Implementation of change in the municipality

Designing interventions for awareness and spreading the change vision

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Thank you all.

Enjoy reading!

Regina

Executive Summary

Introduction

There is a call for change because of multiple sustainability challenges including the wicked problem of climate change. Policymakers at international to local level are setting goals to solve these challenges. Cities are hotspots of these challenges but have policy levers they can influence to force change. The municipality of Amsterdam has set their ambitions high including having a 100% circular economy in 2050 by staying between the ecological ceiling and social foundation. The built environment is one of three value chains that the municipality can influence. Within the built environment falls the process of urban planning , asset management and public procurement. In this last domain the engineering department has the authority to make changes. This opportunity was taken to create a new form of public procurement that would give incentives to reach the ambitions of the municipality of Amsterdam, the collaboration agreement. However, the implementation of the new form of contract management met resistance from the organisation. The team responsible for the implementation is struggling with dealing with this resistance and desires to discover and solve the obstacles of the implementation.

Approach

This project is divided into four phases in line with the Double Diamond process: discover, define, develop and deliver (Design Council, 2004). In the discovery phase, the barriers to the implementation are discovered through looking at the past, vision and current situation of the GWW-sector. An organisational analysis shows the initiation of the collaboration agreement, the approach of the implementation team and their relevant stakeholders to the challenge. The literature review looks at change management in public organisations and possible barriers and drivers to change. In the empirical research interviews, informal conversation and observations of interventions to detect barriers of change in the implementation. Based on these insights, a design aim was formulated in the define phase. Next, the develop stage, an approach to the implementation was developed, including useful tools. Lastly, the deliver phase elaborate on the tools form the first step of the approach and evaluates the design based on the design requirements.

Research

The implementation of the collaboration agreement can be defined as radical change, because of the impact it has on structure, processes and the culture in the organisation. The cultural shift from a client-contractor relationship built on competition toward collaboration fits this description. Implementing radical change is a complex challenge that requires an approach that creates a sense of urgency, builds a guiding coalition, forms a strategic vision, enlist a volunteering army, enables action, generates short-term wins, sustains acceleration and institutes the change (Kotter, 2018). However, the current implementation team is overtaken by the operational activities and lacks knowledge on change management. The empirical analysis resulted in the detection of multiple barriers, including a 'lack of conviction of the need to change' in the project team and a 'lack of a compelling case' in the implementation team. This shows that an effective change vision, that is essential in implementing change, is missing.

Framework

The 5-step approach was developed to explain the importance of an effective change vision to the implementation. All the steps are clarified with the use of a metaphor of a growing plant: select seed, plant, root, sprout and grow. The first step is about creating awareness of the type of change that is selected and realizing the complexity of implementing. Secondly, the organisation has a sense of urgency to change and dissatisfaction with the old situation. Then, a guiding coalition is formed with different perspectives that want to contribute to the change. The sprout step consists of forming a strategic vision and the needed initiatives with the coalition. Lastly, this vision is shared and the change is implemented.

Toolkit

To support the first step of the 5-step approach, the 'Detection, Action, Reflection' toolkit was developed. This includes the Change Card Deck that shows all the barriers and drivers of change, to demonstrate the different factors that can result in resistance and inspire solutions. Next, the mapping session canvasses will guide the team through detecting the barriers they are dealing with, ideate of solutions and reflect on their current implementation approach. After the preparation with the change card deck, the team must sequentially follow the assumptions, linking, activities, priorities and reflection canvas. After the session, the Presentation slide deck will help spread their message to top management to convince them of their need for support.

Evaluation

This mapping session canvasses were evaluated in a pilot with the implementation team of the collaboration session. In this session the Change card deck was also used and evaluated. Lastly, the presentation slide deck was used in multiple groups to present the insights of the detected barriers. All evaluations were executed to check if they met the design requirements.

Reading Guide

This reading guide exhibits all the visual cues of the report that will assist the reader in finding the useful information.

The different different headers will tell you about the content of the text in that section or paragraph.

Header sub-section

Bold text - Header sub-topic
Italic text - List of topics
Text - Content

Each new chapter starts with 2 pages in the corrisponding colour with the Project Approach, which also lists the sub-sections in that chapter.

- Introduction
- Discover
- Define
- Develop
- Deliver
- Conclusion

The key insights are shown in a box in the corrisponding colour of that chapter. The shape indicates the origin of that key insight.

- Key insights from context, organisational analysis or literature review
- Results from empirical research
- Conclusion from define phase

Also, figures are marked in the text with the corrisponding colour of that chapter. It will help the reader to quickly find the explaiination of the figure.

This interactive pdf allows readers to jump to useful places in the report, like the appendix or different relevant chapters. These places are marked in the report by being underlined and coloured in the theme of that chapter: Appendix.

The table of content will lead the reader directly to the desired chapter, sub-section or paragraph by clicking on that name.

Definitions

This thesis includes literature and contextual aspects for which technical, strategic and design jargon and abbreviations are used. These definitions cover some of these terms to clarify the research.

Definitions

Circular economy	Designing the systems of production and consumption in a way to stop waste and pollution.
Coalition	A group of ambassadeurs with different perspectives that are dedicated to putting effort into realising the initiative.
Ideation	A phase in the creative process, where ideas are generated and developed.
Intervention	The involvement in a situation with the purpose to improve it.
System	"A whole that cannot be divided into independent parts", because each element affects the whole and they are interdependent (Ackoff, 1994).
Toolkit	A collection of tools: frameworks, methods, concepts or models, that can support the user with a particular purpose (Jarzabkowski & Kaplan, 2015).

Abbreviations

IB	Engineering department or in Dutch Ingenieursbureau, the department responsible for the procurement, project management and technical expertise within the municipality of Amsterdam.
GWW	Civil engineering or in Dutch Grond-, weg- en waterbouw
MT	Management team
SDG's	Sustainable Development Goals
SOK	Collaboration agreement or in Dutch Samenwerkingsovereenkomst, a framework agreement in public procurement of pavements in the municipality of Amsterdam.
V&OR	Traffic & public space or in Dutch Verkeer & openbare ruimte, department in the municipality of Amsterdam that is responsible for the maintenance and development of this area.

Table of Content

01

Introduction

1.1 Background

This chapter will introduce the background information on climate change ambitions in policy and built environment. This leads to the initial problem and research question. In addition it will explain the scope of the project in the municipality of Amsterdam.

1.1.1 Call for change

The world's temperature is rising and this is causing multiple sustainability challenges, such as pollution, resource scarcity and climate change. Dealing with climate change is seen as a wicked problem; complex, ill-structured and public (Swart et al,. 2004). Ritter and Webber (1973) identifies wicked problems as problems with multiple characteristics including being unclear in the cause and effect relations. Therefore it also does not have one clear and definitive solution. For example, society should change their source of energy from fossil fuels to renewable sources, such as solar panels. However, to produce solar panels, lots of energy and rare metals are needed. The mining of these metals causes in turn damage to the earth.

Policymakers are setting goals

The need for change has been recognised at the highest global level, defining a 2 degree celsius average increase of temperature as the limit of recovering the earth to a sustainable condition (Paris agreement, 2015). The internationally set goal has inspired all other political levels to act, and make concrete plans to realise this goal as shown in figure 1. Based on this set goal, the European Union has signed "the green deal" to steer its member countries to be climate neutral by 2050. Following this precedence, The Netherlands, its provinces and bigger cities conveyed this goal into a concrete action plan at national to local level.

On a local level, city governments can influence the regime by changing policy (Geels, 2002). With an increasing amount of people migrating to big cities, the latter have become hotspots of environmental challenges. Therefore, the urgency to start the

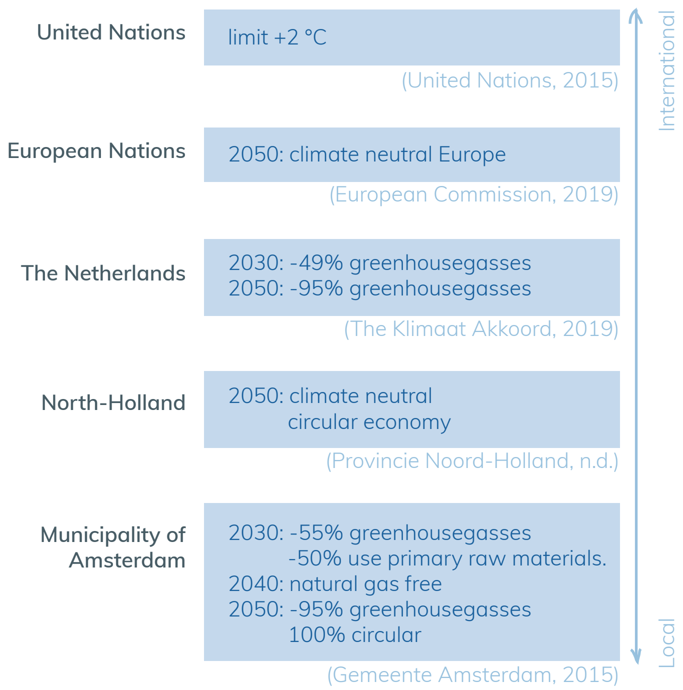


Figure 1: Policy initiatives from international to local

transition towards a sustainable system is high. However, with the proximity, desity and variety that cities offer are ideal for collaboration and innovation (Athey & Lucci, 2008). According to the Ellen MacArthur Foundation (2019), cities are uniquely equipped for this with different policy levers, such as regulations, economic incentives and urban management, and "can catalyse wider system transformation".

