracting authority, and the situation of the contracting authority. These are presented in appendix E. The table shows the determinants the researchers found and to which extent they correspond to a category.

Most frequently mentioned by researchers are factors related to *project characteristics*, including the nature and type of the project (Alhazmi & McCaffer, 2000; Mohsini, 1993; PIANOo, 2016b), the degree of project complexity (Mohsini, 1993; Twynstra Gudde, 2016) and the possibility of making specifications (Gordon, 1994; Twynstra Gudde, 2016).

The situation of the client is mentioned second most frequently, by five out of the six researchers. Within this category the type of client is an important factor. Contracting authorities come in different shapes and sizes. The frequency in which a contracting authority procures is important, as more experience with procurements of certain types of works, goods or service leads to different behaviour towards tendering and a better availability of staff for tendering (Alhazmi & McCaffer, 2000; PIANOo, 2016b). Also important for the choice for a tendering procedure is the degree of control of design the client is planning to take (Alhazmi & McCaffer, 2000; Mohsini, 1993). The capabilities of the contracting authority is also an important factor, as this entails among other things the staffing of the contracting authority and the level of administrative burden it is willing to take (Gordon, 1994; PIANOo, 2016b). One other factor that can be important in deciding a tendering procedure are the policies the contracting authority must abide by. Policies are formed in political proceedings and imposed on a contracting authority (PIANOo, 2016b).

Cost, time and quality constitute the third most frequently mentioned category of determinants. Especially lead time relative to the expected project duration is considered important (Okunlola & Olugbenga, 2010; PIANOo, 2016b; Twynstra Gudde, 2016). Furthermore, Okunlola and Olugbenga (2010), also mention relative costs (certainty) and quality of the product as essential determinants.

The *Market situation* is the fourth most frequently mentioned category. Two important factors are dominant in this category: market supply (Alhazmi & McCaffer, 2000; PIANOo, 2016b; Twynstra Gudde, 2016) and competition (Okunlola & Olugbenga, 2010; PIANOo, 2016b). This means that a contracting authority will assess, prior to choosing a tendering strategy, whether there are many market players who can solve its problem and their potential to compete for the contract.

The degree to which the client is willing to take risks, or *risk avoidance* is mentioned as a determinant by Gordon (1994), Mohsini (1993) and specified in time and cost by Okunlola and Olugbenga (2010).

The last detectable category, mentioned in 5 of the 43 determinants *is 'laws and regulations'*. The factors all state that the contracting authority is bound to choosing a tendering strategy that meets requirements concerning rules, regulations and restrictions (Alhazmi & McCaffer, 2000; Gordon, 1994; Mohsini, 1993; PIANOo, 2016b).

3.3.3 Implications for this research

The goal of this research project is to make recommendations that will increase the usability of the innovation partnership procedure for contracting authorities. The determinants found in the last paragraph imply that these recommendations should consider the project characteristics and situation of the client first and foremost, as these largely determine which procedure will be used. Essentially the choice for an innovation partnership should be made when the procured project is suitable for an innovation partnership and the contracting authority initiating the tender is willing and able run an innovation partnership. Cost, time and quality, as well as market situation must also be taken into account. A contracting authority should consider the procedures' costs and lead time and whether there are enough market parties to stimulate competition in an innovation partnership. Lastly, a contracting authority should assess the risks concerned with an innovation partnership procedure and should stay within the regulatory framework.

3.4 Product innovation in public construction projects

3.4.1 Introduction

The construction industry is less innovative then other industries in The Netherlands (De Bruijn & Maas, 2005), the adoption of previously developed concepts is more common practice (Ozorhon, Abbott, & Aouad, 2013). Nevertheless, a number of scholars have been researching innovation in the construction industry. Their findings are used to substantiate the concept of product innovation in the context of this thesis.

3.4.2 ESCL Master Thesis Disclaimer

The full study of innovation-related theory can be found in the original text. The most important theories and figures are presented in a summary.

3.4.3 Summary

Product innovation in the construction industry can be described with respect to the topic of this thesis by giving a definition of innovation and more specifically product innovation, and focussing on the innovation process, diffusion of innovations and the innovation mechanisms demand-pull and technology-push.

In this thesis, innovation is defined as (Directive 2014/24/EU, art. 2.22):

> *"...the implementation of a new or significantly improved product, service or process, including but not limited to production, building or construction processes, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations inter alia with the purpose of helping to solve societal challenges or to support the Europe 2020 strategy for smart, sustainable and inclusive growth."*

In this thesis product innovation specifically is addressed. It is accordingly defined as:

> *...the implementation of a new or significantly improved technical artefact.*

Five types of product innovations are distinguished: incremental, modular, architectural, system and radical. Incremental and radical innovations differ from each other since incremental innovation improves a concept without affecting the linkages with its components while radical innovation replace a concept, completely overhauling linkages (Slaughter, 1998).

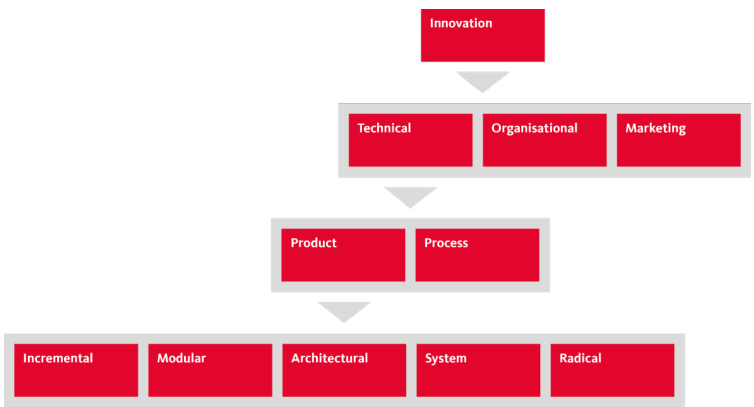

Figure 4: Categorisation in kinds and types of innovations (Mortensen & Bloch, 2005; Slaughter, 1998)

The innovation process exists of seven steps, that overlap and do not follow a chronological order, but however do exists in the process: idea; preliminary assessment; concept; development; testing; trail and launch (Cooper, 1983).

Figure 5: Innovation process model (Cooper, 1983)

When an innovation has been developed it can be adopted by the public. This is called diffusion of innovation and follows five stages: knowledge, persuasion, decision, implementation and lastly confirmation (Garcia & Calantone, 2002, p. 123; Slaughter, 1993, pp. 542 - 544). A contracting authority as launching customer stimulates innovations by accelerating the diffusion of innovations. This happens when a public organisation implements innovative technologies (on a large scale) (Aschhoff & Sofka, 2009; Rothwell, 1984, 1994).

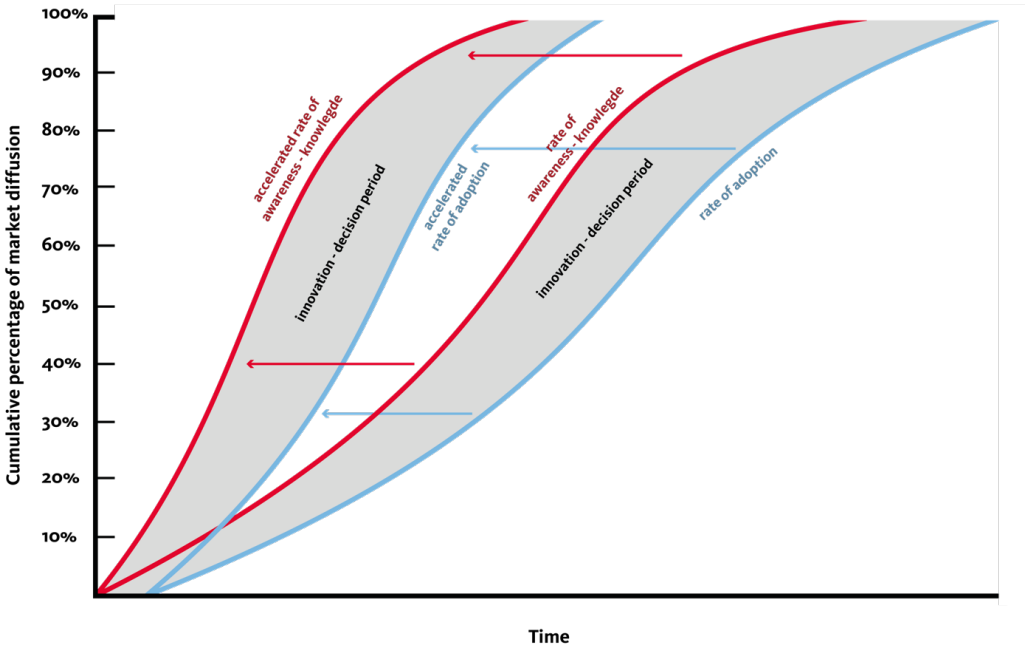

Figure 6: Acceleration of diffusion after Rodgers (1983)

Lastly the main difference between demand-pull and technology-push is that the client is the initiator of a demand-pull innovation process, and mostly incremental innovations will be developed, while the manufacturer initiates a technology-push which is a viable process for creating a radical innovation (Rothwell, 1994). The contracting authority must be aware of the differences between an incremental or radical innovation, to decide what tendering strategies to adopt. All tendering procedures can generate a demand-pull of innovations, resulting in incremental innovations. Only the innovation partnership can potentially create a technology-push, and therefore radical innovations (Garcia & Calantone, 2002; Slaughter, 1993, 1998; Wolswinkel, 2015).

Figure 7: Technology-push (Rothwell, 1994, p. 8)

Figure 8: Demand-pull (Rothwell, 1994, p. 9)

3.5 External factors impacting the innovation partnership

The context of the innovation partnership will be described by a model based on the five-forces of Porter (1979), as was introduced in chapter 2.2.1. Using the model, the analyst can anticipate external opportunities and threats. Instead of a company or product, for which the model is commonly used, it is adapted to fit the innovation partnership procedure, as shown in Figure 9. In the situation of the innovation partnership 'suppliers' are contractors, who are assessed based on their opportunities abilities to be involved in the procedure. Porter's 'buyers' are in this model the contracting authorities and where Porter speaks of 'rivals', 'alternatives' would fit this context better: other tendering procedures that can be used in order to reach the same goal.

The five forces represent external powers that form the context in which the innovation partnership is used. New entrants, substitutes, contractors, contracting authorities and alternative tendering procedures will be assessed based on their influence on the usability of the innovation partnership.

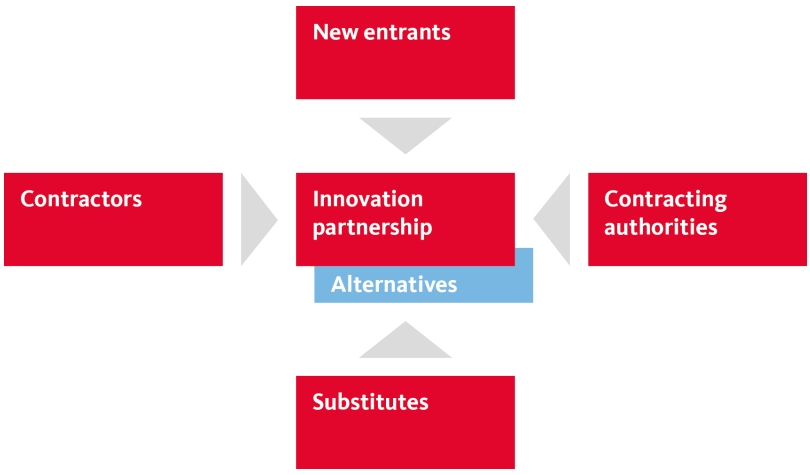

Figure 9: Adaption of the five-forces model

3.5.1 New entrants

New entrants are new tendering procedures that can be potentially used instead of the innovation partnership. Since the revised Tendering Act was adopted July 1st, 2016, there is no pressure on the innovation partnership from possible new entrants. It is a new entrant itself.

3.5.2 Substitutes (summarised)

Substitutes are means other than procurement that can be used for the same goal: the development of innovations in public accessibility projects. Aschhoff and Sofka (2009) analysed the effect of public procurement on innovation with respect to other forms of public support: regulations, R&D subsidies and basic research at universities. Their results show that only knowledge spillovers from universities have an equally strong positive effect on the market success of innovations. Neither regulation nor public funding seem to have a significant impact.

3.5.3 Contractors

On the supplier-side of the partnership there are two kinds of contractors: conventional contractors (builders and manufacturers) and unconventional contractors.

Concerning conventional contractors, Slaughter (1993) argues that builders and manufacturers can be a fruitful source of innovation. Builders make use of experience and expertise creating innovations based on integration of different parts of the assignment, while manufacturers of building supplies only focus on the element itself. Manufacturing firms do however have a large share in convention innovation in the construction sector. These firms operate in a more stable market and are therefore able to maintain R&D programmes. Manufacturers are constantly improving their products and their innovations have shown to improve the performance of the industry (Anderson & Manseau, 1999; Blayse & Manley, 2004).

Unconventional contractors differ from contract to contract. As the capacity to solve problems is a selection criterion in the innovation partnership (Directive 2014/24/EU, art. 31 lid 6), it allows for all kinds of companies, including start-ups, to participate in the partnership. Telles and Butler (2014) warn that a lack of experience of an unconventional contractor or start-up is a barrier when responding to a tender invitation. They fear the contracting authority will choose more experienced tenderers with less capacity to solve the problem because they know more about how to formulate a tender.

3.5.4 Contracting authorities

The contracting authorities potentially making use of the innovation partnership are the same as those in the description of public procurement in paragraph 3.1.3 and as stated are

divided into three groups: traditional state authorities, bodies governed by public law and combinations of the first two.

The risks and costs affiliated with the innovation partnership is predicted to lead to its use merely by central contracting authorities like Rijkswaterstaat (Velthuizen, 2014, p. 44; Wolswinkel, 2015).

Innovation undeniably involves risks. The culture of contracting authorities tends to be risk-averse, as they are held accountable by law. However, without a fair distribution of the risks among parties that participate in innovation, an optimal innovation process is impossible. Also, innovators need to be rewarded for taking risks. If the reward is in place, contractors will have incentives to adopt new ideas and propose potential innovations to the client Winch (1998, p. 274). The OGC (2015, p. 5) argues that risks can be embraced as long as they are effectively assessed and managed.

3.5.5 Alternatives

Similarities and differences of four alternative tendering procedures will be discussed: The PCP, competitive procedure with negotiation (CPN), competition and CD. These procedures were introduced in chapter 3.1.5, but are in this paragraph compared to the innovation partnership procedure. The alternatives are discussed based on the following Figure 10, which is based on Sample (2014).

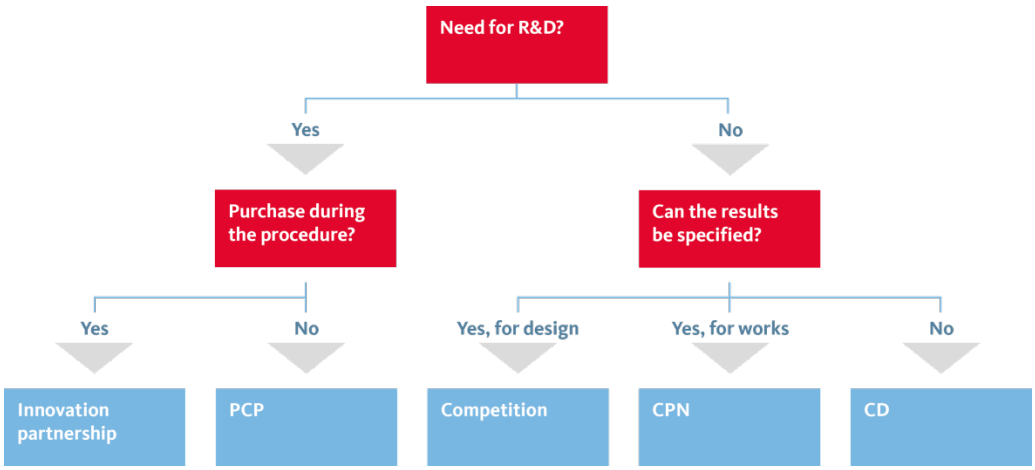

Figure 10: Decision model for PPI procedure, based on Sample (2014, p. 18)

Pre-Commercial Procurement

The Pre-Commercial Procurement procedure (COM(2007)799), in contrast to the innovation partnership, is not used for the purchase of innovative products or services, but for the research and development of said products or services. The PCP procedure follows the same route as the innovation partnership up until the final tender. In the innovation partnership, after the negotiation rounds the works that were conceived during the R&D phases is awarded. The PCP procedure on the other hand stops after the R&D phases and

leaves the contracting authority the possibility to issue a tender invitation to the market. The parties that participated in the R&D phases, amongst all others can respond with their tender. Similar to the innovation partnership, a PCP may not result in state aid. This is prevented in the communication (COM(2007)799) provided that the R&D project has public interest. (Sample, 2014; Van Nass, 2015)

A difference between the PCP and the innovation partnership addressed by Telles and Butler (2014, p. 29) is that COM(2007)799 does give an overview of the R&D phases. This is depicted in Figure 11.