Therefore the city of Amsterdam is a relevant first scope for action and this project ties into this.

> This project is on the collaboration agreement a frontrunner in public procurement in the built environment that is trying to meet the ambitions set by the municipality of Amsterdam.

The next part will explain the underlined parts of the scope to give an introduction of the background of the project.

1.1.2 Municipality of Amsterdam

Ambitions

Last year the municipality of Amsterdam published their strategy for a circular Amsterdam 2020-2025. This document explained how the municipality planned to reach their goals of emiting 55% less CO_2 in 2030 compared to 1990, 95% less in 2050 and free of natural gas in 2040 (Gemeente Amsterdam, 2020). Their method of reaching this would be to change their current linear economy towards a 100% circular economy in 2050.

Circular economy

A circular economy (CE) focuses on designing the systems of production and consumption in a way to stop waste and pollution, while the linear economy is about (1) taking materials, (2) making products from them and (3) throwing them away when they have served their function (Ellen MacArthur Foundation, 2019).

Therefore in order to have sustainable development within a circular economy there should be overlap between the three lenses; ecological, economic and social (Robinson & Tinker, 1998)(figure 2). Different labels of these lenses were given through the years, but with similar meanings (Fisk, 2010; Calebretta, 2016).

The ecological lens, or planet lens or feasibility, is about staying within the environmental limits.
The economical lens, or profit lens or viability, is about creating a sustainable organisation.
The social lens, or people lens or desirability, is about ensuring a fair society.

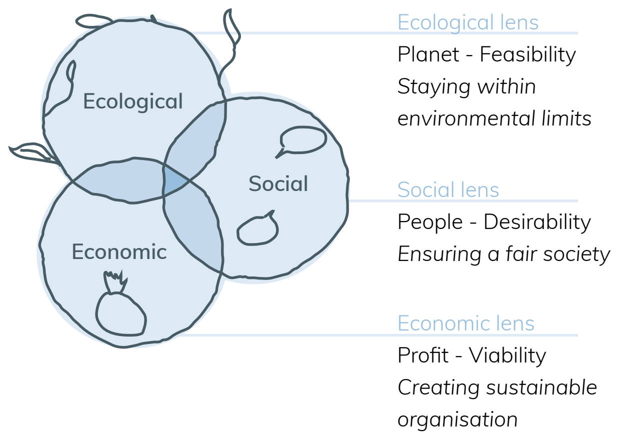


Figure 2: Imperatives to sustainable development (Robinson & Tinker, 1998; Fisk, 2010; Calebretta, 2016)

The municipality has chosen the Doughnut model of Kate Raworth (2017) to explain the balance between these lenses. This model (figure 3) shows the social foundation, that indicates the minimum welfare and economy and shortfall will create a society with hunger, inequality and lack of other essentials. There is also a maximum to the welfare called the ecological ceiling, that is the limit of pressure we can put on the planet by overfishing or emitting greenhouse gasses. Overshooting this threshold will create problems such as climate change.

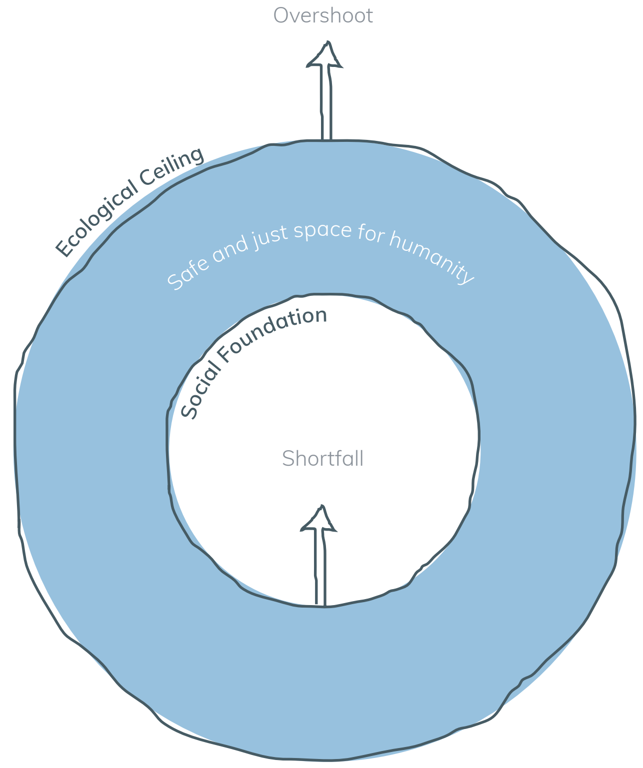


Figure 3: The Doughnut Model (Raworth, 2017)

The municipality has decided to focus on three value chains on which they have influence; food & organic residu flows, consumption goods and the built environment. Only this last value chain is relevant for this project.

Built environment
The built environment includes the construction of buildings and the planning of public space with all roads, bridges and playgrounds. The ambition within this value chain will be to use sustainable materials, plan for a climate adaptive city and have clean air though less pollution (Gemeente Amsterdam, 2020). The municipality has a strong influence over the policy levers in the built environment and physical space through urban planning, asset management and public procurement (Ellen Macarthur Foundation, 2019). These policy levers are seen as key to the transition to a circular economy and are tightly connected with each other. Urban planning will design the air, water and land use including the infrastructure within such as transport, accessibility and more. The physical assets are the responsibility of asset management, such as the bridges, parks and roads. When changes need to be made to the assets, these services and goods are purchased through public procurement.

Public procurement
The internal structure of the municipality has given the engineering department (IB) the authority over the public procurement on projects in the public space. However other departments that manage the assets are still the internal client of projects, such as Traffic & Public space (V&OR), Maintenance (Stadswerken) and Project management department (PMB). Figure 4 shows the internal structure of the municipality of Amsterdam with all the clients of the engineering department (IB) and the policy makers, including city council.

The responsibility of the physical space falls upon the Lead Buyer Fysiek, a member of the board of the department. The mandate to change the requirements of services within the public procurement lies with the lead buyer. Thus leading to the decision to create a frontrunner in a new public procurement policy, the collaboration agreement of pavement (SOK).

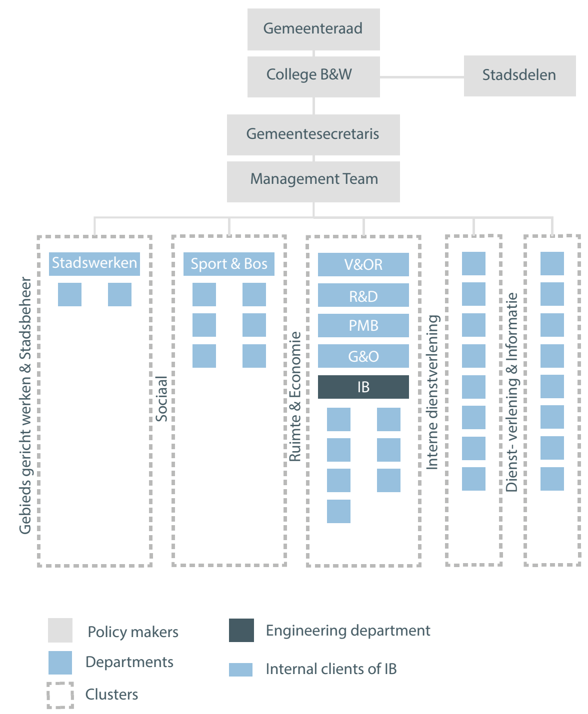


Figure 4: Internal structure Municipality of Amsterdam

Conclusion
There is a call for change because of multiple sustainability challenges including the wicked problem of climate change. Policymakers at international to local level are setting goals to solve these challenges. Cities are hotspots of these challenges but have policy levers they can influence to force change. The municipality of Amsterdam has set their ambitions high including having a 100% circular economy in 2050 by staying between the ecological ceiling and social foundation. The built environment is one of three value chains that the municipality can influence. Within the built environment falls the process of urban planning , asset management and public procurement. In this last domain the engineering department has the authority to make changes. This opportunity was taken to create a new form of public procurement that would give incentives to reach the ambitions of the municipality of Amsterdam, the collaboration agreement.