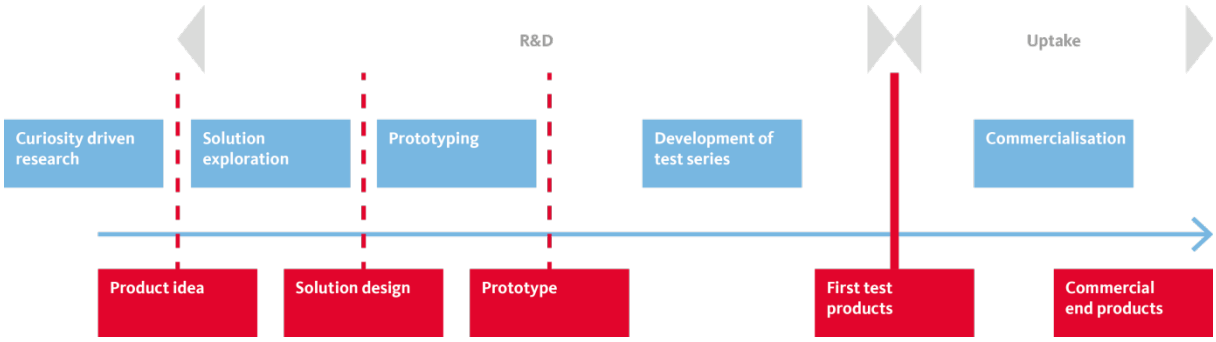

Figure 11: PCP process (European Commission, 2007, p. 3)

Competitions

Competitions (Directive 2014/24/EU, art. 32 lid 4) can lead to innovations, as the tenderers are free to choose a design they seem fit (Essers, 2013, p. 533). The competition makes use of the creativity that exists in the market and focusses on the diverging activities in the beginning of the R&D process. The innovation partnership has a different aim, as it follows the whole R&D process. The competition is ideally suited for architectural and engineering firms while the innovation partnership is, depending on the project, open to all kinds of entrepreneurs (Essers, 2013, p. 533; Wolswinkel, 2015, p. 28).

Competitive Procedure with Negotiation

The procedure of the competitive procedure with negotiation (CPN) (2014/24/EU, art. 29) is similar to the innovation partnership regarding the process of selection, negotiation rounds and awarding of the contract. The main difference is the motivation for using the procedure. The CPN is used for purchasing goods, works and services for which design, adjustments or innovation are needed. The CPN is only applied in cases where the contracting authority knows what changes or innovations are needed, as opposed to the innovation partnership, where these changes are unknown (Sample, 2014, pp. 22 - 23). Other differences are that in a CPN the negotiation phases do not explicitly have to be aligned with the innovation phases, while in the innovation partnership negotiations can be done with a single party and tenderers in the procedure of the innovation partnership aim to eventually participate in the partnership. (Essers & Van Blaaderen, 2015, p. 205; Sample, 2014, pp. 22 - 23)

Competitive dialogue

Lastly, the competitive dialogue can only be used in the letting of complex contracts (Essers, 2013, pp. 534 - 535; OGC, 2015, p. 12). This range of use is specified in Directive 2014/24/EU art. 26 lid 4, and matches the CPN. The main difference between the CD and innovation partnership are the need for R&D in order to solve the problem. Similarities include the possibility to structure the negotiations into rounds and the possibility to offer payments for deliverables during negotiations (Sample, 2014, pp. 21 - 22). Wolswinkel (2015, p. 62) furthermore concludes that the CD and innovation partnership are both good tools for the development of incremental innovations.

4. Theoretical SWOT analysis results

In the theory that has been studied for the literature study a number of strengths, weaknesses, opportunities and threats have been found. These are presented in the theoretical SWOT analysis (T-SWOT). First, an overview of the T-SWOT will be given. The findings are clarified under the corresponding SWOT-category. The T-SWOT is tested in practise by means of a questionnaire, presented at the end of this chapter. The T-SWOT serves as input for the SWOT/TOWS analysis in combination with the results from the questionnaire.

4.1 T-SWOT overview

Strengths	Weaknesses
1. Tendering is a stimulant for incremental innovations; 2. Possibility of technology-push; 3. Flexible procedure; 4. Possibility of tendering a new type of project; 5. A tool for development and direct purchase of innovations; 6. Possibility of contracting a single partner; 7. Exploit creative strengths of market.	1. Little practical experience; 2. Muddled definition of 'tendering'; 3. Ambiguous guidelines; 4. R&D phases are not elaborated; 5. The preferred supplier is chosen before the project scope is determined; 6. Ambiguities concerning cost and duration; 7. High administrative costs.
Opportunities	**Threats**
1. Cooperation of public and private partners; 2. A launching customer accelerates innovation diffusion; 3. Functional and performance-based specifications leave the option of creative ideas for tenderers; 4. University spillovers can be used; 5. Joint procurement by multiple contracting authorities; 6. Image improvement of contracting authorities; 7. MEAT-criteria can stimulate sustainable developments.	1. Radical innovations are unpredictable; 2. Risk-averse contracting authorities; 3. Overregulation; 4. Usage of other tools to stimulate innovation; 5. Procedural risks; 6. Limited range of application; 7. Creating a monopolist who owns the intellectual property.

Table 1: Theoretical SWOT analysis

4.2 Strengths

1. When in response to a tender an innovation is developed, this is essentially a demand-pull construction. This can *stimulate incremental innovation* when it is aimed at the improvement or substitution of an existing product (Garcia & Calantone, 2002, p. 124; Slaughter, 1993, 1998). The same mechanism is expected for the innovation partnership.

2. Wolswinkel (2015, pp. 71 - 72) found that the innovation partnership procedure differs from others in offering opportunities for the *tendering of radical innovations*. There are options to encourage a technology-push process, creating opportunities for the development of radical innovations

3. Directive 2014/24/EU stipulates that the structure of the partnership has to follow the innovation phases, but doesn't specify how. This leaves *flexibility* for the CA to adjust is to their specific needs. Chao (2014, p. 229) states that the new procedure offers the contracting authority more flexibility than other procedures to stimulate the market to come up with innovative solutions for complex projects.

4. The innovation partnership is considered potentially helpful in cases where there is a specific need for works that are not yet provided by the market (Chao, 2014, p. 227; Jansen, 2016, p. 157; PIANOo, 2016a). The innovation partnership opened the possibility of *tendering a new type of project*, which was found to be the most important determinant for the choice for a tender procedure in subchapter 3.3. The potential to tender a new range of projects is considered a strength.

5. The fact that a contracting authority is enabled to *directly purchase the innovation* that is being developed in the partnership is considered a strength. This can increase the willingness of the market party to invest in the R&D phase (Petit, 2014, p. 9; Wolswinkel, 2015, p. 71). Also, innovation is not only stimulated as a demand-side policy instrument by using public procurement, it is also stimulated in practice (Van Nass, 2015, pp. 214 - 215).

6. In the innovation partnership procedure, *a single partner can be contracted*, which addresses the need for a very particular solution only being offered by a single market party (Petit, 2014, p. 9).

7. Concerning contractors, the innovation partnership could *exploit the innovative capabilities* of builders as well as manufacturers and unconventional contractors (Telles & Butler, 2014, p. 28).

4.3 Weaknesses

1. The revised Tendering Act 2012, which contains the innovation partnership has only entered into force on the July 1st, 2016, a month before this research project started. Only a handful of European projects have started and none finished. This means there still exists *little practical experience*.

2. In the directive, *'tendering' is not defined*, throughout literature multiple definitions are used. Prier and McCue (2009) even speak of a 'muddled definition'. This is a weakness, not only of the innovation partnership but for all tendering procedures. In the case of the

usability of the innovation partnership itself it could be a threat that the actors who are new to the procedure have a distorted image of what tendering is.

3. Multiple authors remark that the regulations on the innovation partnership contain *ambiguities* concerning R&D, requirements and specifications and the definition of innovation (Chao, 2014, p. 228; De Koning, 2015; De Wijs & Van der Kooi, 2016; Petit, 2014, p. 9; Telles & Butler, 2014, pp. 29-31). This is a weakness for the usability of the procedure because it possibly induces uncertainties for the users.

4. Not one clear sequence of innovation process-steps is agreed upon by the researchers. However, Directive 2014/24/EU, art. 31 lid 2 states: "The innovation partnership shall be structured in successive phases following the sequence of steps in the research and innovation process, which may include the manufacturing of the products, the provision of the services or the completion of the works." Telles and Butler (2014, pp. 27 - 28) find these instructions unclear. *The directive neither gives a definition of the R&D process*, nor research, prototyping or manufacturing. Furthermore, the directive does not make clear whether the phases correspond to the PCP phases.

5. In an innovation partnership the *preferred supplier is chosen before the R&D is conducted*, when no information is available on what the supplies will entail. This brings in, according to Telles and Butler (2014, p. 28), the risk that tenders will not be compared based on who can deliver the best solution but based on broader selection criteria and negotiations.

6. The directive is poorly drafted with respect to *cost and duration* of the innovation partnership and how development costs can be divided amongst the partners (Petit, 2014, p. 9; Telles & Butler, 2014, p. 29). This will create uncertainties for both a contracting authority and market parties in using the procedure.

7. Schoenmaekers (2016, p. 7) foresees impracticalities concerning the *high administrative costs* that the innovation partnership is bound to have, being a new tendering procedure.

4.4 Opportunities

1. The *partnership*-element of the innovation partnership could be beneficial to the result and usability of the procedure. Bygballe and Ingemansson (2014) stressed that the shift from competitive tendering to partnering in procurement stimulates innovative behaviour. Within a partnership, risk and gains are shared, rewarding an innovator when he takes risk. This reward is an incentive to adopt new ideas to propose better solutions to the client. The innovation partnership can create a long-term collaboration between public and private parties. This influences the parties' capacity to produce high-quality results (De

Koning, 2015; Goudt, 2016). This is considered an opportunity for the usability of the procedure because it is a potential encouragement for CA's.

2. In public procurements, the client is a contracting authority. Contracting authorities are the key industry participants in stimulating innovation in addition to manufacturers (Blayse & Manley, 2004; Nam & Tatum, 1997). The more demanding a contracting authority is, for instance in its selection and award criteria, the more innovative solutions will be produced by a contractor. Also, the more a contracting authority is experienced with innovation, the more likely it is to stimulate innovation in its procurements (Barlow, 2000; OGC, 2015). Nam and Tatum (1997) found that contracting authorities who are "technically competent" are most likely to set the preconditions for innovative behaviour in projects. Rodgers (1983, p. 204) showed that the diffusion of innovations is accelerated when a public party procures an innovation, or functions as *launching customer*. This is considered an important opportunity for a CA that is in the process of procuring innovation.

3. As discussed in subchapter 3.1.6, creative solutions will most likely be achieved when the contracting authority makes use of *functional or performance based specifications*. These forms of specifications leave flexibility for the contractor to find other ways of meeting requirements. The alternative solutions that the contractors can come up with are potentially of better quality or create long-term improvements (OGC, 2015, pp. 16 - 17). The innovation partnership can be used in cases where the contracting authority has a problem but no solution. Specifying the problem rather that the solution in an outcome specification would take away the weakness foreseen by De Koning (2015) and De Wijs and Van der Kooi (2016) concerning setting up requirements and specifications for a product that has not yet been designed.

4. *University spillovers* can have an equally positive effect on the market value of innovations as procurement of innovations (Aschhoff & Sofka, 2009). These spillovers could potentially be exploited through innovation partnerships by involving universities or university-start-ups in the partnerships.

5. Contracting authorities can tender out an innovation partnership *collectively*. In this manner a central government can start a tender in cooperation with a water board and for instance a province in order to get a multi-beneficiary result in which all interests are integrated (Beukema, 2015).

6. Goudt (2016) argues that by making use of the innovation partnership, contracting authorities could *improve their image* as innovative public authority.

7. The set-up of the innovation partnership offers opportunities for *sustainable developments*, as it can set sustainability demands as award criteria and can integrate these as a key factor during the whole R&D process (Schoenmaekers, 2016, p. 7).

4.5 Threats

1. Generating radical innovations in response to a tender is practically impossible, as radical innovations are *unpredictable* and usually originate in a context other than the clients (Garcia & Calantone, 2002; Slaughter, 1993, 1998).

2. & 3. The British Office of Government Commerce sees *risk-averse contracting authorities* and *overregulation* as two of the biggest threats to tendering of innovation. It argues that risks can be embraced as long as they are effectively assessed and managed (OGC, 2015). Although the OGC paper concerned all manners of public procurement, these threats are concerned applicable to the innovation partnership procedure.

4. A theoretical threat is that current policies focus more on *regulations and subsidies* to stimulate innovation than on tendering (Sociaal-Economische Raad, 2013, 2015).

5. Since the directive was published, authors have reacted on the *financial and practical risks* of using a new procedure for the contracting authorities. These risks bring the threat that contracting authorities won't be willing to use the innovation partnership at all (De Koning, 2015; De Wijs & Van der Kooi, 2016).

6. The *range of application* poses a threat, as in The Netherlands only a handful of contracting authorities is best suited to use the innovation partnership. When these authorities won't take the first step the innovation partnership will not build up status as a practical or useful procedure (Velthuizen, 2014, p. 44; Wolswinkel, 2015).

7. Lastly, *intellectual property* is discussed in the Tendering Act 2012 art. 2.126b lid 6. The article states that the contracting authority determines which rules apply concerning intellectual property. Holding the intellectual property as contracting authority can pose problems as third parties may try to claim this property. Giving the intellectual property to the contractor can in its turn create the weakness addressed by Petit (2014, p. 9): the contracting authority needs to avoid becoming subject to a *self-created monopolist*.

4.6 Questionnaire

A questionnaire was send out to test the T-SWOT.

4.6.1 Respondents

The questionnaire was sent out to the interviewees, to be shared internally. The same questionnaire was published on the 'Procurement Forum' via PIANOo. This resulted in a total of 15 responses. The goal of the questionnaire was to test the T-SWOT to practice, as

was discussed in chapter 2.3.4. The questionnaire can be found in appendix D. The responses to the questionnaire came from people in the following fields: see Figure 12.

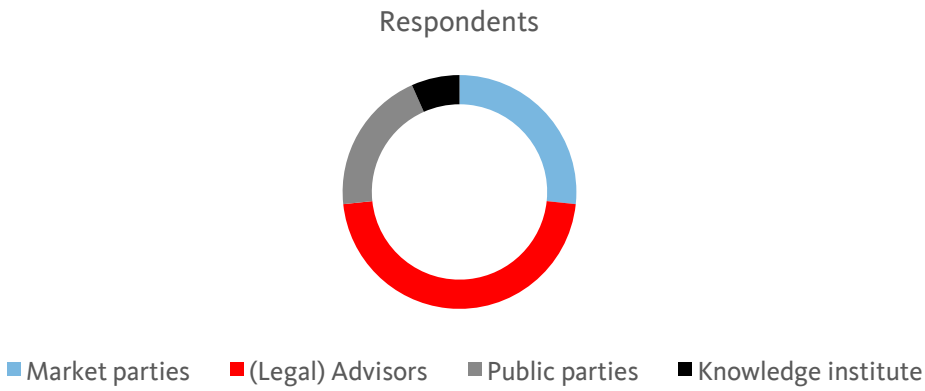

Figure 12: Respondents

The level of professional expertise was assessed by asking whether the respondent was frequently occupied with tendering and innovation and in what way he or she knows the innovation partnership procedure, shown in Figure 13.

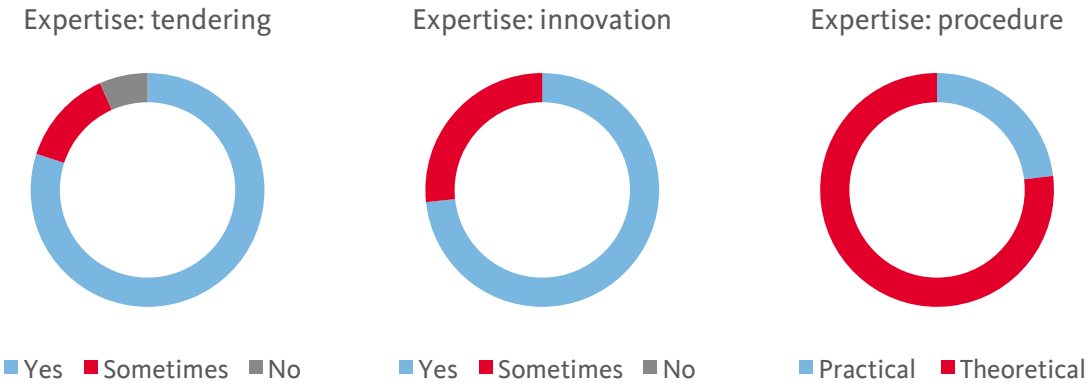

Figure 13: Expertise of respondents

4.6.2 Questionnaire data

The respondents were asked to give each statement in the T-SWOT a score between 0 and 5; a 0 indicates they did not agree with the statement and 5 indicates they do agree with the statement.

Figure 14 shows the results.

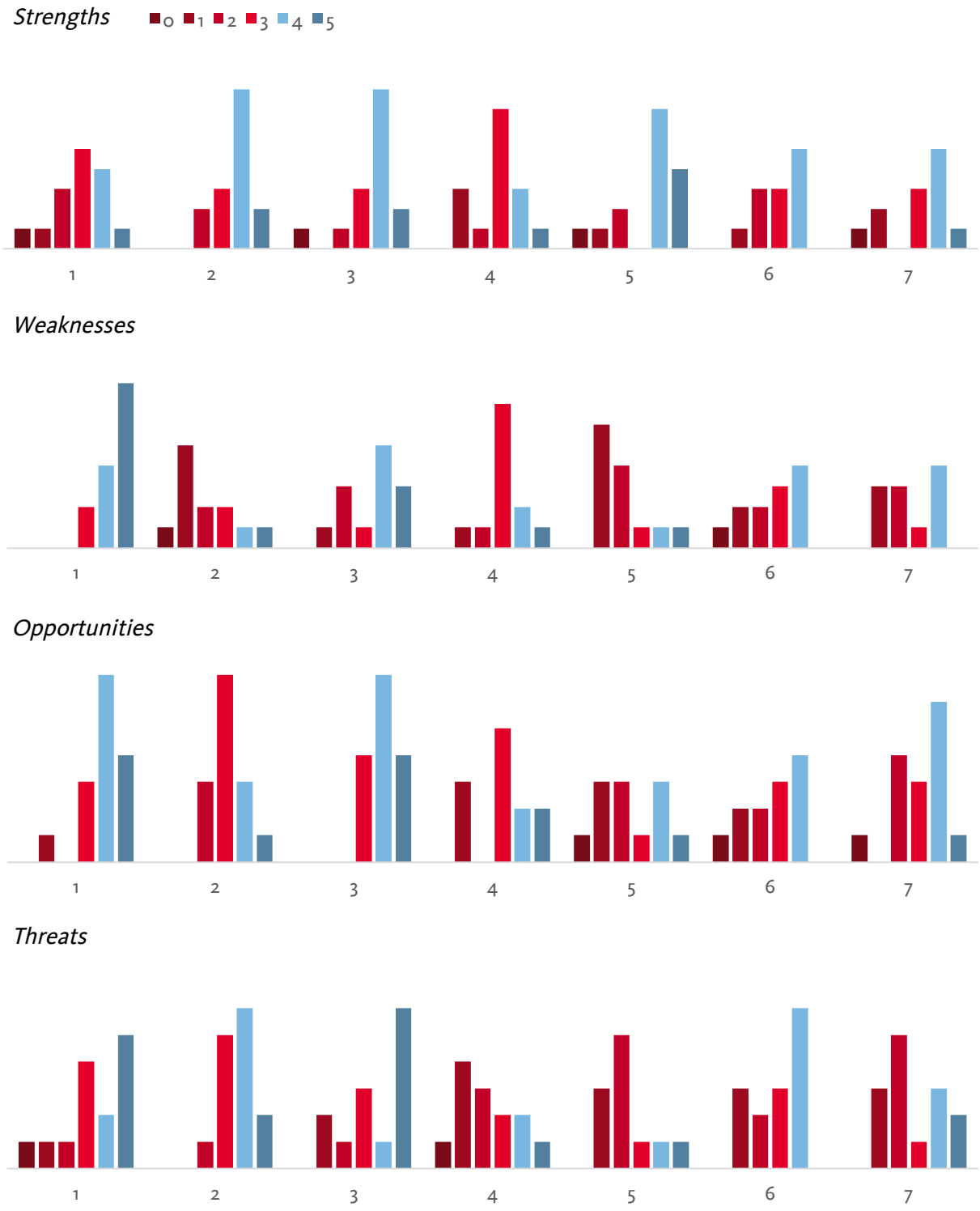

Figure 14: Questionnaire results

4.6.3 Questionnaire findings

The questionnaire results are quantitative and as such the analysis has been done in a straightforward numerical manner: SWOT properties with a mean score below a numerical limit will be discarded for further research, as the respondents disagree with the

theoretical findings. The numerical limit of the average score is set at 2 because scores 0, 1 and 2 indicate that the respondent is negative towards the truth of the finding. The properties scoring an average of 2/5 or lower:

- Weakness 2: Muddled definition of 'tendering'; and
- Weakness 5: The preferred supplier is chosen before scope is determined.

Possible explanations for these discrepancies are that 'tendering' is a commonly used term with a definition defined on a national scale, for instance in the Tendering Act or by authors like Brackmann and Verlinden-Bijlsma (2011), and that the preferred supplier is chosen at a moment when the contracting authority is aware of its needs and knows what the suppliers need to be able to do, even when the scope is not determined yet.

5. Field research

For the field research in this research project a series of interviews was conducted. In this chapter an overview of its results is given.

5.1 Interviewees

A total of 18 interviewees have been met over the course of a month. The goal of the interviews was to find the strengths, weaknesses, opportunities and threats of the innovation partnership procedure as they are perceived in practise. The list of interviewees can be found in appendix A. The interviewees were chosen from three groups of field experts, corresponding to the groups in a tender procedure: Public parties, market parties and (legal) advisors. The three groups were portioned evenly over the total number of interviews, shown in Figure 15.

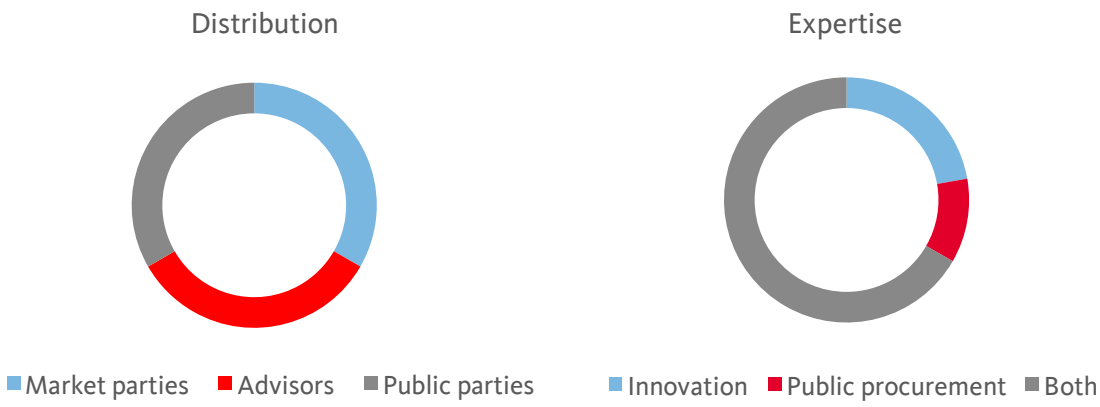

Figure 15: Distribution and expertise of interviewees

Each interview started with the question whether the interviewee is generally occupied with public procurements, innovation or both, as shown in Figure 15. The figure shows that most interviewees had experience with both which was important for the interview as the interview manual, appendix C, contained questions on public procurement, product innovation and procurement of innovations.

5.2 Results interviews

All interviews were recorded and transcribed into extended text. In this extended text, statements concerning the research object have been highlighted and these are coded following the grounded theory, as presented in appendix F. The axial codes that were found are presented in the SWOT framework in chapter 6.

6. Practical SWOT analysis results

Following the grounded theory (Saunders, 2011, p. 509), the qualitative interview data have been coded, see appendix F. The axial codes that were found are presented in the P-SWOT and elaborated on in the following paragraphs.

6.1 P-SWOT overview

Strengths	Weaknesses
1. A tool for development and direct purchase of innovations; 2. Exploiting market strengths; 3. Specific usability.	1. Little practical experience and jurisprudence; 2. Procedural barriers for innovators.
Opportunities	**Threats**
1. MEAT-criteria can stimulate an innovative approach; 2. Image improvement; 3. Mobilise internal support; 4. The contracting authority as launching customer for promising innovations; 5. Involving start-ups; 6. Balance competition and cooperation; 7. Cooperation of public and private partners; 8. Specifications as a framework.	1. The nature of innovation conflicts with tendering; 2. Technically incompetent actors; 3. The conservative industry and risk averse contracting authority; 4. Vendor lock-in; 5. Little willingness of public entities; 6. Innovations bring risks; 7. Selection criteria can be an obstacle for innovators; 8. Lack of mutual trust; 9. Limited range of application; 10. Unusable standard-contracts; 11. Lack of profitable business opportunities.

Table 2: Practical SWOT analysis

6.2 Expert panel

The P-SWOT was validated by an expert panel consisting of representatives from different actors in an innovation partnership. The panel consisted of:

- Maarten de Mos, Rijkswaterstaat
- Dik van Manen, Twynstra Gudde
- Andy Berkouwer, Be-Mobile
- Floris den Boer, PIANOo
- Fanauw Hoppe, AT Lawyes
- Tim Beukema, AT Osborne (Legal)
- Ineke Meijer, AT Osborne (Infrastructuur, Gebiedsontwikkeling en Milieu)

The P-SWOT was presented to the expert panel during the meeting. The goal was twofold: to validate the analysis as it is and to complement the findings. The panel-meeting gave a critical review of the complete P-SWOT. The outcomes were included in the analysis as presented in Table 2.

6.3 Strengths

1. In a total of 21 statements by the interviewees is stated that the innovation partnership is an addition to the instruments that can be used to *procure innovations*, fulfilling a need or solving a problem a public entity is concerned with. Interviewees stated that contracting authorities are increasingly looking for innovations, both incremental and radical, especially for sustainable projects. Public entities should not try to innovate themselves, for tendering is a good instrument to pull the best goods, works or services from the market. Primarily, the innovation partnership procedure is the only procedure that combines the R&D phases with commercial procurement. The procedure is perceived to have a number of other strengths: it enables a contracting authority to procure something that has not yet been defined, it is a tool to procure radical innovations, it lets a contracting authority actively anticipate innovations, and it even enables a contracting authority to stimulate innovative market behaviour in a broader social spectrum. Hence the innovation partnership can help a public entity to achieve their societal goals. The expert panel stated that a market consultation should determine whether a sought solution is available already.

2. Both market- and public parties see as prominent strength of the innovation partnership that the *abilities of market parties can be better exploited* in the procedure in respect to conventional procedure. Firstly, a market player can respond to an innovation partnership tender with an innovation that was already on its roadmap. Secondly, market parties are involved earlier in the process to think of a solution than in other procedures. This early involvement will enable the contracting authority to steer the innovation process with respect to its needs and to accelerate the process of development and exploitation. Consequently, given that the innovation partnership can be structured as a drop-out race, a market party can continue an innovation process after it is excluded from the partnership, two interviewees remarked.

3. The last strength perceived by the interviewees is *the specific usability*, which is based on the findings, seen as both a strength and a threat (#9). The strength being that the choice for a tendering procedure follows the nature and characteristics of the project, as is discussed in subchapter 3.3, and the innovation partnership has opened up the possibility to procure a new range of works, goods or services. A practical example discussed in the interviews was a project which was initiated before the innovation partnership was available. The tender was published shortly after the innovation partnership procedure

could be used. The management is this case had to wait until the revised Tendering Act was active because the project could be executed optimally in an innovation partnership.

6.4 Weaknesses

1. Mostly (legal) advisors suggested that the *little practical experience and jurisprudence* on the innovation partnership procedure is a weakness at this moment. Contracting authorities need comfort in using the procedure, knowing what they are able and not able to do. Without comfort the fear is that the procedure will be meticulously followed, which won't be stimulating innovative behaviour of the participants. One important remark echoed by multiple interviewees is that the innovation partnership needs a success story, to show that the procedure can work. However, the expert panel stated that one should anticipate the option of failure when innovation is concerned, also considering the application of the innovation partnership procedure.

2. Mostly market players, especially start-ups, stated on 12 separate accounts *that a legal procedure for innovation interferes with the creative innovation process*. This goes for tendering procedures in general, not solely for the innovation partnership. The procedural aspects take a lot of time, and induce the fear of doing it wrong for both public and private partners. Interviewees remarked that a tendering procedure is too often used as a guide rather than a legal framework, while innovation needs regulatory space.

6.5 Opportunities

1. Directive 2014/24/EU art. 31 lid 1 states that the tenders are to be assessed using the most economically advantageous tender criteria. Three interviewees said that *MEAT-criteria can be a good instrument for stimulating an innovative approach* to reaching the goal. Criteria like 'energy efficiency' for 'level of auspiciousness' can be used. However, innovation itself is never the goal of a tender procedure. An advantage of the innovation partnership procedure with respect to the use of open criteria is that bids can be compared to one another in order to find for instance the 'most promising' idea.

2. Use of the innovation partnership or procurement of innovations generally can *improve the image* of a public entity, two interviewees stated.

3. The choice for the procurement of innovation is, according to 5 interviewees, a management decision made by an executive higher in the organisations hierarchy than a contracting authority. *Mobilising internal support* in the public entity can stimulate the innovation partnership because the procedure needs management and groundwork to optimally run the process. Having the contracting organisation fully engaged will assure full cooperation towards a beneficial result.

4. There is an important opportunity for a public party to explicitly *act as a launching customer for promising innovations*. The contracting authority can use a number of incentives, interviewees and experts find, to stimulate relevant innovations in that role. Firstly, a public party can invest in a development. With a (co-)investment the contracting authority ensures that the innovation will be developed with their needs in mind, while the investment made by the market party will ensure quality of the product and the ability of the market player to carry on the exploitation phase after the innovation partnership is finished. Secondly, for many innovations in accessibility the physical space to test prototypes is an important incentive. Thirdly, the possibility to use knowledge spillovers from universities is considered an impulse for innovations. Lastly, the cooperative behaviour of the launching customer is desired by market parties. In many cases that were discussed during the interviews, market parties experienced an unhelpful governmental body. The interviewees generally expect that in an innovation partnership the public party will be more willing to cooperate. Incentives during the partnership can be a supervisor from the contracting authority issued to the partners. This supervisor can help the partners to learn the core business and context of the public entity. A negative incentive for market players is the possibility of dropping out when the procedure is structured as a drop-out race, although this was disputed by the expert panel. The competition a drop-out race brings can improve the result of the R&D phases and not dropping out gives a positive signal to future buyers.

5. The expert panel and interviewees see an important role for *start-ups* in the innovation partnership procedure, when it is used for mobility and infrastructure procurements. A contracting authority should consider creating opportunities for start-ups to enter the procedure. This could for instance be done by connecting previously unconnected market players. This can induce cross-sectoral innovation. The most frequently encountered expected consortia are combinations of conventional tenderers like builders and unconventional parties like app-developers, start-ups or artists.

6. Expected is that *competition* between market players in an innovation partnerships will improve the products. The procedure is structured accordingly. However, *knowledge sharing* is considered beneficiary to the result as well by the interviewees. A number of interviewees mentioned that the innovation can gain value when the partners inspire each other. The expert panel remarked that this can be the case, but it will be done in informal gatherings. A contracting authority can also connect two individual potential tenderers to form a consortium in the phases prior to the start of the procedure.

7. The *cooperation of public and private partners* can be exploited in the innovation partnership. Public parties can facilitate and drive the process, and deliver input of for instance data. In a partnership of equals market parties can suggest organisational changes to make to process more efficient. Also, market parties can cooperate in the formulation of the specifications is the experience of the interviewees.

8. The largest share of the findings from the interviews, approximately 1/10th of the statements, concern *tender specifications*. The general experience of the interviewees is unambiguously that contracting authorities should present a well-analysed problem rather than a solution-direction, accompanied by functional or performance-based specifications. This method will create flexibility needed for creative problem solving by the market players, who are selected on the sole criteria of their ability to do so.

6.6 Threats

1. A number of interviewees have remarked on the *nature of the innovation process*. This poses a threat as the statements on the innovation process conflict with the practice of public procurement. Interviewees remarked that the best part of the innovations fail; that innovation is a continuous process without definitive product; that the spark for an innovation starts with an individual or a brainstorm; and that an innovator needs time, funds, space and trust.

2. Innovative projects need competent people at the right places. One interviewee remarked that contracting authorities become *less technically competent* and that that is dissimulating in innovative projects.

3. Market players, public organisations and advisors all consider the construction industry as a whole as well as contracting authorities specifically *conservative*. The construction industry does not know radical innovations, one interviewee stated. Contracting authorities are accustomed to working with 2 or 3 tendering procedures and are not easily willing to adopt a new procedure, like the innovation partnership. Contracting authorities are focussed on procuring what they need for the smallest budget, inducing competitive behaviour of market players based on *minimalizing risks* rather than improving results. This forms an obstacle for innovation.

4. Contracting authorities see a possible threat of the innovation partnership that a *monopolist* is created in the procedure when a single market player owns the intellectual property to a product that the contracting authority needs. It will prevent this from happening by awarding the contract to multiple parties or ensuring that multiple parties will be able to supply the developed solution by keeping the intellectual property and awarding licences to use it.

5. Public entities are seen as important stimulators for the development of innovations by almost all interviewees, especially in a role of launching customer. However, a number of interviewees have experienced *little willingness of public entities to stimulate innovation* through public procurement. One mentioned that a municipality will more easily start a pilot, in which no long term agreements are made and in which all parties are relatively

free as opposed to an innovation partnership which is seen as a commitment. While public policies speak of stimulating innovation, this is rarely reflected in public procurements.

6. Innovation and large public works don't go together, one interviewee stated, as *innovation always brings risks* no one is willing to bare. A number of other interviewees remarked that every project brings risks and that these risks have to be managed and appointed to the party that is best suited to bare the individual risk.