1.1.3 Collaboration Agreement

Purpose
Normally contracts in public procurement are chosen based on costs, meaning that the contractor proposing to do the work for the lowest price will get the contract. The purpose of the collaboration agreement is to be able to select on other definitions of value that are important in construction nowadays, such as collaboration and innovation. In the proposals these aspects are of high importance. The innovation stands for dealing with sustainability, lowering the emissions, dust and noise pollution. Collaboration is to increase the use of the expertise of the contractor earlier in the process, to avoid problems later.

Frontrunner
After the ambitions for Amsterdam were communicated, the Lead Buyer Fysiek, responsible for the public procurement, felt the need to act upon this, thus trying to convince internal clients to give financial space to facilitate the market to invest in collaboration and innovation, in addition to changing the habit of giving contracts to the contractors proposing the execution at the lowest price. However, when most departments were not inclined to act on his request the Lead Buyer Fysiek decided to use his given mandate and change the public procurement strategy in the programme of pavements. This decision forces internal clients to commit to the use of this frontrunner of public procurement; the collaboration agreement.

Resistance
The small group that was involved in working out the details, were mainly employees higher in the organisation of the Engineering department and one internal client Traffic & Public Space (V&OR). This contract was put on the market in 2018 and the ground, roads & water sector (GWW) reacted shocked but proposed creative solutions. On the other hand, the lead buyer had expected the need for this contract the IB would be strong as well and people would be eager to use it. However they were met with resistance from the project teams that were required to use this new contract form. To support the smooth implementation of the collaboration, an implementation team was formed. The resistance has led to the brief of this project.

Project brief 1.1.4

Brief
The Implementation Team struggles with the resistance against the implementation of the collaboration agreement. The organisation is sticking to their old attitude and behaviour of trying to get the lowest price from contractors. Clearly showing that the new way of procurement is not accepted across the board. This leads to the desire of the team to discover and solve the obstacles of the implementation.

Research Questions
The brief of the implementation team is to discover and solve the obstacles of the implementation of the new form of public procurement; the collaboration agreement. Therefore the initial research question is as follows:

> How can a design intervention help the SOK stakeholders, to decrease the number of hurdles for the implementation of the collaboration agreement in the municipality of Amsterdam?

In order to answer this question, it was divided into the following sub-questions:

SQ1: Who are the relevant stakeholders in this challenge?
SQ2: What is the current approach for the implementation?
SQ3: What are the key barriers to change in public organisations?
SQ4: What is needed to overcome this challenge?

Scope
The project is scoped to focus on one internal client, Traffic & Public space (V&OR). This department in the biggest client for the SOK with an 85% of the financial support.

1.2 Project Approach

This project is structured through the use of the Double Diamond method. This chapter contains an explanation of the four phases; discover, define, develop and deliver. Each phase is visualised in figure 5 and the chapters within the phase are visualised.

1.2.1 Double Diamond Process

This project was structured with the use of the double diamond framework was used as a process (Design Council, 2004). In this case, the two diamonds were used to diverge and converge toward a problem statement and solution (figure 5). During the diverging, it would guide to broaden and deepen the insights and ideas from the context. While converging would lead to structuring thoughts and solutions to lead toward results.

Phase 1: Discover
The first diamond helps people understand, rather than make assumptions on, what the problem is. It involves speaking to and spending time with people who are affected by the issues.
In this phase, the barriers and drivers, of change in public organisations, were discovered through a literature review. That information was linked to the insights obtained through observations, interventions and interviews.

Phase 2: Define
The insights gathered from the discovery phase can help you to define the challenge differently. System mapping is used to visualise the discovered stakeholders to the challenge and the location of specific barriers. A framework is introduced that will structure the solution. With all this input the scope and design aim is formulated. Finally, the design requirements are formulated for the evaluation of the deliverables.

Phase 3: Develop
The second diamond encourages people to give different answers to the clearly defined problem, seeking inspiration from elsewhere and co-designing with a range of people.
A 5-step approach has been designed for tackling the detected barriers with the most impact. These steps have linked tools to support the implementation team. A visual identity was formed to present unity in all the deliverables and create a sense of collective energy.

Phase 4: Deliver
This phase is all about iterating on the designs through testing with users. The insights from the small scale tests can result in improvements and rejections of aspects that do not bring value.
The final concept of the toolkit that supports the first step of the 5 step-approach, including the 'Change card deck', mapping session canvasses and presentation slide deck, is presented and evaluated.

Are you interested in the course of my process? Skip to chapter 6.3 and read my personal reflection.

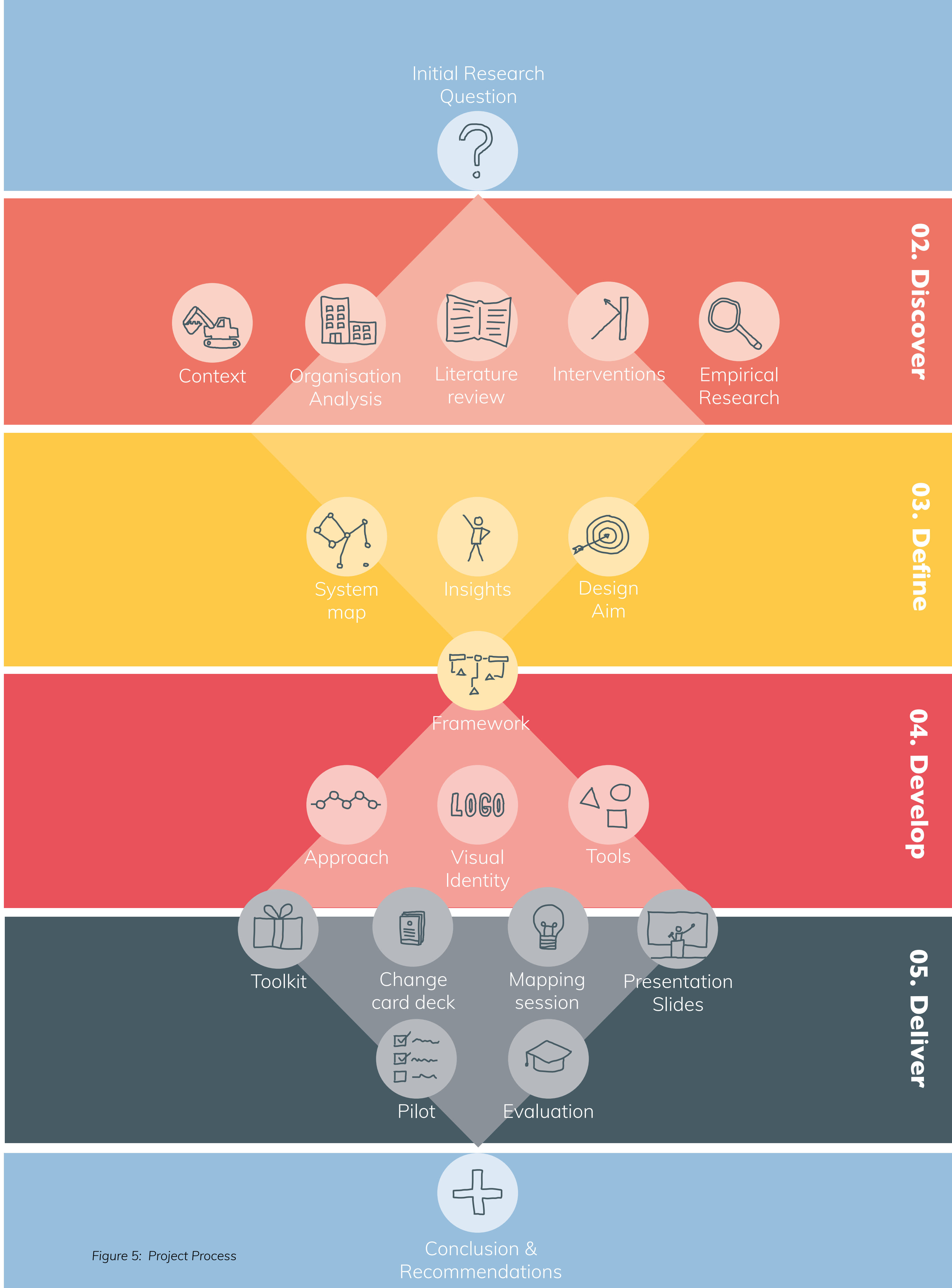


Figure 5: Project Process

02

Discover

2.1 Context

The GWW sector has a long history of toxic behaviour. The countermovement is preaching more collaboration between client and contractor. This chapter willl look into this history, the current movement and the benefits of collaboration for sustainable solutions.