7. The *selection criteria* are seen as a large barrier for innovative market parties, start-ups and small entrepreneurs, to enter an innovation partnership. A number of interviewees argue to make the selection criteria as small as possible to reduce the work it takes to enter into the partnership. Another solution is to tender in combination with a 'solid' consortium-partner.

8. Four interviewees stated *a lack of trust* in the innovation partnership between public and private parties or between private parties themselves as a threat. The partnership will only work optimally with mutual trust between all parties. A contracting authority not procuring the developed solution by using the exit option of the procedure would harm market parties' trust.

9. The innovation partnership is only *usable in a limited range* of projects, interviewees find. Furthermore, only central governments are expected to use the innovation partnership, which will establish a niche-situation.

10. Addressed by the expert panel and on several accounts by interviewees was the expectation that *standard-contracts will prove unusable for innovation partnerships*. Custom contracts will be needed because standard procurement conditions won't suffice; contractual agreements will have to be made concerning the intellectual property of the products; and state aid must be avoided in accordance with article 33 and 34 of the Framework for State aid for research and development and innovation. These contractual obstacles form a direct threat to the usability of the procedure for contracting authorities.

11. A final threat was introduced by the expert panel: the *lack of profitable business opportunities* for market players. The innovation partnership is perceived as a time-consuming procedure and market players will not tender when they believe that the projected profits will not outweigh the costs. This can for instance be the case when the market for the commercialised R&D outcome is relatively small or saturated. This is the responsibility of the market parties, but can be helped by the contracting authority to ensure a higher number of tenderers, which would mean more choice for the partnership.

7. SWOT/TOWS ANALYSIS RESULTS

The SWOT/TOWS analysis (Weihrich, 1982) is used in this chapter to formulate strategies for the utilisation of the innovation partnership procedure, based on the findings in a SWOT analysis. The methodology is described in paragraph 2.4.2.

For this SWOT/TOWS analysis, first all properties from the T-SWOT and P-SWOT were combined, without those that were excluded after analysing the questionnaire results. The properties were checked for integrality, compared and doubles were merged and marked (*). The remaining properties constitute the final SWOT matrix and serve as input for the TOWS analysis. In the TOWS analysis, ways to utilise strengths, minimise weaknesses, exploit opportunities and mitigate threats are explored by cross-reference. This exercise has been iterated 4 times in order to ensure completeness.

The chapter follows the structure of the article by Weihrich (1982), who developed the method. It starts with an overview of the SWOT/TOWS matrix, followed by respectively the 'WT strategy', 'WO strategies', 'ST strategies', and lastly the 'SO strategies'. The individual SWOT-properties as well as the strategies from the TOWS matrix serve as input for the conclusion and recommendations.

7.1 SWOT/TOWS overview

	Strengths	Weaknesses
	1. Tendering is a stimulant for incremental innovations; 2. Possibility of technology-push; 3. Flexible procedure; 4. Specific usability*; 5. A tool for development and direct purchase of innovations*; 6. Possibility of contracting a single partner; and 7. Exploiting market strengths*.	1. Little practical experience and jurisprudence*; 2. Procedural barriers for start-ups. 3. Ambiguous guidelines; 4. R&D phases are not elaborated; 5. Ambiguities concerning cost and duration; and 6. High administrative costs.

* Originate from both the T-SWOT and the P-SWOT.

Opportunities	SO strategies	WO strategies
1. Cooperation of public and private partners*; 2. The contracting authority as launching customer for promising innovations*; 3. Functional and performance-based specifications leave the option of creative ideas for tenderers*; 4. University spillovers can be used; 5. Joint procurement by multiple contracting authorities; 6. Image improvement of contracting authorities*; 7. MEAT-criteria can stimulate a sustainable innovative approach*; 8. Mobilise internal support; 9. Involving start-ups; and 10. Balance competition and cooperation.	1. Set challenging specifications and award criteria to stimulate competition and incremental innovation; 2. Create opportunities for a technology-push with specifications, award criteria, university spillovers and start-up involvement; 3. Grow awareness of the possibilities for new projects; 4. Start cooperation with market parties early in a market consultation; 5. Act as a launching customer; 6. Use the procured innovation as marketing tool to accelerate innovations by other parties; and 7. Utilise the full potential of start-ups as innovators.	1. Tender collectively as CA's to share costs and risks; 2. Open up the procedure for innovators to find the best innovations; 3. Create internal support to better manage costs and risks; and 4. Share tasks and risks with private partners.
Threats	**ST strategies**	**WT strategy**
1. Overregulation; 2. Usage of other tools to stimulate innovation*; 3. Procedural risks; 4. Limited range of application*; 5. Vendor lock-in*; 6. The conflicting nature of innovation*; 7. Technically incompetent actors; 8. The conservative industry and risk averse contracting authorities*; 9. Innovations bring risks; 10. Selection criteria can be an obstacle for innovators; 11. Lack of trust; 12. Unusable standard-contracts; and 13. Lack of profitable business opportunities.	1. Use the procedural flexibility to accommodate market parties' innovativeness; 2. Recognise the innovation partnership as an advantageous tool for stimulation of innovation; 3. Involve market parties to design an optimal procedure; 4. Use the procedure to change the industry; and 5. Create opportunities for lucrative business by involving market parties and being open to radical innovations.	1. Use procedural liberties to accommodate the innovation process.

Table 3: SWOT/TOWS matrix

7.2 Weakness / Threat strategy

By combining weaknesses and threats is sought after strategies that will minimise weaknesses and mitigate threats. One strategy was found: the liberties in the legislation, the 'R&D phases are not elaborated' and 'ambiguous guidelines', can be used as degrees of freedom for the innovation process that will be followed during the procedure. The phases not being elaborated on in the Tendering Act is a positive property when it is used in the partnership to create a fit with the project. The same goes for other ambiguities. Following this strategy, the threat of overregulation is mitigated as well.

7.3 Weakness / Opportunity strategies

The approach is, based on the SWOT findings, to minimise the weaknesses by exploiting opportunities. The analysis provided four strategies.

1. A CA can use a joint procurement strategy to share costs and risks with one or multiple other CA's. Apart from the development of an integral solution, this strategy would minimise the risks following 'ambiguous guidelines', 'ambiguities concerning cost and duration', and 'high administrative costs'.

2. The procedure can be opened up for innovators, for instance start-ups, small innovative firms or artists, who do not usually tender. This can be done by matching the selection requirements and award criteria to the desired tenderers and the desired innovative results. This can be an important strategy for CA's as launching customers, who's function is to accelerate the diffusion of promising developments from for instance these start-ups. In its turn this strategy would exploit another opportunity as is would improve the image of a CA.

3. A contracting authority can mobilise internal support in order to minimise the weaknesses 'administrative costs' and 'ambiguous guidelines', as well as the risks that the lack of experience and other ambiguities bring. When highly ranked public officials are invested in the procedure, extra means will be provided to appropriately manage the risks of the procedure, minimising the mentioned weaknesses. This will build practical experience and possibly enhance the image of the affiliated public entities.

4. Tasks and risks can be shared with market parties in the innovation partnership. The owner of each risk should by the party best equipped to manage it. Also, the R&D phases of the procedure can be defined on cooperation with the market parties, who have to go through then in the procedure and who know best what their innovation process looks like.

7.4 Strength / Threat strategies

The approach is, based on the SWOT findings, to mitigate threats by utilising strengths. The analysis provided five strategies.

1. The flexibility of the procedure can be utilised to accommodate the innovation process and otherwise innovative behaviour from market parties. The steps in an innovative process are generally not linear, as has been shown in subchapter 3.4. The actions overlap, are iterated, and there is no clear start or end. The innovation partnership, in particular of the negotiation rounds, can be designed accordingly.

2. The innovation partnership must be recognised by public entities as an advantageous tool for the procurement of innovations and in more general terms for the stimulation of innovation in construction. The fact that the innovation partnership is the only procedure that combines the R&D phases with purchase means that the process is less regulated than with for instance a PCP, respectively one tender is needed versus two. This also means that a market party will be more invested in the process, as the chance of an awarded contract is offered. These mitigations mean that possibility of purchase without a new tender proves the innovation partnership has added value as a tool for the stimulation of innovation and therefore mitigates the threat of other tools being preferred.

3. The (creative) strengths of the market parties in an innovation partnership can be utilised in order to run the procedure optimally. Market parties can carry procedural and innovation-related risks and have a better perspective on the innovation process than CA's. Also, the threat of a lack of profitable business opportunities for market parties can be best mitigated by involving the market parties early in the procurement process.

4. The innovation partnership can be exploited as a step towards a less conservative industry. This is possible by utilising the procedures properties of stimulation both incremental and radical innovations.

5. The possible lack of profitable business opportunities for market parties can be mitigated by involving market parties from the beginning, by the purchase of the development and by exploiting the opportunities of a technology-push, creating new markets for the tenderers.

7.5 Strength / Opportunity strategies

The approach is, based on the SWOT findings, to exploit opportunities by utilising strengths and vice versa. The analysis provided seven strategies.

1. The development of incremental innovations can be stimulated by functional and performance-based specifications and challenging award criteria. These must be based on a problem definition. Also competition will lead to incremental innovation because it challenges market parties to find a smarter solution.

2. A technology-push cannot be forced, but the procedure can be open to it by incorporating university spillovers and setting functional or performance-based specifications and challenging award criteria. Furthermore, to stimulate a technology-push, start-ups can be involved and the procedure can be designed to stimulate informal inspiring cooperation between tenderers.

3. Awareness of the possibilities the innovation partnership offers would stimulate its use in the small range it is predicted to be used. The procedure creates, for instance, opportunities to further develop promising ideas from universities.

4. Market strengths can be exploited by starting the cooperation with market parties from an early stage of the process, for instance in a market consultation. For the market consultation the intended market players and technically competent advisors from knowledge institutes like TNO or Deltares should be invited. This will help to design an innovation partnership procedure with optimal specifications, selection criteria, R&D phases, and award criteria to prevent substantial changes during the tender.

5. A CA's can act explicitly as a launching customer by stimulation incremental and radical innovations, and directly procuring these developments. Market parties will appreciate a launching customer as they see an unhelpful client as an obstacle for innovation. This can also be done in a partnership with a single partner, making it possible to actively look for promising innovations to launch as launching customer.

6. The procurement of (radical) innovations, rather than a pilot or subsidies could be used as a marketing instrument to improve the image of a CA. This in its turn can stimulate other market parties to accelerate innovations, as the proposed client is showing that it is willing to think outside of the box.

7. Involving start-ups and other innovators in the procedure can strengthen the innovativeness of the results. The strength of an innovative market party is that is uses a new perspective and creativity in problem solving, which can result in incremental innovation. Also an innovator can bring a new technology, for instance from another market, resulting in a radical innovation. The start-ups can be utilised in their full potential by a CA as launching customer and by utilising the procedures flexibility.

8. Conclusions

This research is done in order to optimise the usability of the innovation partnership procedure for contracting authorities in The Netherlands, focussing on accessibility issues. The researched procedure is part of the Tendering Act, active since July 1st of 2016. Uncertainties concerning the procedure are detrimental to its use. Optimizing the procedure's usability will support the reaching of its full potential, being a useful tool for stimulating sustainable innovations.

The primary research question was to find what strategy allows for the optimal utilisation of the innovation partnership's properties in order to maximise its usability for contracting authorities, regarding product innovations in the accessibility industry in The Netherlands.

This research question was answered by first finding potential properties in relevant theory: The Tendering Act, Directive 2014/24/EU, supporting legal literature and scientific literature concerning (procurement of) product innovation. These were tested to practise by means of a questionnaire. The theory findings were used as input for a series of interviews to find properties that professionals in the field perceive and predict. These were tested by means of an expert panel. Following a series of SWOT analyses, strategies were proposed to benefit the procedures usability by conducting a SWOT/TOWS analysis.

The critical literature review resulted in a variety of properties in the fields of procurement law, product innovation and public policies. The most relevant strengths were the novelties of the innovation partnership relative to other procedures that can be used to tender innovation: this is the only procedure that combines the R&D phases with direct procurement. The found weaknesses addressed the ambiguities in the legal texts. In addition, there were opportunities regarding the tailoring of the procedure to a proposed innovation process and stimulation and acceleration of innovation by having a launching customer.

Properties found in practice fitted the properties found in theory. The interviewees stressed that it is important to open the procedure up for innovators (for instance start-ups or artists) and to stimulate innovation during the procedure by creating a problem-solving framework with functional or performance-based requirements and setting challenging award criteria. Also the 'partnership'-element of the innovation partnership procedure is expected to be an opportunity: cooperation between public parties, between market parties and between public and market parties. However, in practice the conservative industry and risk averse contracting authorities are seen as a threat, as innovation will bring risks and requires mutual trust between market and contracting authority. Furthermore, the contracts for an innovation partnership must be tailor-made, mainly with respect to intellectual property, because standard procurement conditions are not compatible with this procedure.

All properties that were found have been used as input to form a strategy to optimise the usability of the innovation partnership procedure. The procedure's properties can be employed by a contracting authority by adopting a strategy consisting of:

- growing awareness of the possibilities for projects offered by the innovation partnership and its use for the stimulation of innovation;
- finding other contracting authorities to procure together, sharing risks, costs and ensuring a mutually beneficiary result;
- creating internal support in the contracting organisation(s) will ensure allocation and engagement of human resources needed in the procedure;
- explicitly taking the role of launching customer to accelerate the development and diffusion of innovations;
- involving (and cooperating with) market parties and technically competent advisors directly after the problem definition in a market consultation to help formulating specifications, selection criteria and award criteria, the R&D phases to be followed, the project scope (ensuring a profitable business case for the market parties), and the distribution of risks and costs;
- setting challenging functional or performance-based specifications and award criteria, based on a problem definition, to stimulate creative problem solving;
- stimulating a technology-push to develop radical innovations by involving start-ups, using university spillovers, and formulating challenging specifications and award criteria;
- involving innovators like artist or start-ups in the procedure to exploit their creative strengths by decreasing procedural barriers;
- using procedural degrees of freedom like the number end length of the R&D phases to accommodate the market parties' creative process; and
- using successful innovation partnerships to stimulate the industry to innovate and to enhance the image of the contracting authority.

Furthermore, a contracting authority should consider:

- The contracts for an innovation partnership are tailor-made, depending on project characteristics, market situation and the client's situation;
- A strategy should be formulated for the allocation of the produced intellectual property, mitigating a possible threat of providing state aid;
- Ensuring competition between tenderers can improve the process and outcome;
- A vendor lock-in should be avoided by awarding the contract to multiple parties or by making sure that the developed solution can be supplied by multiple parties;
- An investment in the procedure can result in a better outcome; and
- Innovation requires mutual trust between market parties and clients, a contracting authority 'boldly' exiting an innovation partnership will take away trust for future projects.