2.1.1 History

The GWW-sector has a long history of a negative or even toxic culture. Some events have contributed to a client and contractor relationship of distrust. In the 'Marktvisie' (2016) the relationship is described through a list of behaviour, mindsets and business models.

Hierarchical client-contractor relationship. The client believes that because they pay for the services of the contractor, they are higher in the hierarchy than the contractor.

Putting personal interests first. The contractor is a company that works upon earning as much money, while the client wants the work at the lowest price. This causes secretive behaviour, which does not benefit the completion of a good project.

One-way communication. When the contract is finalised the contractor is summoned to execute the content of the contract. Most communication will be through email or text message.

Opportunistic behaviour. The contractor is trained on spotting loopholes in the contract that will lead to the possibility of more work and a way to ask for more pay.

Fight contracts. When the contractor is forcing the client to pay more for the work, often this will lead to legal action.

Competitive advantage on knowledge. The contractor benefits from keeping specific knowledge within their company instead of sharing even when it would benefit the outcome of the project.

This behaviour is disadvantageous for all stakeholders because instead of money being spent on the project and earned fairly, it is wasted on fighting legal battles.

Vision 2.1.2

The biggest stakeholder in the sector, including Rijkswaterstaat, Bouwend Nederland and Prorail, have joined forces to create a 'Marktvision' (2016) for the sector that needs to focus on breaking up the past culture. The goal is to deliver sustainable and future-proof solutions that are worth the money to the citizens and companies of the Netherlands. The process should include putting quality first, learning from each other and having respectful relationships. Through all their ambitions, collaboration is the linking factor.

Collaboration as equals with complementary strengths. All involved parties have a specific role and expertise, using those differences will help get the best result.

Putting the quality of the result first. The result is value on the quality and therefore this is the most important thing. What is built now must conform to the demands for at least the next 50 years.

Two-way communication. The contractor and client collaborate early on and throughout the duration of the process, preferably through meetings or calls.

Fair conditions. The contract will allow for fair pay for the contractor to create space for the collaboration. Sharing and learning. A new competitive advantage can be found in the effective sharing of knowledge. The client should share information to create a discussion where all parties are fully informed.

One of the goals in the 'Marktvisie' is incorporating sustainability in the solutions. Currently, the whole sector has a big impact on the climate through the use of high quantities of raw materials and energy. Therefore the ambitions of transitions to a sustainable sector are organised in four paths (Green Deal, 2018):

Costs → Value
The focus with sustainability should be on the added value it brings instead of the extra costs it takes, through stimulating innovative solutions.

Reaction → Proaction
Sustainability should not just be spontaneous pilots but business-as-usual, by embedding this on every level in the organisation.

Unique → Uniform
Including sustainability should be incorporated in all processes and systems, in one clear way that will be similar throughout the organisation.

Alone → Together
Collaboration between the contractor and client from early on in the process is essential, to integrate sustainability and learn from each other's successes and failures.

Current situation 2.1.3

After looking at the past and the future, there is only one more piece missing to complete the overview of the context: the current situation. Recently, a reflection on the attitude of the contractors working for the municipality of Amsterdam in the physical space has been conducted by Kernteam Markt (2020). The two main topics are innovation and collaboration besides contract forms, tendering procedure and influences of Covid-19.

Firstly, the contractors indicate that they are currently investing in sustainable solutions, such as electric transport and logistics involving circularity. However, only a small portion of the tenders request circular solutions. Showing the disconnect between the ambitions formulated by policymaking and the employees putting the tender online.

Secondly, the contractors touch upon the desire to work more closely with the client. But, they are aware that a transition toward more collaboration requires a culture shift. Instead of experiencing the first signs of this movement, they see that the municipality is moving in the other direction. An increase in bureaucracy, complex procedures and habits of moving the decisions around, limit efficiency and effectiveness.

Concluding, the perspective of the contractor on the municipalities actions is very critical on both innovation stimulation and the cultural shift toward collaboration. The perspective of the municipality was not included in this paper and will therefore be the focus of the empirical research.

Key insights

- A cultural shift is needed in the client-contractor relation to move from the toxic past toward a collaborative future.
- Policymakers have formulated a vision with sustainability, innovation and collaboration in its core.
- Contractors experience a disconnect between the sustainability ambitions of the municipality and the translation to tenders.
- Contractors experience an increase in bureaucracy, complexity and indecisiveness that negatively affect the collaboration.

2.2 Organisation Analysis

This chapter will dive into the creation of the collaboration agreement, the relevant stakeholders in this initiative and the team currently responsible for the implementation and their current approach.

2.2.1 Collaboration agreement

In order to find out where the implementation of the collaboration agreements is at this moment in time, the next part will elaborate on the initiation and development of the SOK. The overview of this process is visualized in figure 6.

Initiation

The reason behind the creation of the SOK was the ambitions of the municipality (chapter 1.1.2) that was shared internally, with the goal of among others to be 100% circular in 2050. This led to the desire of the Lead Buyer Fysiek to make sure that the public procurement of the physical space conformed to these ambitions. The result is a new contract that would give space for collaboration with the contractor in an early stage of the project and financial support to use innovation to be more sustainable in the execution.

The SOK 1.0 was implemented by putting it on the TenderNet, the online public procurement system of the government. After a long selection process, thirteen contractors were chosen. However, when the moment came that the project teams were asked to work with the new contract, they reacted with resistance. Therefore, the implementation team (SOK MT) was formed to deal with questions and problems with the contract and make iterations based on this knowledge.

Development

The iterations are done through the process of (1) getting feedback from the project teams, (2) checking whether their behaviour was in line with the goal of collaboration and innovation, and (3) making edits to the contract to support the implementation. The first iteration has led to the creation of a list of principles that people should keep in mind when collaborating, called the 'Handreiking'.

The second iteration that is currently still in development is an overview of fair prices for services of the contractor that will give the project teams more grip on the prices outside the lowest price culture (chapter 2.1.1).

Leading principles - Handreiking

This list (figure 7) is written to speak to the client and contractor about the ideal project. Different topics are brought up, such as results, goals, process, values and development. For example, values in collaboration are trustworthiness, predictability and transparency. It is valuable to remind both parties of this principle, because being transparent is a new requirement compared to old behaviour that was focussed on individual success.

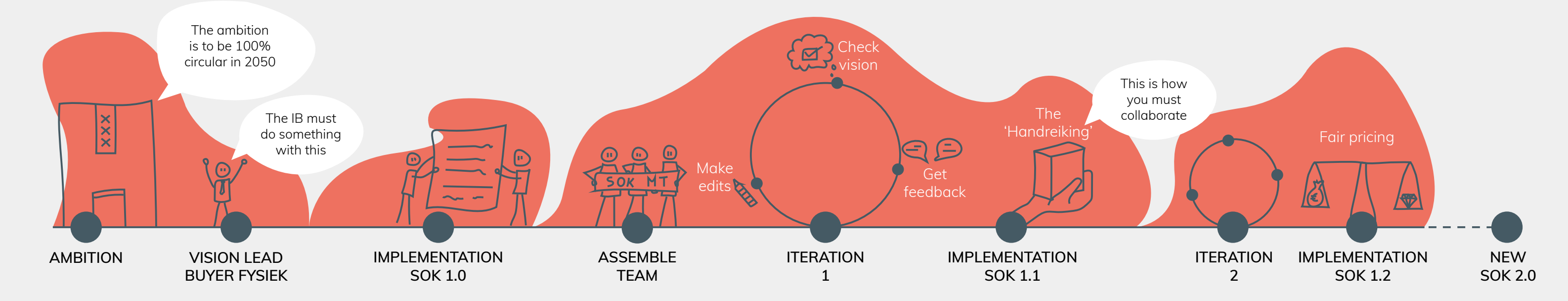


Figure 6: Timeline of initiation and development SOK

Leading Principles

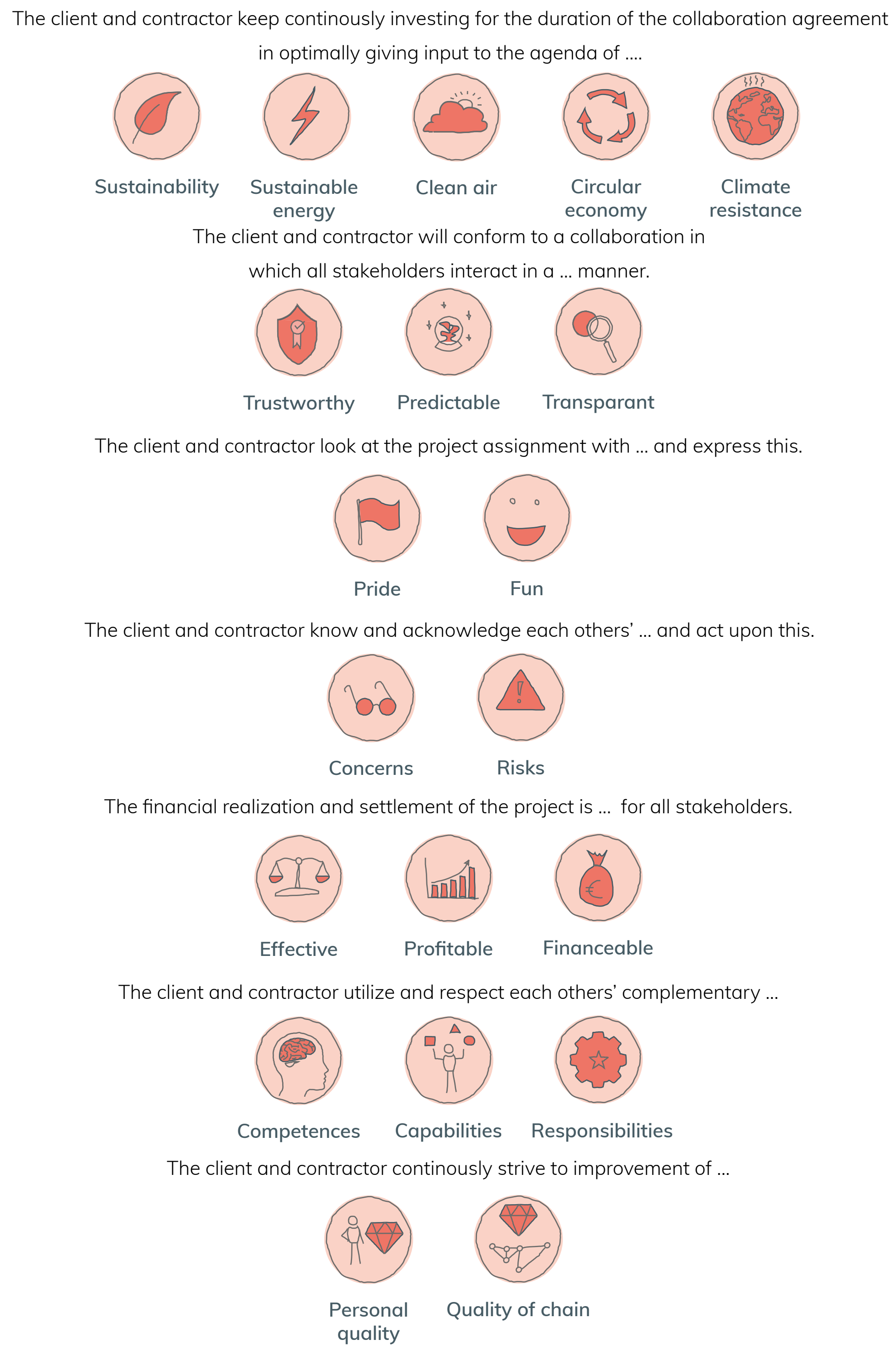


Figure 7: The leading principles of collaboration written in the 'Handreiking'

Key insights

- Top management decided to create and directly implement the collaboration agreement
- The Implementation team was formed to deal with the resistance.
- The Implementation team is iterating on the solution of the resistance.
- There is a list of principles presenting the ideal collaboration between client and contractor.

2.2.2 Stakeholders

There are three relevant chains that deal with the collaboration agreement that make up the overview of relevant stakeholders. These stakeholders and the relations between them are shown in *figure 8*. The boundaries of the system map is kept within the scope of one internal client: Traffic and public space (V&OR). The system map shows all three of the chains in different colours to distinguish the lines.This information contributes to answering the following subquestion:

SQ1: Who are the relevant stakeholders in this challenge?

First chain

The first chain is the process that moves from alderman to asset management to public procurement and ends in project management and execution. The alderman is responsible for all the traffic and transport in the city, the quality of the roadwork is directly related to mobility. However, the maintenance of the public space is outsourced to the assetmanager. In turn, they will cut the public space into smaller pieces and task a regievoerder with the maintenance of that piece. The regievoerder will inform the implementation managers of upcoming work, who will then send the information to the contractor to give them time to prepare. When a new project within that space is started, for example retiling of the street, a project manager is responsible for forming a project team and managing the execution of one project in the public space within the desired budget and with quality. To form this team they will request the help of the team leader to select available and desired members for the project team: the contractmanager, omgevingsmanager, werkvoorbereider and directievoerder. In addition, the projectmanager will ask the implementation manager to appoint the correct contractor, based on the assigned piece of the city, to the project team. Now it is up to the project team, including the contractor, to finalise the details of the project, such as the final contract up to the selection of tiles. The bundle of information is sent to be checked by the Tenderteam. When the content is accepted, the contract will execute the project.

Second chain

The second chain in the process is about the process of public procurement in the engineering department, moving from abstract level to a detailed contract form. Starting at the Lead Buyer Fysiek that has the mandate to direct the vision of the public procurement over the whole physical space. Within the physical space there are different categories that are managed by the programme manager, in this case that is pavements. Then the Category manager will write a procurement plan for the collaboration agreement within the category of pavements that is put on the market. In practice, the implementation managers handle the appointment of contractors in collaboration agreement and measure and report on the implementation. Also, they will deal with escalations between the contractor and project team on their collaboration. However the specific details of each project are worked out by the contractmanager in the project team.

Third chain

The third chain is about the process of integrating the sustainability goals of the municipality within the engineering department. In interplay between the Lead buyer fysiek and the assetmanager created the means to initiate the development of the collaboration agreement to meet the sustainability ambitions. The assetmanager provides the sponsorship through accepting high costs for the procurement and the lead buyer fysiek using the mandate to decide on the procurement form. The implementation team is created to iterate on the contract and keep supporting sustainability pilots and goals with the use of the SOK. The expert team of sustainability and circularity gives advice on the integration of sustainability on policy level in public procurement and project level of engineering and facilitation of the process.

Key insights

The relevant stakeholders form a complex network with different relations and responsibilities.

There is a top-down decision-making format that puts the responsibility on top management.

The implementation team is in a key spot between all the different stakeholders.