9. Recommendations

Figure 17 shows nearly all recommendations embedded in the procedure as visualised in Figure 3. In the elaboration, seven 'procedural parameters' are introduced. These parameters can be influenced to fit the procedure to the individual project characteristics, client's situation and market situation of each project. For each of the parameters, the benefits and threats of the extremes are presented. This gives the reader an indication of the impact of a decision for each of the procedural parameters. A walkthrough, with corresponding legal texts:

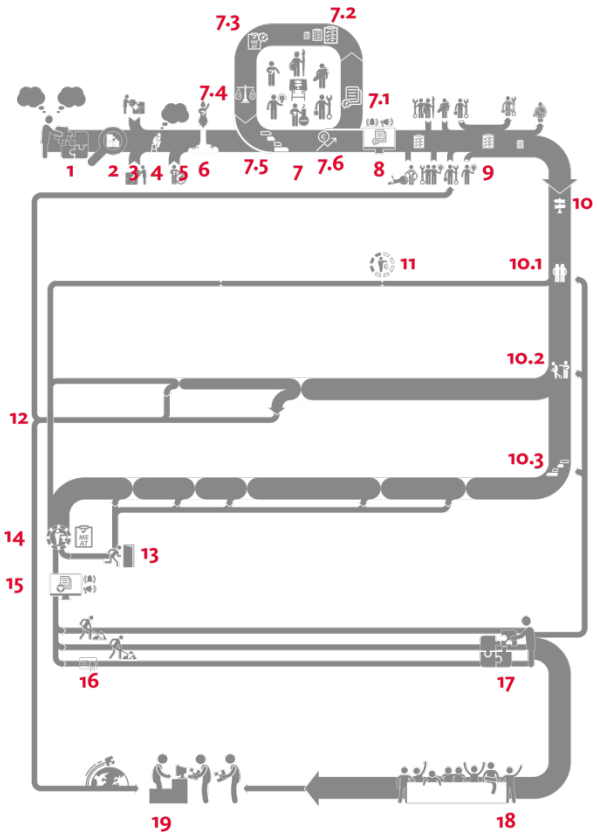

Figure 16: Legend for Figure 17

1. When a contraction authority experiences a problem, it should be aware of the range of possible solutions and that the innovation partnership procedure is a tool to find these solutions in the market.
2. The contracting authority must carry out a thorough problem-analysis to find out where the problem arises, what causes it and whether solutions are already available in the market. If an acceptable solution is available, the innovation partnership procedure cannot be used according to the Tendering Act. The innovation partnership procedure will be shaped to fit the project characteristics, the client's situation and the market situation.
3. An option for the contracting authority experiencing the problem is to find other contracting authorities with a similar problem and procure together. The

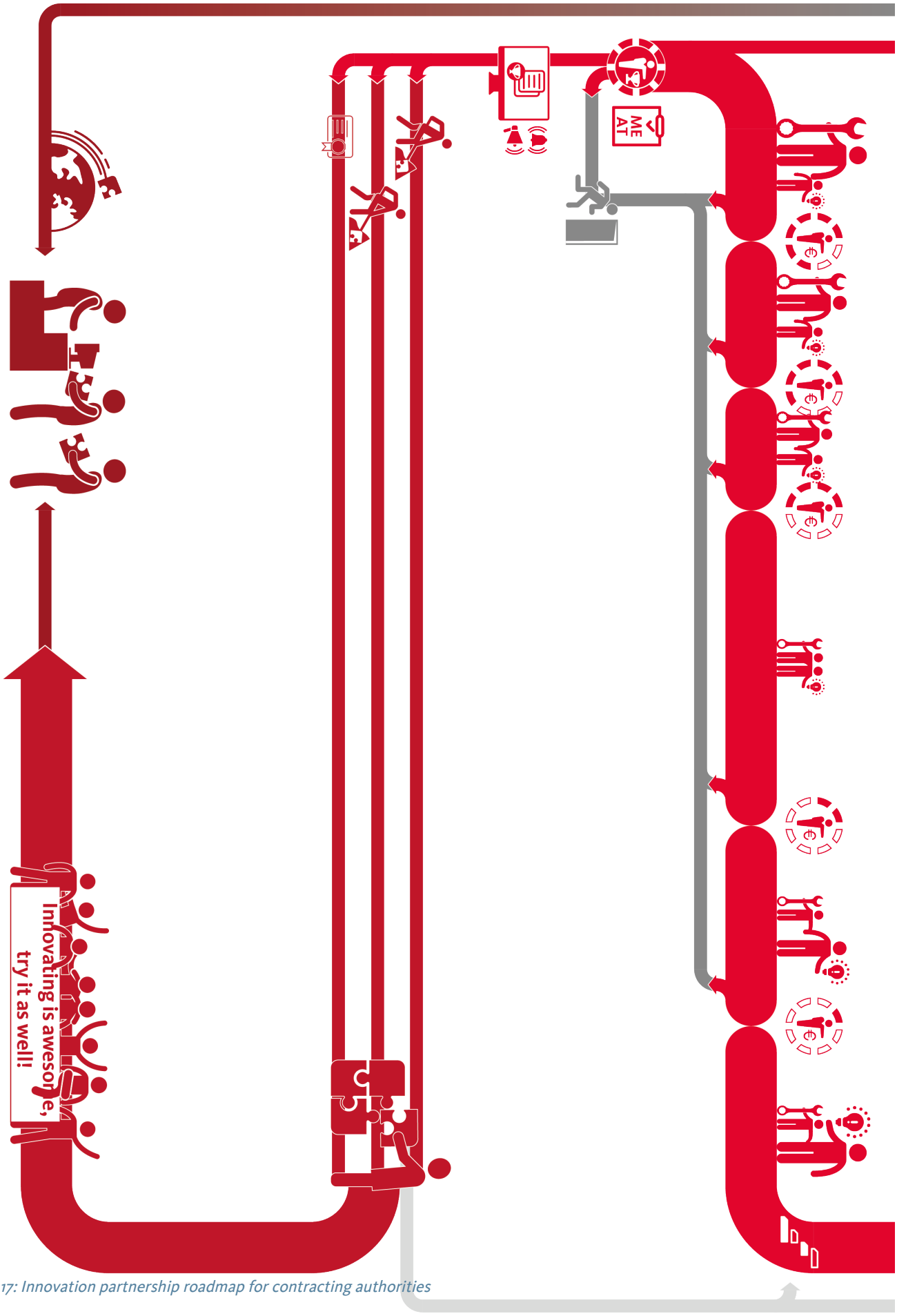

Figure 17: Innovation partnership roadmap for contracting authorities

innovation partnership
intellectual property

number of contracting authorities that cooperate for the procedure is the first of seven procedural parameters, with which the procedure can be influenced to fit the project.

No joint procurement	Multiple contracting authorities
Costly, all transaction costs for a single contracting authority	Transaction costs are shared
The solution will be designed specifically for the problem	A more general solution for multiple similar problems
limited market for the developed innovation	Larger market for the developed innovation

Table 4: Procedural parameter 1 – joint procurement

4. At this point, the contracting authorities should formulate their desired output concerning the ownership of the produced intellectual property. Do the market parties keep the intellectual property? In that case, how will the risk of providing state aid be avoided? Will the contracting authorities hold the intellectual property? In that case, how will the innovation progress? See also Table 12. The allocation of intellectual property should be discussed during the market consultation (step 7).

5. It is wise to get internal management and staff involved in an innovative tendering strategy. The innovation partnership brings risks which will have to be managed, the risks for the contracting authority can be analysed and mitigation measures must be formulated. Having internal support will make it easier to allocate and engage human resources to running the procedure.

6. Profile the tender as an innovation-stimulating measure and profile the contracting authority as a launching customer. The procedural strengths will support these profiles as the developed innovation is possibly directly procured and implemented.

7. In a market consultation, discuss the design of the procedure with the market parties that are expected to be interested to tender and technically competent advisors. This is in accordance with Directive 2014/24/EU, articles 40 & 41, and Tendering Act 2012 (2016), article 2.25. The market consultation will increase the chance of a successful procedure because it will make the tender known to potential tenderers and engages tenders in an early stage of the process.

   7.1. Set up functional or performance based specifications as a 'problem-solving-framework', in which there is room for market parties to explore different solutions for the problem definition. This is the second procedural parameter, table 7 shows the extremes between which a position can be taken. In this stage the contracting authority should also think about who will gain the intellectual property of the innovation and how to avoid giving state aid when the market party gets the intellectual property.

Detailed functional specifications	Abstract performance-based specifications
Can be used for procuring a 'known' solution	Open to any solution
Only open to a small group of market parties that already have the innovation on their roadmap	Open to many differing possible market parties
Will most likely result in incremental innovation	Will potentially result in radical innovation

Table 5: Procedural parameter 2 – specifications

7.2. Set selection criteria with the desired kinds of tenderers in mind, when start-ups are desired, create selection criteria that allow for start-ups to enter into the procedure. This is procedural parameter 3.

Strict selection criteria	Soft selection criteria
Mostly conventional parties will tender	Open to unconventional tenderers
Will ensure feasibility of the project	Risky with respect to tenderers being unable to finish the procedure up to standard
Experienced market parties	Unexperienced market parties may need extra guidance during the procedure

Table 6: Procedural parameter 3 – selection criteria

7.3. Contracts are awarded based on the MEAT criteria (Directive art. 31 lid 1; Tendering Act art. 2.31b). It is recommended to create challenging award criteria. Innovativeness is never a goal in itself, but abstract criteria like 'level of auspiciousness', 'sustainability' or the 'contribution to an ambition' can be criteria that will stimulate market parties, as opposed to specific award criteria that are generally used. The abstraction of the award criteria is the 4th procedural parameter.

Specific award criteria	Abstract award criteria
Will most likely result in predictable solutions	Creativity is stimulated, potentially leading to unpredictable solutions
Incremental innovations	Potential for radical innovations

Table 7: Procedural parameter 4 – award criteria

7.4. Innovation will always bring risks. When these risks are inventoried, mitigation measures are formulated and risks are managed prior to the start of the project, threats will quickly be managed during the project. Allocate risks to risk-owners best suited to carry the risks, these can be market- as well as public parties. This will be based on the risks found in step 5.

7.5. Design the R&D phases based on the phases the market parties predict. The R&D phases are open to interpretation by the contracting authority (Directive art. 31 lid 2 & 3; Tendering Act art. 2.31b). Each industry or market party has its own creative process which it knows best itself. To fully facilitate this process, the procedural phases must always be tailor-made.

7.6. Discuss the intended output. Form a strategy to enable profitable business cases following from the procedure. This will stimulate the market parties to be fully invested in the procedure and will generate spin-off from the viewpoint of the launching customer. The value and volume of the intended output will influence the R&D process. The larger the value and volume is, the more competition will exist between tenderers and they will be more willing to invest to win the contract. Furthermore, an output with a higher value and volume allows for a more thorough procedure with more intermediate goals to be achieved.

8. Publish the request for proposal (Directive art. 31 lid 1; Tendering Act art. 2.31b). Tenderers can be found through TenderNed, but via other channels as well, therefor it is important to make the tender publicly known, for instance via industry-specific news channels. The more radical the innovation is, the more publicity it is likely to generate. This can be used to find tenderers and to improve the image of the contracting authority.

9. Partners for the innovation partnership are selected based on a sequence of selection requirements: grounds for exclusion; suitability requirements; and selection requirements. These must be set with the desired competences in mind (Directive art. 31 lid 1 & 5; Tendering Act art. 2.31b). Small innovative firms often to not have enough experience or financial stability to enter into a tender but can create a lot of added value. The selection requirements must be formulated to be open to these innovators, for instance in a consortium with a 'stable' partner.

10. There are three decisions that influence the shape of the procedure during the R&D phases: the number of partners, whether to make it a dropout race and the length and number of R&D phases. The choices should be based on the problem definition and desired output.

10.1. In accordance with Directive 2014/24/EU, art. 31 lid 1, for the procedure the contracting authority may enter into a partnership with one or multiple partners. This is the 5th procedural parameter.

A single partner	Multiple partners
Launch a specific innovation	Launch a selection of offered innovations
Use the competences of a specific market player	Ability to select a range of competences from a saturated market
No competition	Competition

Table 8: Procedural parameter 5 – number of partners

10.2. The 6th procedural parameter is the option to let competing tenderers drop out of the procedure (Directive art. 31 lid 2 & 5). The positive and negative effects of both options are shown in table 11.

No dropouts	Dropout race
Cooperation between tenderers	Competition between tenderers
Higher transaction costs (remuneration)	Saving remuneration

Table 9: Procedural parameter 6 – dropout race

10.3. The R&D phases must be tailor-made, following the market parties' predetermined creative process (Directive art. 31 lid 2 & 3; Tendering Act art. 2.31b). A pilot or prototype can be embedded in the procedure as one of the final R&D phases.

11. After each R&D phase, the tenders of each partner are assessed a weighed to predetermined MEAT-criteria and when the work is according to agreement tenderers will be remunerated, in accordance with Directive art. 31 lid 2. In the jury assessing the results should be technically competent advisors.

12. When the phases are structured as a drop-out race, tenderers who drop out can develop their idea further to commercialize it themselves or can be kept in mind for future innovation partnerships.

13. Contracting authorities have, after each phase, the option to stop the procedure altogether by discontinuing the partnership with all partners (Directive art. 31 lid 2). An exit-strategy should be prepared; this strategy should include measures to minimise harm of trust of market parties towards the contracting authority. When this trust decreases market parties' willingness to tender for future innovation partnerships will be minimized.

14. After the last R&D phase is concluded, all tenders will be assessed, based on the predetermined MEAT-criteria.

15. The awarding of the contract(s) must be publicly published (Tendering Act 2.31b). This will again be accompanied by gaining publicity as to improve the image of the contracting authority.

16. A vendor lock-in is created when a single market party holds the intellectual property of a solution which is unbridgeable ahead of other solutions. As to prevent a vendor lock-in, if possible the contract can be awarded to multiple parties or opportunities can be created for the developed solution to be supplied by multiple parties. The latter can be achieved by giving out licences as contracting authority. In that case the contracting authority would keep the intellectual property rights, which is a negative incentive for creatives to tender. This is the 7th and last procedural parameter.

Award the contract to multiple parties	Award licences
Intellectual property for market player	Intellectual property for public party
Positive incentive for market parties	Negative incentive for market parties
Risk of state aid	No risk of state aid

Table 10: Procedural parameter 7 – Awarding

17. The developed innovation is implemented, solving the contracting authorities' problem(s). At this point, the innovation partnership procedure must be evaluated, publishing the learnings for the benefit of actors preparing new innovation partnership procedures.

18. To stimulate other market parties affiliated to the contracting authorities to innovate, the innovation partnership and its results can be used to gain publicity. In a publicity campaign, the contracting authority shows that it used an innovation to solve a previously unsolvable problem. Market parties that are not actively looking for ways to innovate will see that there is a market for innovations. Such a publicity campaign will enhance the image of the contraction authority and will positively change the conservative construction industry.

19. The spin-off generated by the procedure is valuable for the stimulation of innovation. The procedure should be aimed to generate as much spin-off with respect to the commercialisation of sustainable developments. The diffusion should also be extended to other countries and markets.

10. Discussion

10.1 Interpretation

The procedure can be perceived useful by contracting authorities when they are open to the possibilities that it offers, it can be perceived usable now the procedure's points of attention are mapped. Within the Netherlands, central contracting authorities will most likely make use of the procedure first (apart from the currently running project). Still, it takes a 'leap of faith' to use a new instrument, especially for the smaller public entities. These, for instance municipalities or water boards, however can make a big change in the industry because small-scale local projects can attract smaller and more innovative market parties. When innovators get the chance to prove their concept on a small scale, their innovations can be rapidly diffused. In this thesis is shown that there are chances for smaller contracting authorities to make optimal use of the innovation partnership by joint procurement, functional requirements and sharing risks and investments.

Furthermore, it is demonstrated that innovative market players and their creative processes can be accommodated in the procedure by making use of the procedural flexibilities. Currently, innovating market players face discomforts in selling their products to public clients. The perception of being unable to sell to public parties threatens to prohibit the developments that are needed. Public parties can alter this perception by showing that this procedure can be adjusted to fit particular needs as well as give opportunities for accelerated diffusion of the developed innovations.

The conclusions in this thesis can be used to develop a workshop for contracting authorities in which can be assessed whether the problems they own can be solved by making use of an innovation partnership. This workshop can be used to show the range of possibilities the procedure offers and how the procedure can be designed to fit the needs of a particular project. For example, when an incremental innovation is needed, the procedure could be structured like a drop-out race to stimulate competitive behaviour. When radical innovations are desirable, a knowledge-institute holding the needed scientific breakthroughs can be involved.

Sustainability related targets (like CO_2 reductions) are imposing a new range of challenges on contracting authorities. By following the proposed strategies, the innovation partnership can be used to accelerate the development of solutions for these challenges, making optimal use of the procedures opportunities.

10.2 Method

The method that was used for this research project was determined by the nature of the project. It was a diagnostic research project, which practically involved a SWOT-analysis. However, the fact that there were no evaluated cases available posed a problem. Therefore 3 extra measures were taken in order to validate the findings: a questionnaire was sent out to professionals in order to test theoretical findings, an expert panel debated on the findings from practice and a validation panel looked over the final results. This method for validation served its purpose. The expert- and validation panel were a helpful instrument to, besides from improving and nourishing the findings, find the value of certain findings with respect to others. The questionnaire-results however had little impact, less people than expected had the knowledge that was needed to score the statements or were unwilling to spend the required time to do so. The available results only changed 2 out of 30 findings.

10.3 Further research

This thesis is partly based on an earlier graduation work: “The legal possibilities for innovation using European tendering procedures”, by Wolswinkel (2015). The innovation partnership was one of the four procedures he researched. This thesis is one of the first additions to the available body of knowledge on the procedure since it is in action.

Two challenging recommendations for further research are proposed. Firstly, to research and develop a tool to make use of the procedural parameters for accommodation of a particular creative innovation process or innovative project. What are the differences in creative processes, which factors do these differences depend on, and how can the procedure be altered to facilitate these processes? Secondly, one of the most important recommendations in this thesis was to involve innovative market parties, for instance start-ups or artists, if possible. How can these parties be involved and how can their strengths be exploited? Since February 2017, a graduation student has started this research based on the findings presented here.

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Appendix A: List of interviewees

Explorative interviews

Date	Location	Interviewee	Category	On behalf of	Employed at
03-08-16	Baarn	Fanauw Hoppe	Legal advisor	AT Lawyers	
09-08-16	Baarn	Tim Beukema	Legal advisor	AT Osborne	
15-08-16	Baarn	Ineke Meijer	Advisor	Talking Traffic	AT Osborne
18-08-16	Rotterdam	Floris Bakermans	Advisor	De Verkeersonderneming	AT Osborne

Interviews

Date	Location	Interviewee	Category	On behalf of	Employed at
04-10-16	Baarn	Rudolf Rijkens	Advisor	Icoon Afsluitdijk	AT Osborne
06-10-16	Rotterdam	Floris Bakermans	Public party	De Verkeersonderneming	AT Osborne
06-10-16	Rotterdam	Bas van Wieringen	Advisor	Rotterdam Mobility Lab	Tekko
07-10-16	Baarn	Fanauw Hoppe	Legal advisor	Icoon Afsluitdijk	AT Lawyers
10-10-16	Rotterdam	Henno Wolswinkel	Advisor	Graduation project	Synchroon / TBI
13-10-16	Baarn	Ineke Meijer	Public party	Talking Traffic	AT Osborne
13-10-16	Utrecht	Maarten de Mos	Public party	CHARM PCP	Rijkswaterstaat
13-10-16	Utrecht	Tim Beukema	Legal advisor	Connekt	AT Osborne
18-10-16	Rosmalen	Gerbert van Bochove	Market party	Heijmans	
25-10-16	Amsterdam	Jan Lubbers	Market party	Parkeagle	
26-10-16	Utrecht	Caspar de Jonge	Public party	Talking Traffic	Ministerie IenM
26-10-16	Rotterdam	Sisca Liem Ali Cem Cidem	Public party	Hoogheemraadschap Schieland en de Krimpenerwaard	
28-10-16	Amersfoort	Dik van Manen	Advisor	Twynstra Gudde	
28-10-16	Veenendaal	Jorn de Vries	Market party	Talking Traffic	Flitsmeister
31-10-16	Vianen	Simon Jorritsma	Market party	The Plastic Road	KWS / InfraLinQ
02-11-16	Rotterdam	Robert Bolwerk	Market party	Icoon Afsluitdijk	Studio Roosegaarde
08-02-17	*Telephonic*	Marc Goedkoop	Market party	MgAubel	

Appendix B: Preparation letter to interviewees

Beste [naam],

Op [datum] om [tijd] hebben we een afspraak voor een interview te [locatie]. Hiervoor stuur ik u graag een korte introductie op het onderwerp, de te behandelen thema's en enkele notities over het afnemen en verwerken van het interview.

We zullen het gaan hebben over het innovatiepartnerschap, een nieuwe aanbestedingsprocedure die sinds 1 juli jl. is opgenomen in de aanbestedingswet. Deze procedure houdt in dat een aanbestedende dienst in samenwerking met marktpartijen een onderzoek en ontwikkelingstraject inzet met als doel een probleem waar nog geen oplossing voor voorhanden is op te lossen. In mijn verkennende onderzoek ben ik op zoek naar kansen die deze procedure biedt en mogelijkheden om die kansen uit te buiten voor een aanbestedende dienst, om de bruikbaarheid van de procedure te vergroten. Het onderzoek bestaat een literatuurstudie en praktijkonderzoek. Het praktijkonderzoek bestaat uit een reeks interviews en een vragenlijst.

Met het innovatiepartnerschap kan een aanbestedende dienst de innovatie die in de markt schuilt aanboren. Er zijn enkel andere procedures die deze mogelijkheid bieden. Ik zal de verschillen kort toelichten voor uw beeldvorming:

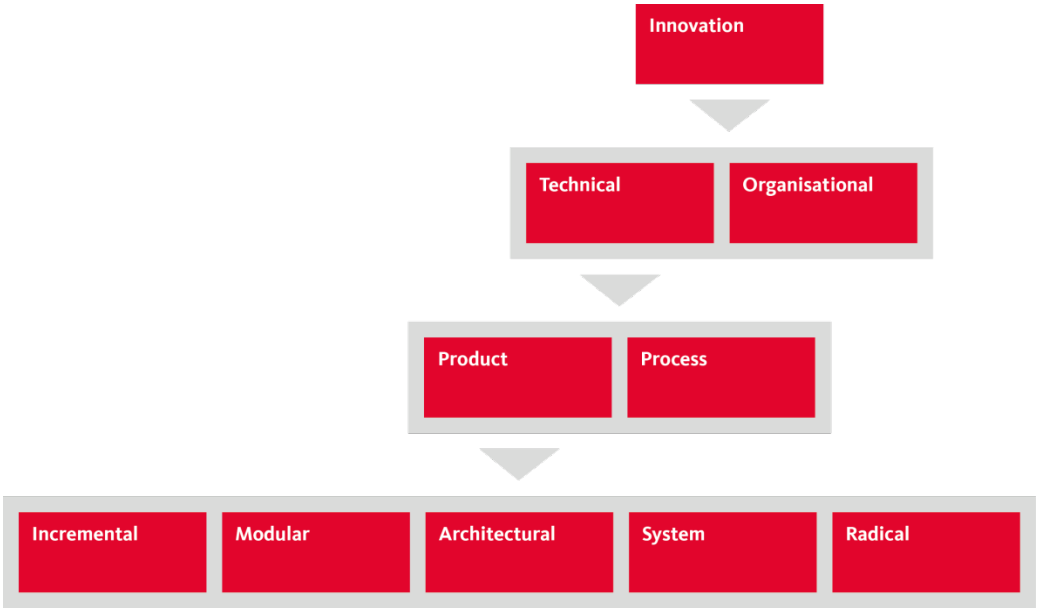
De concurrentiegerichte dialoog kan gebruikt worden wanneer er geen behoefte is aan een ontwerp en ontwikkelingstraject. De competitieve dialoog kan gebruikt worden wanneer de aanbestedende dienst weet welke functie vereist is maar niet precies welke oplossing het best is. Het innovatiepartnerschap kan gebruikt worden wanneer de oplossing nog onbekend is en dus met een ontwerp en ontwikkelingstraject tot stand zal komen.

Bij de pre-commerciële inkoopprocedure wordt, zoals in een innovatiepartnerschap, gezamenlijk met marktpartijen een ontwerp en ontwikkelingstraject doorlopen om een oplossing te bedenken. Dit gebeurt, gelijk aan het innovatiepartnerschap, in meerdere fasen waarbij na elke fase marktpartijen kunnen afvallen. Het grootste verschil tussen de twee procedures is dat er bij de pre-commerciële inkoopprocedure na de ontwikkeling niet direct overgegaan kan worden in aankoop. Hiervoor is een nieuwe aanbesteding vereist.

Het traject van de innovatiepartnerschap procedure is vergelijkbaar met die van de mededingingsprocedure met onderhandelingen. Dat wil zeggen er wordt met geselecteerde marktpartijen gepraat over de opdracht om aan het einde van het proces de economisch meest voordelige inschrijving te kiezen. Het verschil ligt in de motivatie. Bij de mededingingsprocedure kan de benodigde innovatie gespecificeerd worden en is dus geen behoefte aan een ontwerp en ontwikkelingstraject.

Het woord ‘innovatie’ kan op veel verschillende manieren geïnterpreteerd worden. Mijn afstudeeronderzoek gaat specifiek over productinnovatie in bereikbaarheidsprojecten. Productinnovatie wordt in mijn thesis als volgt gedefinieerd: “de implementatie van een nieuw of significant verbeterd technisch artefact, met als doel het ondersteunen van de ontwikkelende entiteit bij het oplossen van maatschappelijke uitdagingen of het stimuleren van slimme, duurzame en inclusieve groei.” Hierbij is de entiteit deze context een aanbestedende dienst.

Afbeelding 1 schetst een beeld van hoe productinnovatie zich verhoudt tot andere vormen van innovatie en welke typen productinnovatie er zijn. De onderste rij zijn typen productinnovatie waarbij incrementele innovatie een kleine verandering aan een product is, welke te voorspellen is zoals het verbeteren van de efficiëntie van een PV-paneel. Een radicale innovatie is het andere uiterste, een wetenschappelijke doorbraak die de context van het product ingrijpend veranderd zoals -noem iets geks- een vliegende auto. Tijdens het interview zal ik niet refereren naar de typen die tussen incrementeel en radicaal staan.



Afbeelding 1

Het interview zal bestaan uit een inleiding met enkele beeldvormende vragen en een inhoudelijk deel. Dit zal gestructureerd worden aan de hand van de volgende thema’s:

- Aanbestedingen in uw praktijk;
- Innovatie in uw praktijk;
- Het stimuleren van innovatie;
- Overgang naar nieuwe aanbestedingsprocedures in uw organisatie; en
- Ervaringen en voorspellingen betreffende het innovatiepartnerschap.

Er zal een opname gemaakt worden van het gesprek welke ik zal transcriberen. Het transcript wordt ter goedkeuring naar u opgestuurd. Het transcript zal opgenomen worden in mijn thesis en zal dus vrij toegankelijk zijn. Als u de door u genoemde informatie liever geheim wilt houden, kunt u dat voor het interview aangeven. Tijdens het interview zal ik eventueel enkele notities nemen. Het interview wordt in het Nederlands afgenomen tenzij u het liever in het Engels doet.

Bij voorbaat hartelijk dank voor uw tijd en moeite,

Gerben Hofmeijer

Appendix C: Interview manual

Introductie

Bedankt voor deelname aan het onderzoek. Voor dat we beginnen zou ik u willen wijzen op het volgende, zijn de volgende punten akkoord?

- Het interview wordt opgenomen
- Een transcriptie wordt ter goedkeuring opgestuurd
- Het gesprek is vertrouwelijk
- Het transcript wordt openbaar
- Ik zal enkele notities nemen tijdens het interview
- Het interview wordt in het Nederlands afgenomen
- Na goedkeuring van het transcript wordt de opname gewist

Ik zal beginnen met een korte introductie welke u al heeft ontvangen.

- Introductie innovatiepartnerschap
- Introductie thesis

Nu zou ik graag willen beginnen met een aantal vragen om een beeld te krijgen

- Bij welk bedrijf werkt u?
- In welke afdeling?
- Wat is uw functie?
- Hoe lang bekleedt u deze functie al?
- Komt u voor uw functie regelmatig in aanraking met publieke aanbestedingen?
- Komt u voor uw functie regelmatig in aanraking met innovatie?

Interview

Thema 1: Aanbesteden in uw praktijk

- Waar moet ik aan denken bij aanbestedingen in uw praktijk?
- Waarop wordt volgens u de keuze voor een aanbestedingsprocedure bepaald?
    - Welke factoren van een project?
- Zijn er bepaald procedures die u liever gebruikt dan anderen en waarom?

Thema 2: Innovatie in uw praktijk

- Waar denkt u aan bij productinnovatie in bereikbaarheidsvraagstukken?
- Welke partij zet aan tot innovatie in uw projecten?
- Heeft u een idee het innovatieproces?

Thema 3: Het stimuleren van innovatie

- Welke partij zet aan tot innovatie in uw projecten?
- Op welke manier kan de publieke sector innovatie stimuleren?
    - Subsidies: waar leiden deze toe?
    - Wet- en regelgeving: waar leiden deze toe?
    - Research (op universiteiten): waar leiden deze toe?
- Hoe kunnen publieke aanbestedingen innovatie stimuleren?
    - Financieren: Lukt innoveren anders niet?
    - Risico overnemen: Is een publieke organisatie bereid risico's te delen?
    - De juiste vraag stellen: Hoe ziet een dergelijke vraag eruit?
    - Versnelde opname van de innovatie:
    - Partnering:
- Hoe zit u het nemen van risico's bij het ontwikkelen van een oplossing?
- Welke typen innovatie komt u tegen in uw praktijk?
    - Incrementeel/radicaal: hoe ontstaan deze?
    - Product: hoe ontstaan deze?
    - Proces: hoe ontstaan deze?
    - Organisatorisch: hoe ontstaan deze?
- Aan welk type innovatie heeft uw organisatie het meeste behoefte?
    - Is het nu mogelijk dit aan te besteden?

Thema 4: De invoering van een nieuwe aanbestedingsprocedure

- Wat komt er kijken bij de invoering van een nieuwe manier van aanbesteden?
    - Hoe ging dat bij de overgang van bestek naar DNC?
    - CA: Overgang naar nieuwe procedures in uw organisatie.

Thema 5: Ervaringen en voorspellingen betreffende het innovatiepartnerschap

- Bent u bekent met het innovatiepartnerschap?
    - Sinds wanneer?
    - Hoe?
- Heeft u ooit gebruik gemaakt van een innovatiepartnerschap of dit overwogen?
    - Waarom of waarom heeft u hier niet voor gekozen?
- Wat zou er bij u moeten gebeuren om dit te laten werken?
    - Wat zijn mogelijkheden?
    - Wat zijn uw bedenkingen bij het innovatiepartnerschap?
- Wie gaan volgens u gebruik maken van het innovatiepartnerschap?
    - Is het bruikbaar in uw eigen organisatie?
- Ziet u het innovatiepartnerschap als aanvulling op het scala van instrumenten die een CA heeft voor het stimuleren van innovatie?

Afronding

U kunt binnenkort het transcript verwachten en ik hoor graag uw opmerkingen en aanvullingen hierop.

Kan ik u een vragenlijst sturen in een week of twee? Deze zal enkele minuten tijd in beslag nemen en wordt door mij gebruikt om theorie te toetsen aan uw praktijkkennis.

Hartelijk dank voor uw tijd en kennis.

Appendix D: Questionnaire

De vragenlijst bestaat uit stellingen die een respondent kan scoren op een schaal van 0 tot 5 naar gelang hij of zij het met de stelling eens is.

- Ik ben werkzaam bij...
    - Een adviesbureau
    - Een advocatenkantoor
    - Een overheid
    - Een creatief bedrijf
    - Een aannemer
    - Een onderzoeksbureau
    - Een kennisinstelling
    - Een startup
    - Een aanbestedingsplichtige organisatie
    - Een niet hierboven gespecificeerd bedrijf / instelling / organisatie / etc.
- Ik kom regelmatig in aanraking met publieke aanbestedingen
    - Ja
    - Soms
    - Nee, nooit
- Ik kom regelmatig in aanraking met innovatie
    - Ja
    - Soms
    - Nee, nooit
- Ik ken het innovatiepartnerschap...
    - Niet
    - Niet, maar ik kan me er iets bij voorstellen
    - Van horen zeggen
    - Een beetje, bijvoorbeeld als toeschouwer
    - Wel, ik heb het bestudeerd
    - Wel, ik heb ermee gewerkt

- Aanbesteden is een stimulans voor de ontwikkeling van incrementele innovaties.
- Het innovatiepartnerschap biedt kansen voor ingrijpende innovaties gedreven door technologische doorbraken.
- Juist een aanbestedende dienst stimuleert als 'launching customer' innovatie in hoge mate.
- De procedure van het innovatiepartnerschap is ten opzichte van andere procedures flexibel in de mogelijkheid tot het ontwikkelen van innovaties.

- Het innovatiepartnerschap is de oplossing voor het inkopen van technologieën die nog niet beschikbaar zijn in de markt.
- Het uitzicht op aanschaf van de ontwikkelde innovatie in een innovatiepartnerschap zorgt voor bereidheid van marktpartijen om te investeren in de ontwikkeling.
- Een innovatiepartnerschap leidt tot een lange-termijn samenwerking tussen marktpartij en aanbestedende dienst wat de kwaliteit van het resultaat positief beïnvloed.
- De procedure van het innovatiepartnerschap biedt kansen om ‘duurzaamheid’ als onderscheidend criteria op te nemen in het R&D-proces.
- De theoretische procedure van het innovatiepartnerschap sluit aan op de praktijk.
- De mogelijkheid om een innovatiepartnerschap met een enkele partner aan te gaan om bijzondere innovaties in te kopen geeft gehoor aan een behoefte in de praktijk.
- Het innovatiepartnerschap is nog erg theoretisch en behoeft ervaringen in de praktijk ter verbetering.
- Voor de toepassing van het innovatiepartnerschap in de praktijk is er behoefte aan een goede definitie van 'aanbesteding'.
- De instructie voor de procedurele stappen van het innovatiepartnerschap moet worden verduidelijkt ter ondersteuning van de toepassing.
- De vertaling van de stappen in een innovatieproces naar dialoogfasen in de innovatiepartnerschap procedure is onduidelijk.
- Het is nadelig dat aanbieders worden geselecteerd voordat het R&D traject van de innovatiepartnerschap procedure wordt ingezet.
- De kosten(verdeling) en doorlooptijd van de procedure van het innovatiepartnerschap zijn onzeker en onvoldoende in beeld gebracht.
- Een innovatiepartnerschap zal te hoge administratieve kosten met zich meebrengen.
- De verdeling van intellectueel eigendom zal beperkingen opleveren voor aanbestedende diensten en marktpartijen in een innovatiepartnerschap.
- In de toepassing van de procedure ontstaat het probleem van cherry picking door de aanbestedende dienst.
- Samenwerking tussen markt en overheid stimuleert innovaties meer dan (reguliere) aanbestedingen.
- Een publieke klant met technische competenties is de beste partij om innovatief gedrag van een marktpartij stimuleren.
- Functionele of prestatiegerichte specificaties stimuleren innovatief gedrag bij een marktpartij.
- Kennis van universiteiten moet gebruikt worden in een innovatiepartnerschap.
- Met een innovatiepartnerschap kunnen ongevraagde aanbiedingen (unsolicited proposals) van een marktpartij worden ingekocht.
- Het innovatiepartnerschap zal zorgen voor een nieuwe vorm van innovatieve consortia van marktpartijen.