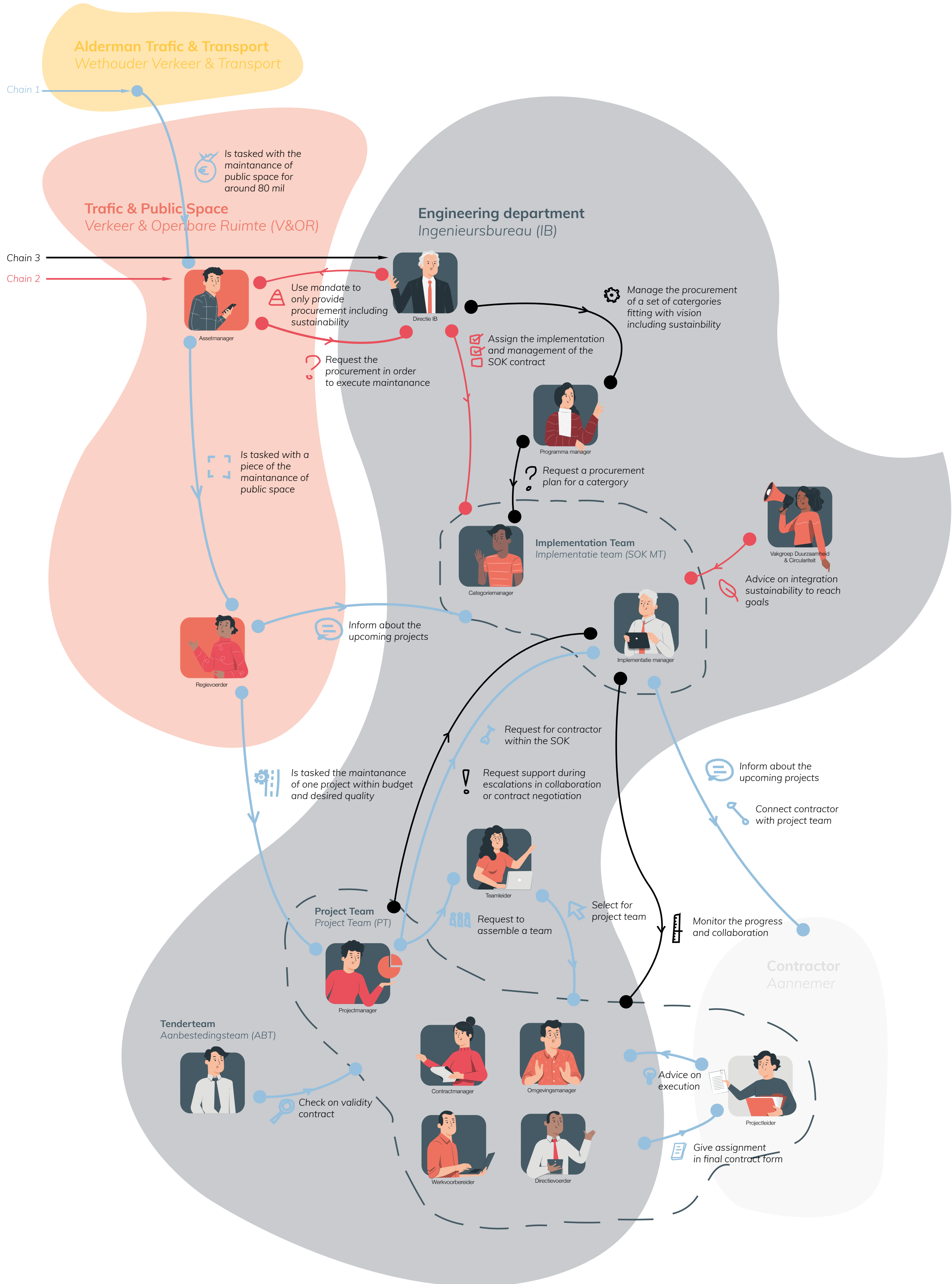


Figure 8: System map of relevant stakeholders and relationships

2.2.3 The implementation team

The analysis of the stakeholder showed that the implementation team is in a key spot between the different stakeholders. Also, they are responsible for the implementation of the collaboration agreement. This next part will contribute to answering the following subquestion:

SQ2: What is the current approach for the implementation?

Team formation

The team consists of one category manager and four SOK contract managers, who will be called implementation managers throughout this report. The implementation managers can be divided into internal employees and externally subcontracted there for the implementation.

Thus that means that they have a deadline on the time that they will be part of the team. Even though they do not really have clearly defined tasks and responsibilities, they have created this for themselves on an abstract level. Each member has a topic appointed to them, such as process, sustainability, stakeholder management and intention. When questions arise that relate to one topic, it will be directed at them.

Process

The team was formed with the purpose to help the collaboration agreement get implemented in the organisation. In order to do this, they have taken strategic development of the agreement and operational tasks upon themselves. However, they indicate that the operational activities are asking for more time because of their direct impact and often high priority. Resulting in the delay of the strategic tasks, such as knowledge sharing and improving the current contact form. Resulting in the delay of the strategic tasks, such as knowledge sharing and improving the current contract form.

Strategic

The strategic development follows a process that has not been defined in the team, but through observations can be deduced. Firstly, the team is observing and dealing with escalations within projects. These situations are then interpreted and insights are obtained. However, not that these are not documented. Secondly, on the basis of these insights solutions are developed and implemented. Finally, returning to observing the escalations in project teams. Figure 9 demonstrates an overview of this process. The project team is involved as a subject in the observation step and conversations with the implementation team.

The current strategic activities that the team is invested in, include the new tendering process for district centrum (2022), other districts of Amsterdam (2023). Both tenders will be a new version based on the learning from the past years. They expanded their monitoring capabilities with a 5-question form every 3 months on the collaboration during a project in the project teams. This will function as input for the quarterly progress report to top management, on the state on the implementation. Also, they are working on developing some tools to support the implementation based on the insights they collected from observations and escalations. These tools are a fair pricing list for the contractors, a measurement tool for the sustainability value and a tool predicting the workload of contractors.

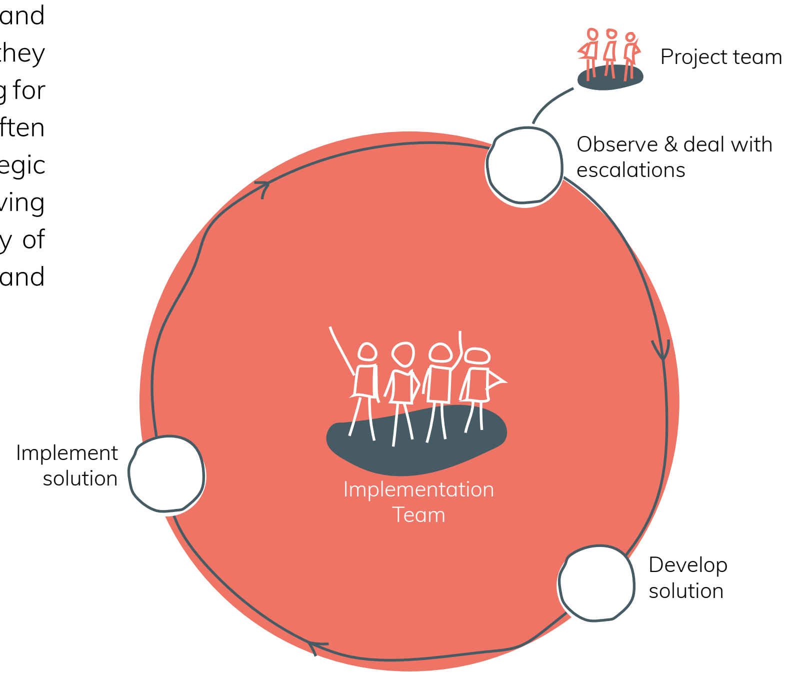


Figure 9: Strategical process of Implementation team

Operational

The operation activities involve the start procedure of the project with the use of the SOK and project teams requesting assistance in the collaboration with the contractor. In the duration of the project, there are multiple touchpoints where the implementation team and the project teams should interact. However, dealing with escalations should not demand the main part of their time, because the project manager should resolve those issues. In stand, they should focus on the initiation of the new projects. Then the implementation manager must check whether the project is a fit with the requirements of the use of the SOK. After the project team is formed, they will check the necessary forms, send an email explaining the collaboration and be present at the start-up meeting. These last two activities were added to be nearby in case an escalation happens right away. Other activities included meetings with contractors about their projects in general and giving presentations to recap the reason for the change toward this new tendering form.

Conclusion

The previous information of the team, their process and activities, shows that they are involved in strategic and operational activities. Currently, the operational activities are demanding and require more attention from the team, resulting in a postponement in the strategic activities. Those are the activities that result in new solutions tackling obstacles to the use and thus the implementation.

A closer look at their activities, responsibilities and capabilities show gaps in the implementation approach.

Strengths

The team consists of experts in the field of contract management. This entails the creation of a new contract form and the amendments based on practice. They are experienced in this field and have diversity through people that have been in other roles as well. In addition, the employees that have worked for the municipality of Amsterdam have done so for a long period. In that time they have built a network that can help to navigate the organisation when looking for like-minded people. When you meet people with resistance against the collaboration agreement, they have developed ways to deal with that through explaining the intention behind the change.

Weaknesses

The team consists only of experts in the field of contract management, demonstrating a team silo. However, when they meet resistance that cannot be solved in the form of amendments to the contract, then they lack diversity in other expertises to bring new solutions. Also, the involvement of the stakeholders in the creation and evaluation of the contract is limited to the negative situations and narrow space for input at the beginning. In addition, the current way of working in the team is closed for reflection and improvements. A clear effect can be seen in the prioritising of operational over strategic activities.

Key insights

- The implementation team prioritises operational activities over strategic ones.
- The implementation team have been explaining the intention to employees.
- The implementation team struggles with the frequent involvement of stakeholders in the development.
- The implementation team consists of a team silo and input from other expertises for new solutions.

2.3 Literature Review

Relevant literature is examined to understand the origin of the resistance against the collaboration agreement. This was accomplished by looking at the different types of change, the difference between change initiatives in public organisations and managing change.

2.3.1 Methodology

The literature review will answer the subquestion:

SQ3: What are the key barriers to change in public organisations?

Scope
The research area will be in the hot spot between the areas of change management, public organisations and design (figure 10). First discovering what challenges can be playing a role in resisting the implementation of the change. Therefore the analysis is done on the type of change instigated with the new contract. Next, a critical look is taken at the difference between the private and public sector to discover the difference to be taken into account during the analysis of the barriers of change. Lastly, the opportunities for a successful implementation of change are listed.