- Gezamenlijke inkoop door aanbestedende diensten zal de resultaten van de aanbesteding verbeteren.
- Het imago van een aanbestedende dienst verbetert door het gebruik van het innovatiepartnerschap.
- Radicale innovaties zijn zo onvoorspelbaar dat ze niet kunnen worden aanbesteed.
- Aanbestedende diensten zijn risicomijdend en besteden daarom geen innovaties aan.
- Tijdens een aanbesteding wordt doorgaans slecht gecommuniceerd.
- Overdreven beperkende wet- en regelgeving staat innovatie in de weg.
- Het innovatiepartnerschap zal niet gebruikt worden omdat overheden innovatie liever stimuleren met regelgeving en subsidies.
- Deelname aan innovatiepartnerschappen is niet aantrekkelijk genoeg voor marktpartijen.
- Als bij de eerste paar innovatiepartnerschappen het doel niet bereikt wordt, past een aanbestedende dienst de procedure niet meer toe.
- Een innovatiepartnerschap brengt grote financiële en praktische risico's met zich mee waardoor aanbestedende diensten de procedure niet zullen gaan toepassen.
- Enkel de centrale overheden in Nederland zullen het innovatiepartnerschap in de praktijk gebruiken.
- Aanbestedende diensten zullen zich niet wagen aan een innovatiepartnerschap en het houden bij vertrouwde aanbestedingsprocedures om innovaties te stimuleren.

- Heeft u nog vragen of opmerkingen?

Appendix E: Overview of determinants

Author	#	Factor	Laws and regulations	Project characteristics	Market situation	Iron Triangle	Risk avoidance	Client situation	Others
Twynstra Gudde	1	Efforts asked from applicants			+			++	
	2	Market supply			++				
	3	Possibilities for specifications		++				+	
	4	Complexity procedure		++				+	
	5	Lead time				++			
PIANOo	1	Regulations and directives	++						
	2	Nature of the assignment		++					
	3	Type of assignment		++					
	4	Special circumstances							++
	5	Size of contract	+	++					
	6	Specificity		++					
	7	Type of client						++	
	8	Administrative burden				+		++	
	9	Market situation			++				
	10	Award criterion				+			+
	11	Policies						++	
	12	Competition			++				
	13	Lead time				++			

	14	Importance of the product		++				+	
Alhamzi & McCaffer	1	Project characteristics		++					
	2	Market attributes			++				
	3	Contractor and Architect / Engineer needs			++				
	4	Categories of clients						++	
	5	Client design orientation						++	
	6	D & C regulations	++						
	7	Client's needs		+				++	
Gordon	1	Construction sophistication		++					
	2	Capabilities of the owner						++	
	3	Risk aversion					++		
	4	Restrictions on methods	++						
	5	Other external factors			+				+
Mohsini	1	Project characteristics		++					
	2	Project complexity / uniqueness		++					
	3	Legal constraints and regulations	++						
	4	Degree of control client					+	++	
	5	Risk aversion					++		
Okulola & Olugbenga	1	Speed				++			
	2	Cost certainty				++	+		
	3	Time certainty				++	+		

	4	Price competition			++	+			
	5	Quality		+		++			
	6	Risk avoidance (time)				+	++		
	7	Risk avoidance (cost)				+	++		
			9	24	14	17	11	21	4

Appendix F: Interview codes

#	Open code	Axial code	Selective code
G1	Innovatie eisen kunnen in de EMVI worden opgenomen	Gunningscriteria	Opportunity
G2	Door partijen af te laten vallen in een innovatiepartnerschap besteed je maatschappelijk geld zinvol	Gunningscriteria	Opportunity
G3	Een doorlopende deelname zorgt ervoor dat partijen niet afgestraft worden op hun zwakke elementen maar deze kunnen verbeteren	Gunningscriteria	Opportunity
G4	Open criteria moeten wel toetsbaar zijn	Gunningscriteria	Opportunity
G5	Gunningscriteria moeten niet technisch worden geformuleerd	Gunningscriteria	Opportunity
G6	In een innovatiepartnerschap mag je inschrijvingen tegenover elkaar afwegen	Gunningscriteria	Opportunity
G7	EMVI-criteria stimuleren innovatie	Gunningscriteria	Opportunity
G8	De EMVI is een goed instrument om innovatie te stimuleren	Gunningscriteria	Opportunity
H1	Innovatieve aanbestedingen verbeteren het imago van een overheid	Imago	Opportunity
H2	Innovatie leidt tot imagoverbetering van een publieke organisatie	Imago	Opportunity
K1	Unsolicited proposals kunnen de ruimte krijgen via een hoger beleidsorgaan	Draagvlak	Opportunity
K1	De keuze voor het inkopen van een innovatie wordt gemaakt door afdelingshoofden	Draagvlak	Opportunity
K2	Een keuze voor het innovatiepartnerschap is een managementkeuze	Draagvlak	Opportunity
K3	Intern in een publieke organisatie moet er draagvlak zijn voor een innovatiepartnerschap	Draagvlak	Opportunity
K4	Management moet het innovatiepartnerschap stimuleren	Draagvlak	Opportunity
K5	De keuze voor het innovatiepartnerschap is een geïnformeerde managementkeuze	Draagvlak	Opportunity
L1	Fysieke ruimte is voor innovaties vaak belangrijker dan geld	Marktprikkels	Opportunity

L2	De overheid kan innovatie bij marktpartijen pushen	Marktprikkels	Opportunity
L3	In een innovatiepartnerschap moeten de innovatiefasen expliciet worden gemaakt	Marktprikkels	Opportunity
L4	De gunning aan het einde van een innovatiepartnerschap is de belangrijkste drijfveer voor marktpartijen om mee te doen	Marktprikkels	Opportunity
L5	Een 'supervisor' helpt een marktpartij aan de vraag te voldoen	Marktprikkels	Opportunity
L6	Marktpartijen kunnen wetenschappelijke ontwikkelingen in de praktijk gebruiken	Marktprikkels	Opportunity
L7	Aannemers hebben een impuls nodig voor innovatieve ideeën	Marktprikkels	Opportunity
L8	De doelen van de aanbesteding moeten haalbaar en interessant genoeg zijn om marktpartijen te prikkelen zelf te investeren	Marktprikkels	Opportunity
L9	Marktpartijen maken graag gebruik van kennis bij kennisinstituten	Marktprikkels	Opportunity
L10	Een pilotproject is een goede manier om een innovatie onder de aandacht te brengen	Marktprikkels	Opportunity
L11	De gunning aan het einde van een innovatiepartnerschap is het grootste voordeel van het innovatiepartnerschap	Marktprikkels	Opportunity
L12	Een mogelijkheid tot afvallen is een nadeel van het innovatiepartnerschap voor marktpartijen	Marktprikkels	Opportunity
L13	Een overheid kan in een innovatiepartnerschap bijdragen aan de ontwikkeling van een innovatie door informatie te verstrekken	Marktprikkels	Opportunity
L14	Het innovatiepartnerschap biedt nieuwe mogelijkheden voor marktpartijen	Marktprikkels	Opportunity
L15	Begeleidingstrajecten vanuit de aanbestedende dienst helpen in het creëren van een gelijk speelveld voor de aanbieders	Marktprikkels	Opportunity
R1	Consortia van uiteenlopende bedrijven zorgen voor uiteenlopende oplossingen	Samenwerking in consortia	Opportunity
R2	Om innovatie te stimuleren moet een overheid uiteenlopende partijen aan elkaar verknopen	Samenwerking in consortia	Opportunity
R3	Samenwerkingen tussen uiteenlopende partijen leiden tot nieuwe oplossingen	Samenwerking in consortia	Opportunity
R4	Consortia van bedrijven die elkaar onvolkomenheden aanvullen zijn ideaal in een innovatiepartnerschap	Samenwerking in consortia	Opportunity

R5	Het innovatiepartnerschap biedt ruimte voor verassende partners	Samenwerking in consortia	Opportunity
R6	Een startup zou de kans moeten krijgen mee te doen en na de eerste fase een samenwerking met een stevige partner te zoeken	Samenwerking in consortia	Opportunity
R7	Onconventionele aanbieders kunnen een andere instelling of andere diensten bijdragen in een aanbesteding	Samenwerking in consortia	Opportunity
R8	In een samenwerking met een andere partij kan een kunstenaar gemakkelijker meedoen met een aanbesteding	Samenwerking in consortia	Opportunity
S1	Marktpartijen zijn de actieve innovators	Samenwerking markt - markt	Opportunity
S2	In een innovatiepartnerschap kan men gelijkwaardig kennis en inzichten delen	Samenwerking markt - markt	Opportunity
S3	Het innovatiepartnerschap kan gebruikt worden voor het faciliteren van een samenwerking tussen een groot aantal uiteenlopende partijen	Samenwerking markt - markt	Opportunity
S4	Marktpartijen in een innovatiepartnerschap kunnen elkaar inspireren	Samenwerking markt - markt	Opportunity
S5	Een combinatie van reguliere en ongebruikelijke participanten in een innovatiepartnerschap creëert meerwaarde	Samenwerking markt - markt	Opportunity
S6	Een innovatiepartnerschap leidt tot nieuwe relaties	Samenwerking markt - markt	Opportunity
S7	Met innovaties kunnen nieuwe verbanden tussen industrieën worden gemaakt	Samenwerking markt - markt	Opportunity
T1	Een marktpartij kan meepraten over rol en taakverdeling binnen een aanbesteding	Samenwerking overheid - markt	Opportunity
T2	In een innovatiepartnerschap moet er ook echt samengewerkt worden	Samenwerking overheid - markt	Opportunity
T3	De overheidsorganisatie in een innovatiepartnerschap moet faciliteren	Samenwerking overheid - markt	Opportunity
T4	Overheden en marktpartijen krijgen in een innovatiepartnerschap nieuwe rollen	Samenwerking overheid - markt	Opportunity
T5	Het innovatiepartnerschap is een samenwerking van gelijken	Samenwerking overheid - markt	Opportunity
T6	Het is in bepaalde gevallen mogelijk gezamenlijk aan te besteden	Samenwerking overheid - markt	Opportunity
T7	Een innovatieve aanbesteding begint met een marktonderzoek	Samenwerking overheid - markt	Opportunity

T8	Marktpartijen moeten de core-business van de publieke organisatie begrijpen	Samenwerking overheid - markt	Opportunity
T9	Samenwerking tussen markt en overheid stimuleert innovatie	Samenwerking overheid - markt	Opportunity
T10	Samenwerking tussen een kunstenaar en overheidsinstantie verloopt niet natuurlijk	Samenwerking overheid - markt	Opportunity
X1	De schaalgrootte van de aanbestedende dienst is bepalend voor de vorm van specificatie	Vraag en specificaties	Opportunity
X2	Kleinere overheden werken bestekken uit	Vraag en specificaties	Opportunity
X3	De inschrijvers voor een aanbesteding hangen af van de vraag	Vraag en specificaties	Opportunity
X4	Ambtenaren zijn geneigd te denken in oplossingen	Vraag en specificaties	Opportunity
X5	Met een traditionele uitvraag stimuleer je innovatie niet	Vraag en specificaties	Opportunity
X6	Met behulp van prestatie-eisen kun je de markt stimuleren om zelf innovatieve oplossingen te bedenken	Vraag en specificaties	Opportunity
X7	Als een aanbestedende dienst innovatieve oplossingen wil, moet het contract daar voldoende open voor zijn	Vraag en specificaties	Opportunity
X8	Functioneel of prestatiegerichte specificaties laten de markt vrij om zelf tot een oplossing te komen	Vraag en specificaties	Opportunity
X9	Marktpartijen zouden zelf hun specificaties moeten formuleren	Vraag en specificaties	Opportunity
X10	Radicale innovaties behoeven een vrij oplossingskader	Vraag en specificaties	Opportunity
X11	Het innovatiepartnerschap begint met een probleemanalyse	Vraag en specificaties	Opportunity
X12	Functionele specificaties laten de markt ruimte om te innoveren	Vraag en specificaties	Opportunity
X13	Aanbestedende diensten stimuleren innovatie door hun behoeftes duidelijk te maken	Vraag en specificaties	Opportunity
X14	Een uitvraag van een innovatiepartnerschap moet in de vorm van een probleemstelling	Vraag en specificaties	Opportunity
X15	Een aanbestedende dienst bemoeit zich vaak met de oplossing	Vraag en specificaties	Opportunity
X16	Een uitvraag voor innovatie prikkelt een marktpartij	Vraag en specificaties	Opportunity

X17	Een open dialoog tussen overheid en markt in de voorbereidingsfase zorgt voor een doordachte procedure	Vraag en specificaties	Opportunity
X18	Voor innovatie moet een aanbestedende dienst de probleemstelling duidelijk hebben	Vraag en specificaties	Opportunity
X19	Bij innovatieve projecten moeten marktpartijen vrijgelaten worden	Vraag en specificaties	Opportunity
X20	Door functioneel te specificeren laat je een probleem oplossen door degene die dat het best kan	Vraag en specificaties	Opportunity
X21	Een marktpartij moet de behoefte van de publieke organisatie kennen alvorens te innoveren	Vraag en specificaties	Opportunity
X22	Bij innovatie heeft een marktpartij ruimte nodig om fouten te maken	Vraag en specificaties	Opportunity
C1	Marktpartijen moeten geprikkeld worden om te investeren in een innovatietraject	Co-investeren	Strength
C2	Om innovatie te stimuleren moet een overheid onrendabele voorinvesteringen faciliteren	Co-investeren	Strength
C3	Een investering in de aanbesteding zelf betaalt zichzelf terug in het eindresultaat	Co-investeren	Strength
C4	Overheidsfinanciering kan innovatie versnellen	Co-investeren	Strength
C5	Innovatie kost een investering die pas op langere termijn wordt terugverdiend	Co-investeren	Strength
C6	Marktpartijen doen mee vanwege de co-investering op hun ontwikkeling en de exploitatie	Co-investeren	Strength
C7	Cofinanciering op basis van prestatie zorgt voor een bestuurbaar project	Co-investeren	Strength
C8	Een overheid moet bereid zijn te betalen voor innovaties	Co-investeren	Strength
C9	Een overheid kan kansrijke innovaties stimuleren door erin te investeren	Co-investeren	Strength
C10	Een innovatiepartnerschap is cofinanciering	Co-investeren	Strength
I1	Een andere aanbestedingsprocedure kan innovatie stimuleren	Innovatie inkopen	Strength
I2	IP is een mogelijkheid om een antwoord op een moeilijke vraag te krijgen	Innovatie inkopen	Strength
I3	Overheden moeten niet gaan innoveren, laat dat aan de markt over	Innovatie inkopen	Strength

I4	Bij innovatie voldoen de meest gebruikte aanbestedingsprocedures niet	Innovatie inkopen	Strength
I5	Aanbesteden is een goed instrument om het beste uit de markt te halen	Innovatie inkopen	Strength
I6	Het innovatiepartnerschap schept nieuwe mogelijkheden voor een aanbestedende dienst	Innovatie inkopen	Strength
I7	Met een innovatiepartnerschap kun je op zoek naar iets onbekends	Innovatie inkopen	Strength
I8	Aanbestedende diensten kunnen aanzetten tot innovatie	Innovatie inkopen	Strength
I9	Een innovatiepartnerschap kan worden ingezet door aanbestedende diensten om de markt te ontlokken	Innovatie inkopen	Strength
I10	Een innovatiepartnerschap is een manier om radicale innovaties in te kopen	Innovatie inkopen	Strength
I11	Het innovatiepartnerschap beïnvloed de bewustwording bij aanbestedende diensten van hun behoeften	Innovatie inkopen	Strength
I12	Het innovatiepartnerschap is een instrument voor het behalen van ontwikkelingsdoelen	Innovatie inkopen	Strength
I13	Het innovatiepartnerschap vervult een behoefte van een aanbestedende dienst om te anticiperen op innovaties	Innovatie inkopen	Strength
I14	Het innovatiepartnerschap kan ook ingezet worden om een brede maatschappelijke verandering te stimuleren	Innovatie inkopen	Strength
I15	Voor innovatieve projecten is er geen kant-en-klare procedure	Innovatie inkopen	Strength
I16	Door aanbestedende diensten wordt steeds meer gezocht naar innovatie	Innovatie inkopen	Strength
I17	Een innovatiepartnerschap kan een manier zijn om unsolicited proposals aan te besteden	Innovatie inkopen	Strength
I18	Het innovatiepartnerschap biedt kaders waarbinnen nog mooie dingen gedaan kunnen worden door marktpartijen	Innovatie inkopen	Strength
I19	Overheden hebben behoefte aan duurzame oplossingen voor infrastructuur	Innovatie inkopen	Strength
I20	Radicale innovaties worden te weinig gestimuleerd door overheden	Innovatie inkopen	Strength
I21	Het innovatiepartnerschap kan een instrument zijn voor een marktpartij om gericht te innoveren	Innovatie inkopen	Strength