To broaden the online search for barriers, different search strings are used, such as "challenges", "resistance", "hurdles", "obstacles" and "hindrance". Another way to look at barriers is the misuse of the right drivers for change implementation. Therefore these factors are added to the analysis. The search strings used were "drivers", "enablers" and "boosters".

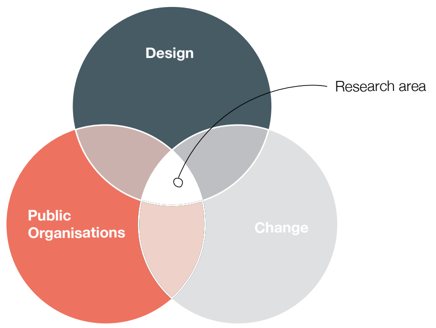


Figure 10: Research area of literature review

2.3.2 Change

According to Lauer (2020), change can be defined by: "moving to a new and desired situation". In the literature different types of change are described with a variety of terms. Multiple factors can help with the navigation toward the correct fit; "the amount, frequency, direction, intentionality and speed of change" (Petersen et al., 2004). Due to the abundance of types a change within these parameters, a short definition from Hayes (2002) is given. The more complex types, direction and amount, are more broadly explained. It is important to be aware of the type of change that is being implemented to estimate the impact on the employees, the necessary effort and the approach.

Speed
The speed of the implementation of the change can be slow and gradual of quick and immediate. These two types can influence whether people experience the change as new or a process in which they have time to adapt.

Gradual change
By making small changes over a longer period, the employees only have to learn pieces of new information and behaviour. This will be easier to adapt to but requires continuous investment of energy.

Immediate change
On the other hand, can the creation of disruption by changing the whole situation at the same time also be beneficial, for example by asking everyone to reply for new jobs. Now the people do not have time to slag and stay in their old behaviour.

Intentionality
There are differences between change when it was intended by someone that made the decision and a more natural process through other factors. The direction of the change can only be decided upon when a conscious decision is made.

Organic change
The people in the organisation change because of the influence of changes in their daily environment. They bring this into their work and influence others in turn. There is little control over this process because it is always happening.

Driven change
Often in organisations, changes are fueled by decisions from top management. They take the time to envision a future and have the desire to drive the organisation to this desired state.

Time pressure
Specific factors can influence business decisions, new possible markets or environmental pressures. These factors can come as a surprise or as a warm welcome. This decides whether the time pressure on changes because of these factors is high or low.

Anticipatory change
A proactive attitude in predicting trends and discovering factors that can influence your organisation can give you time to react to them. For example, changing the material of your product from steel to wood before there is a shortage of steel.

Reactive change
Sometimes unexpected events can impact your business. Quick thinking leads to changes in your business model to keep your business alive. For example, Covid-19 caused all clubs to close their door. But at some point exercise inside was allowed again and clubs could organise sports classes instead.

Frequency
The frequency in which change is implemented can be rare and incidental or continuous. This can influence the adaptive ability of the employees and therefore their attitude towards it. However, failed change initiatives negatively affect the willingness to adapt.

Incidental change
When change is incidental and a one-time initiative, it can be planned. But, the employees are used to their way of working and will struggle with adapting.

Continuous change
The organisation lives in a state where it expects changes to follow each other, always learning and being flexible to new influences and ideas. The employees can adapt and experiment.

Direction
The direction of change can have three degrees; developmental, transitional and transformational (Ackerman, 1997). These orders are increasing in the severity of the change and the uncertainty of the 'final state'.

Developmental change
Firstly, developmental change focuses on the improvement of a small and specific aspect of an organisation in things such as skills, communication or process. Often this is used to make an organisation cheaper, better or faster. Because the development does not ask people to change their existing way of working, it can be fairly well managed (Anderson & Anderson, 2010).

Transitional change
Secondly, transitional change is the response to a problem in the current way of operating and causes the desire for a new way (Anderson & Anderson, 2010). In this situation the desired state is well formulated and can be implemented with a plan. In the implementation one should take into account that employees are internally transitioning toward the desired state and will go through the stages accordingly.

Transformational change
Thirdly, transformational change is required when a fundamental shift in the operations, structure and culture is needed to reach a new transformed state (Anderson & Anderson, 2010). This approach will only be taken when the other changes cannot deliver the requirements for success, because of the difficulty of managing this change.

Amount
The amount of change can be small and incremental or large and radical. These two parameters are often connected to the direction of the change.

Incremental change
Incremental change will stay in line with the organisation's existing culture and objectives (Todd, 1999). By making small changes that will amount to one larger change. This is always the case in transactional change and frequently in transitional change (Anderson & Anderson, 2010).

Radical change
The other possibility is to implement radical change. This will have a substantial impact on all levels of the organisation: structure, process and culture (McAdam, 2003). In this case, "fundamental rethinking" is required to solve the influence of external problems from its environment on the organisation (Al-Mashari & Zairi, 1999). Therefore the change moves the organisation away from the established behaviour patterns and toward new ones (Todd, 1999). Radical change is most often linked to transformational change or sometimes to transitional change (Anderson & Anderson, 2010).

2.3.3 Change in public organisations

Most of the literature in change management is focused on the private sector. However, change in the public sector is driven by other factors than the private sector (Carol Rusaw, 2009). Therefore it is necessary to discover whether this impacts the implementation approach and the barriers and drivers that play a role.

Comparison public and private
In the public sector, there are multiple different factors that play a role and increase the complexity of change. Karp and Helgø (2008) list four characteristics for the public service organisations; (1) complexity in the external and internal environment creates the tendency for assumptions to change. (2) the need to balance ever-changing power plays of the groups that keep them accountable, such as governments, ministers, media and citizens. This political nature can make it difficult to get the support of the whole leadership (Robertson & Seneviratne, 1995). (3) Not the profitability but the social value created for citizens is the valuation of success. (4) these organizations have a rich diversity of people, structure, processes and culture, making it impossible for one team to predict all the effects.

However, these differences do not significantly affect the impact that change interventions, commonly used in the private sector, have in the public sector (Robertson & Seneviratne, 1995). Therefore the decision is made to keep the search for barriers of change in the literature broad and look for the specific ones that play an important role in the case of the collaboration agreement in the municipality of Amsterdam.

Barriers & Drivers
The categorization of the barriers and drivers was based on the internal environment factors described by Akingbola et al. (2019); change vision, leadership, communication, HRM practices, Training, organisational culture. Some of the labels were slightly edited to broaden or specify the scope. Therefore leadership was divided into 2 categories, including management, presenting the team that is managing the transition.

All the barriers and drivers are listed (table 1). The full literature review on the barriers and drivers can be found in appendix A, becuase of the length of the list.

Key insights

- The amount, frequency, direction, intentionality and speed of change influence the approach for implementation.
- Uncertainty increases when the direction of the change moves more away from the known way of working.
- Radical change impacts the structure, processes and culture of an organisation and is more difficult than staying close to the existing culture and objectives.
- Change in public organisations can be managed similar to private companies.
- There are various different barriers to change and drivers to support change.

	Barriers	Drivers
Vision		Future vision
		Shared vision
		Accepted vision
		Buy-in of the vision
Leadership	Lack of sponsorship	Model desired behaviour
	Lack of support	Corrective actions
	Difficulty with dealing with resistance	Active involvement
	Distrust in leadership	Commitment
	Poor control	
Management	Poor planning	Organisational navigation
	Poor monitoring	Management empathy
	Lack of dedicated effort	
	Failed change initiatives	
Communication	Lack of compelling case	Open & honest communication
	Inconsistent communication	Constant updates
		Sharing success
		Address the resistance
		Listening to the system
Development	Lack of know-how	Sharing knowledge
	Disrupted routines	Practice new behaviour
Structure	Incompatible corporate policies	Organisational agility
	Misalignment of prioritization	
	Organizational rigidity	
	Bureaucracy	
Performance	Inconsistent reward system	Recruitment criteria
	Role unclarity	Reward system
Individual	Lack of self-confidence	Sense of urgency
	Lack of confidence in others	Employee participation
	Lack of motivation	
	Increased workload	
	Lack of conviction of need to change	
	Fear of the unknown	
	Perceived loss of control	
	Perceived loss of security	
	Perceived loss of status	

Table 1: All the barriers & drivers found in literature

2.3.4 Implementation approach

The list of barriers is extensive, this begs the question on how these can be overcome. One thing that can be determined is that many barriers involve people. This is not surprising when you look at the process that the emotional state of someone experiencing transition will go through. The phases as shown in figure 11 are the Kubler-Ross curve (1969) that originated in a study about grief and loss, but is widely used in change in organisations. People that experience resistance to change in organisations will pass through the stages of denial, anger, bargaining and depression before acceptance.