Q1	Marktpartijen kunnen met een ontwikkeling inspringen in een aanbesteding	Roadmap	Strength
Q2	Innovaties met potentie kunnen na afloop van een innovatiepartnerschap door een marktpartij zelf worden doorontwikkeld	Roadmap	Strength
Q3	Een innovatiepartnerschap kan gebruikt worden bij innovaties die al op de roadmap van een marktpartij staan	Roadmap	Strength
Q4	Met een innovatiepartnerschap kun je marktpartijen ondersteunen in de ontwikkeling en exploitatie van hun innovaties	Roadmap	Strength
Q5	Martpartijen hebben een roadmap die kan aansluiten bij aanbestedingen	Roadmap	Strength
Q6	In een innovatiepartnerschap kunnen ontwikkeling en exploitatie gekoppeld worden	Roadmap	Strength
Q7	Het innovatiepartnerschap is een mogelijkheid voor bedrijven om hun business case te verbeteren	Roadmap	Strength
Q8	De belangrijkste reden om mee te doen aan een innovatiepartnerschap is het faciliteren en financieren van een innovatie die al op de roadmap stond	Roadmap	Strength
Q9	Als je afvalt bij een innovatiepartnerschap kun je de ontwikkeling zelf doorzetten	Roadmap	Strength
A1	Radicale innovaties vragen tijd en geld	Aard van innovatie	Threat
A2	Bij innovatie wordt niet elk project een succes	Aard van innovatie	Threat
A3	Innovatie is een continu proces zonder eindproduct	Aard van innovatie	Threat
A4	Een idee voor een nieuwe ontwikkeling ontstaat uit een persoonlijke ervaring	Aard van innovatie	Threat
A5	Innovatie vraagt natuurlijk wel veel tijd, energie, capaciteit en geld	Aard van innovatie	Threat
A6	Een idee voor een nieuwe ontwikkeling ontstaat uit een persoonlijke frustratie	Aard van innovatie	Threat
A7	Een radicale innovatie komt voort uit een open brainstorm	Aard van innovatie	Threat
A8	Inspiratie ontstaat bij een individu	Aard van innovatie	Threat
A9	Voor innovatie heb je geld, ruimte en vertrouwen nodig	Aard van innovatie	Threat

D1	Het innovatiepartnerschap vraagt om competente mensen op de juiste plek	Competenties	Threat
D2	Juridisch adviseurs hebben beperkte kennis over innovatie	Competenties	Threat
D3	Innovatie vraagt om vakinhoudelijke kennis bij een aanbestedende dienst	Competenties	Threat
E1	Kleinere overheden hebben behoefte aan controle	Conservatief	Threat
E2	Competitie tussen aanbieders verlaagt de prijs maar ook de innovatiekracht	Conservatief	Threat
E3	Aanbestedende diensten zijn conservatief	Conservatief	Threat
E4	Aanbestedende diensten zijn gewend een klein aantal procedures te gebruiken	Conservatief	Threat
E5	Aanbestedende diensten blijven vaak kiezen voor de vertrouwde weg	Conservatief	Threat
E6	Aanbestedende diensten hebben soms een voorkeur voor een aanbestedingsprocedure	Conservatief	Threat
E7	Aanbestedende diensten kunnen een aanbestedingsprocedure gebruiken uit gewenning	Conservatief	Threat
E8	Aanbestedende diensten zijn gewend een klein aantal procedures te gebruiken	Conservatief	Threat
E9	Aanbestedende diensten hebben vaan een favoriete aanbestedingsprocedure	Conservatief	Threat
E10	De bouw is een traditionele wereld	Conservatief	Threat
E11	De wegenbouwsector is conservatief	Conservatief	Threat
M1	Een monopolie aan het eind van een innovatiepartnerschap kan voorkomen worden door te gunnen aan meer dan 1 partij	Monopolie	Threat
M2	Een publieke opdrachtgever zal een monopolie in de markt proberen te voorkomen	Monopolie	Threat
M3	Voor een marktpartij is het belangrijk dat er meerdere aanbieders van een product zijn ter voorkoming van een monopolie	Monopolie	Threat
N1	Innovatief beleid wordt ingevuld door subsidies, niet door aanbesteding	Politiek en beleid	Threat
N2	Politiek beleid heeft geen effect op aanbestedingen	Politiek en beleid	Threat

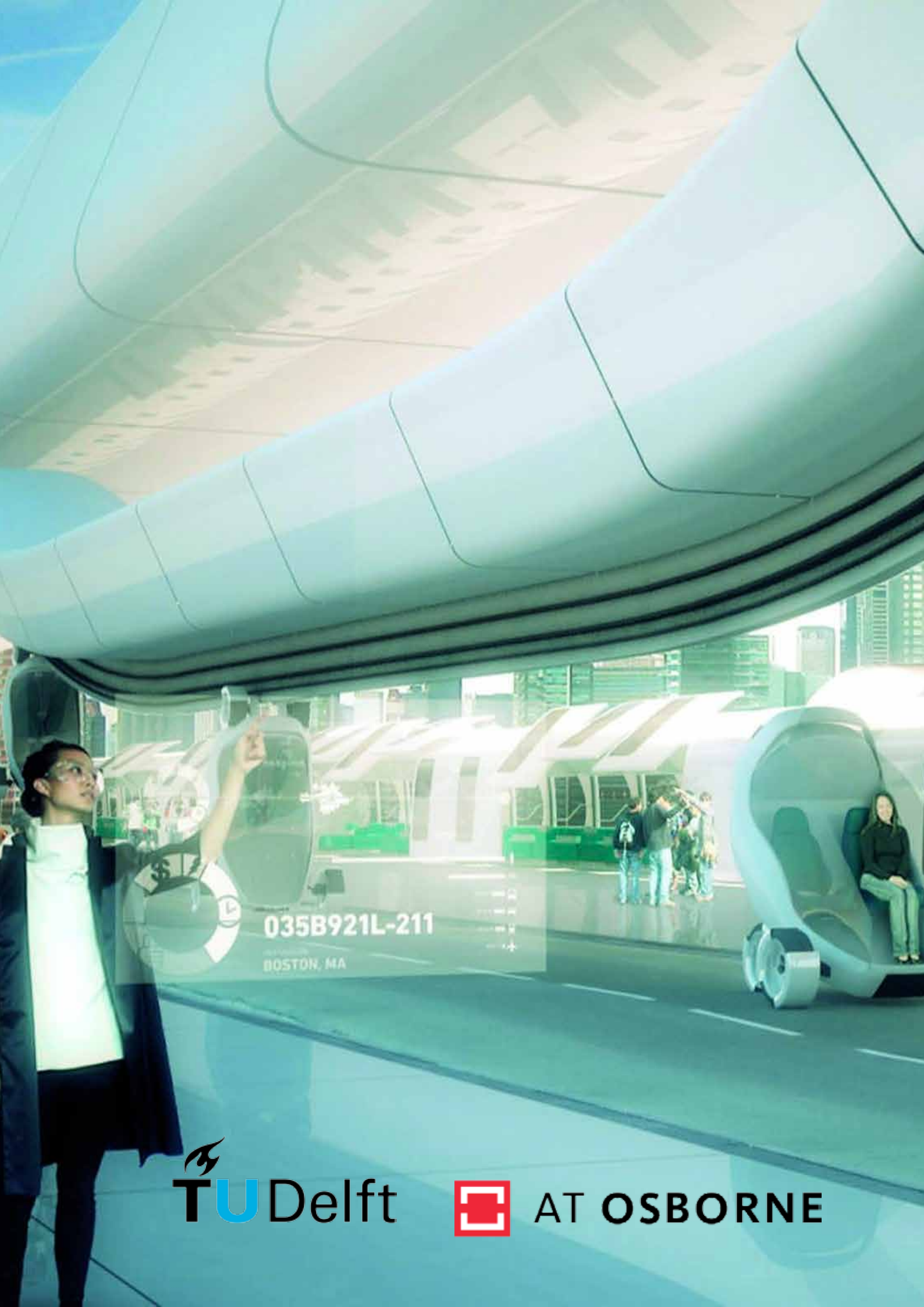
N3	Aanbestedende diensten krijgen niet de vraag innovatie in te kopen	Politiek en beleid	Threat
N4	Er moet beter worden ingespeeld op de mobiliteitsbehoefte van de eindgebruiker	Politiek en beleid	Threat
N5	Om innovatie te stimuleren moet een overheid wet en regelgeving zo optimaal mogelijk inrichten	Politiek en beleid	Threat
N6	Om innovatie te stimuleren moet een overheid een fair level playingfield organiseren	Politiek en beleid	Threat
N7	Overheden hebben een doorslaggevende rol bij innovaties	Politiek en beleid	Threat
N8	Overheden worden bewust van de rol van Launching customer	Politiek en beleid	Threat
N9	Soepelere wet en regelgeving stimuleert innovatie	Politiek en beleid	Threat
N10	Een overheid kan als launching customer innovatie stimuleren	Politiek en beleid	Threat
N11	Er is behoefte aan alle vormen van innovatie	Politiek en beleid	Threat
N12	Des te radicaler de innovatie des te groter de rol van de overheid	Politiek en beleid	Threat
N13	Beleidsplannen klinken weinig door in aanbestedingen	Politiek en beleid	Threat
N14	Het kabinet moet aansturen op actieve stimulering van innovatie	Politiek en beleid	Threat
N15	Publieke organisaties kunnen innovatie stimuleren m.b.v. subsidies en aanbestedingen	Politiek en beleid	Threat
N16	Bij een subsidie kan een publieke organisatie minder controle houden dan bij een aanbesteding	Politiek en beleid	Threat
N17	Beleidsprogramma's, marktpartijen en aanbestedende diensten zetten aan tot innovatie	Politiek en beleid	Threat
P1	Bij innovatieve projecten moeten kosten en risico's gespreid worden	Risico's	Threat
P2	Risico's kun je dragen, maar moeten gemanaged worden	Risico's	Threat
P3	Startups kunnen risico's gedeeltelijk dragen	Risico's	Threat
P4	In een innovatiepartnerschap moeten risico's verdeeld worden	Risico's	Threat

P_5	Innovatie en grote werken gaan niet samen vanwege de risico's	Risico's	Threat
P6	Risico's in een innovatiepartnerschap moeten gedragen worden door de partijen die ze het beste kan dragen	Risico's	Threat
P_7	De markt moet bij innovaties risico durven nemen	Risico's	Threat
U_1	Vooraf aan het innovatiepartnerschap kan een preselectie gedaan worden	Selectiecriteria	Threat
U_2	In een innovatiepartnerschap moeten de eisen zo open mogelijk worden opgesteld	Selectiecriteria	Threat
U_3	Selectiecriteria staan kleine ondernemers in de weg mee te doen in een aanbesteding	Selectiecriteria	Threat
U_4	Bij het formuleren van selectiecriteria moet een overheid rekening houden met de beoogde inschrijvers	Selectiecriteria	Threat
U_5	Een startup kan in een consortium toetreden tot de aanbieders in een aanbesteding	Selectiecriteria	Threat
U6	Aanbestedende diensten zouden zich moeten inzetten om drempels weg te nemen in een aanbesteding	Selectiecriteria	Threat
U_7	De uiteindelijke gunning zorgt voor een hoge drempel voor deelname van een startup aan het innovatiepartnerschap door criteria en doorlooptijd	Selectiecriteria	Threat
U8	Een klein bedrijf heeft niet de mogelijkheden mee te doen in een aanbesteding	Selectiecriteria	Threat
U_9	Een aanbesteding is ontoegankelijk voor een kunstenaar vanwege de rompslomp	Selectiecriteria	Threat
W_1	Vertrouwen is belangrijk in een partnerschap	Vertrouwen	Threat
W_2	Vertrouwen is belangrijk in een partnerschap	Vertrouwen	Threat
W_3	Een innovatiepartnerschap is onmogelijk zonder wederzijds vertrouwen	Vertrouwen	Threat
W_4	Een consortium van aanbieders kan alleen met goede afspraken en wederzijds vertrouwen	Vertrouwen	Threat
W_5	Regionale aanbestedende diensten houden graag controle over ontwikkelingstrajecten	Vertrouwen	Threat
F_1	Door het innovatiepartnerschap inzichtelijk te maken krijgt een opdrachtgever er meer grip op.	Ervaring	Weakness

F2	Aanbestedende diensten zullen voor een innovatiepartnerschap kiezen als ze er ervaring mee hebben	Ervaring	Weakness
F3	De aanbestedende diensten hebben comfort nodig bij een innovatiepartnerschap	Ervaring	Weakness
F4	Het innovatiepartnerschap is een sprong in het diepe	Ervaring	Weakness
F5	De werking van het innovatiepartnerschap moet bewezen worden met een succesverhaal	Ervaring	Weakness
F6	Een proefproject van het innovatiepartnerschap op kleinere schaal zou goed werken	Ervaring	Weakness
F7	Er is behoefte aan een duidelijk kader voor het innovatiepartnerschap vanuit Europa	Ervaring	Weakness
F8	Er is een geslaagde testcase van het innovatiepartnerschap nodig	Ervaring	Weakness
F9	Een gebrek aan jurisprudentie maakt het gebruik van het innovatiepartnerschap lastiger	Ervaring	Weakness
F10	Regionale aanbestedende diensten hebben een theoretisch beeld van het innovatieproces	Ervaring	Weakness
J1	Intellectueel eigendom is maatwerk	Intellectueel eigendom	Weakness
J2	Intellectueel eigendom is maatwerk	Intellectueel eigendom	Weakness
J3	Het vrijgeven van intellectueel eigendom werkt inspirerend	Intellectueel eigendom	Weakness
J4	Intellectueel eigendom is kan worden verdeeld tussen de partners en de overheid	Intellectueel eigendom	Weakness
J5	Intellectueel eigendom kan open source worden gemaakt	Intellectueel eigendom	Weakness
J6	Het intellectueel eigendom is een belangrijke prikkel voor marktpartijen	Intellectueel eigendom	Weakness
J7	Een marktpartij zal niet inschrijven als ze het intellectueel eigendom van de innovatie niet krijgen	Intellectueel eigendom	Weakness
J8	Het kwijtraken van intellectueel eigendom van de ontwikkeling is een dealbreaker voor marktpartijen	Intellectueel eigendom	Weakness
J9	Een waterschap heeft geen behoefte aan intellectueel eigendom	Intellectueel eigendom	Weakness
O1	Marktpartijen kunnen hun technologische voorsprong kwijtraken tijdens een aanbesteding	Procedurele belemmeringen	Weakness

O2	Handelen vanuit angst belemmert innovatie	Procedurele belemmeringen	Weakness
O3	De tijdelijke aard van een pilot schept is comfortabel voor een overheid	Procedurele belemmeringen	Weakness
O4	De aanbestedingswet kan belemmerend werken voor een aanbestedende dienst	Procedurele belemmeringen	Weakness
O5	Aanbestedende diensten zijn angstig om nieuwe procedures te gebruiken	Procedurele belemmeringen	Weakness
O6	Een aanbesteding is een formeel proces terwijl innovatief gedrag ruimte nodig heeft	Procedurele belemmeringen	Weakness
O7	Een aanbestedingsprocedure staat een innovatieproces in de weg	Procedurele belemmeringen	Weakness
O8	Een aanbestedingsprocedure wordt als leidraad gebruikt	Procedurele belemmeringen	Weakness
O9	De procedure wordt strikt gevolgd door een aanbestedende dienst uit angst voor bewaarprocedures	Procedurele belemmeringen	Weakness
O10	Kennisdeling binnen een innovatiepartnerschap staat innovatie in de weg als partijen af kunnen vallen	Procedurele belemmeringen	Weakness
O11	Een inkoopproces duurt bij een overheid relatief lang	Procedurele belemmeringen	Weakness
O12	Bij een aanbesteding gaat proces voor resultaat	Procedurele belemmeringen	Weakness
V1	Voor een innovatiepartnerschap moeten minimale kaders gesteld worden t.b.v. staatssteun	Staatssteun	Weakness
V2	Het innovatiepartnerschap is gevoelig voor staatssteun	Staatssteun	Weakness
V3	Het risico op staatssteun kan weggenomen worden door gelijkheid en transparantie van het proces	Staatssteun	Weakness
V4	Het afschermen van staatssteun is maatwerk	Staatssteun	Weakness
B1	De gekozen contractvorm bepaald de aanbestedingsprocedure	Bruikbaarheid	Weakness / Strength
B2	De aanbestedingsprocedure moet aansluiten bij de projecteigenschappen	Bruikbaarheid	Weakness / Strength
B3	Het innovatiepartnerschap is geschikt voor relatief kleine projecten	Bruikbaarheid	Weakness / Strength
B4	Aanbestedende diensten van grote centrale overheden kunnen innovatiever te werk gaan dan kleinere overheden	Bruikbaarheid	Weakness / Strength

B5	Het innovatiepartnerschap is beperkt bruikbaar	Bruikbaarheid	Weakness / Strength
B6	Grote centrale aanbestedende diensten zullen het innovatiepartnerschap gaan gebruiken	Bruikbaarheid	Weakness / Strength
B7	Adviseurs geven een objectief advies voor een aanbestedingsprocedure d.m.v. een MCA	Bruikbaarheid	Weakness / Strength
B8	De aanbestedingsprocedure wordt gekozen op basis van de projecteigenschappen	Bruikbaarheid	Weakness / Strength
B9	In een innovatiepartnerschap moeten de innovatiefasen aan het project worden aangepast	Bruikbaarheid	Weakness / Strength
B10	Bij de keuze voor een aanbestedingsprocedure wordt gekeken naar projecteigenschappen en marktsituatie	Bruikbaarheid	Weakness / Strength
B11	De innovatiefasen zijn maatwerk in een innovatiepartnerschap	Bruikbaarheid	Weakness / Strength
B12	Het innovatiepartnerschap sluit goed aan bij Talking Traffic	Bruikbaarheid	Weakness / Strength
B13	Het innovatiepartnerschap is flexibel	Bruikbaarheid	Weakness / Strength
B14	De keuze voor een aanbestedingsvorm wordt gemaakt op basis van een risicoanalyse	Bruikbaarheid	Weakness / Strength



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