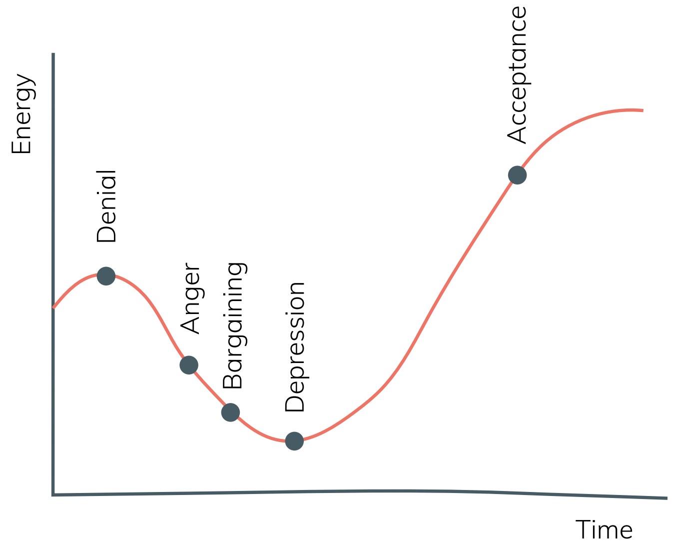


Figure 11: Kubler-Ross curve (Kubler-Ross, 1969)

Lewin's 3-step process
The literature of implementation methods shows a few frequently used frameworks to limit resistance. One of the earliest known models was the three-step process of Lewin (1952). It meant that in order to change, first the one must unfreeze then move or transition towards the desired new situation where it would refreeze again (figure 12). Most other models are more specific versions of this principle.

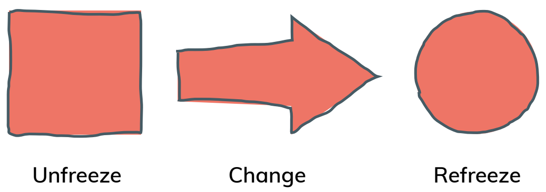


Figure 12: Lewin's 3-step model (Lewin, 1952)

Kotter 8-step model
The Kotter 8-step model (1995; 2018) is often brought up to be effective in public organisations (Fernandez & Rainey, 2006;). First the organisation must unfreeze by (1) creating a sense of urgency and need for change, (2) building a guiding coalition of different perspectives, (3) forming a strategic vision with the coalition and (4) enlisting a volunteering army. Next the shift of the organisation will happen by (5) enabling action and removing barriers, (6) generating short-term wins and (7) sustaining acceleration. Lastly the refreezing of the organisation is completed by (8) instituting change.

Preferences of designers
Caluwé & Vermaak (2003) have defined 5 styles of managing change; negotiation, empirical understanding, learning, motivating and organic. In public organisations negotiation and empirical understand (orange) are most dominant and motivating is preffered by human resources departments (white). However when dealing with complex problems the learning and organic styles (blue) are most suitable (Schaminée, 2018). Designers prefer tackling change management through the creation of learning with added elements of the organic method (Caluwé & Vermaak, 2003).

Negotiation
By aligning everyone's interests, often in a "game of power" to find the balance between the stakeholders. The goal is to find a win-win for all parties.

Empirical understanding
By first searching for the best possible solution and then systematically implementing it by following a rational process. The solution is developed on objective and verifiable knowledge.

Learning
By co-creating a solution with the users. The goal is to get people into a learning situation where they become more aware of the problem.

Motivating
By finding the best fit to stimulate people to change. The goal is to assess the thing that makes people want to change.

Organic
By creating space for self-organisation and meaning. The goal is to focus on the patterns in the organisation and remove the obstacle to change.

The learning and organic way of change management is about involving people in the process and this is something that designers can contibute to.

Key insights

People that experience resistance to change in organisations will pass through the stages of denial, anger, bargaining and depression before acceptance.

The Kotter 8-step model is an effective approach in public organisations.

In public organisations negotiation and empirical understanding style of change management as commonly used.

Designers are most effective in a learning or organic way of managing change.

2.4 Empirical Research

In this section, the research setup is explained, which includes the used methods for data collection and sampling techniques. Also, the interventions or generative sessions used to gain insights are described in short.

2.4.1 Methodology

The exploratory study was conducted with stakeholders of the collaboration agreement. This group mainly consists of people working for the municipality of Amsterdam and external companies paid for their services to the municipality. The municipality of Amsterdam has around 16.000 employees of which around 1100 work in the Engineering department. The collaboration agreement works with 13 different contractors on around 400 projects per year. In the process of collecting deep qualitative data, different techniques were used.

Generative Design Research
The focus of generative design research is people-centered. The methods used are to collect data on what people say, do and make. Through each used method different and deeper knowledge of the needs of the people can be collected (*figure 13*). Almost always all three techniques are used in a generative study.

Say
The 'say' techniques include simple questionnaires and polls, but goes beyond that with interviews where people can express their opinions, needs, reasons and report on events and behaviour they have witnessed.

Do
Secondly, the 'do' techniques are about doing observations on 'people, their activities, the object they use, and the places where they conduct these activities' (Sanders & Stappers, 2013).

Make
Finally, the 'make' techniques let people express their feelings and thoughts through performing a creative act. The goal of the activities can include "recalling memories, making interpretations and connections, seeing and explaining feelings, or imagining future experiences" (Sanders & Stappers, 2013).

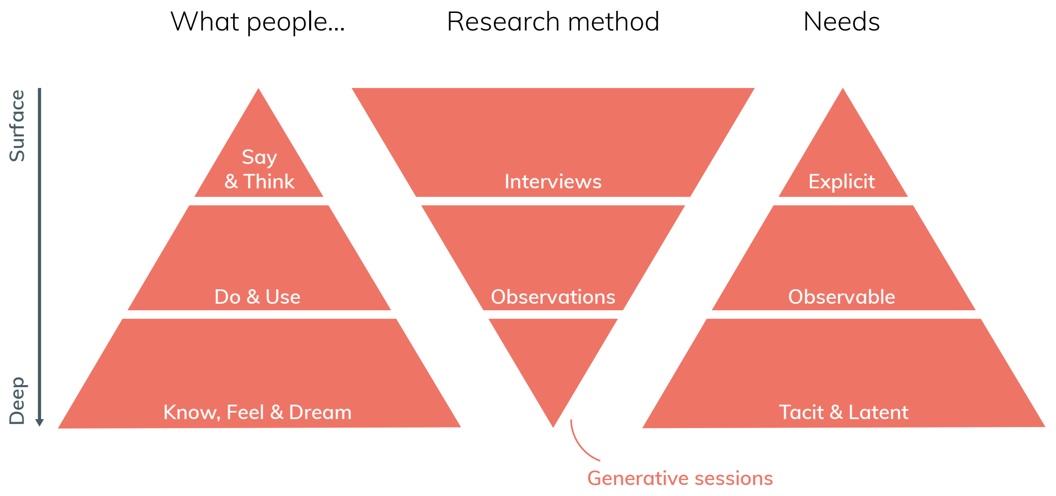


Figure 13 : Data collection methods for research (Sanders & Stappers, 2013)

2.4.2 Data Collection

Semi-structured interviews
One researcher conducted all interviews. Therefore, participant validation was used to confirm the researchers' findings of the participants' experiences. By visualising the findings in one or two drawings and asking the participants to react if aspects were interpreted differently than intended (appendix B). The setting for all the interviews was online through MS Teams, their usual online meeting program. This allowed every interview to be in the familiar setting of their own home. Also, the interview was conducted in Dutch, their mother tongue to increase the ease to express themselves. The interviews aim to discover their role, responsibility and interests in the system. Secondly, to discuss their view on the collaboration agreement and the changes for their role. Thirdly, to envision the ideal situation of their work situation. The full interview guide can be found in appendix C. The interviews were transcribed and quotes were clustered into themes. Those themes were later linked to the literature on barriers to change in organisations, to increase the validity.

Informal conversations
In the exploratory study, contextual data was obtained from informal conversations with mainly the implementation managers. The data contained daily interactions and struggles from the team with other parties in and outside the municipality. During the conversations, notes were takes that would provide a layer of context to the project.

Observations
During different meetings, stakeholders were observed; the expert group, the project team and the implementation team. The observations were direct input for creating interventions, where the events sequential were data for the collection of insights. During the observation, notes were takes on the activities that stood out. That provided input for follow-up with informal conversations.

Interventions
Different interventions were designed and deployed to discover more in-depth data about the stakeholders. A description of each intervention is added. The quotes derained from discussion during the interventions are used as data. All interventions were performed online through MS Teams and with the use of Miro (an online whiteboard tool). This also provided documentation of the insights and conclusions that were discussed.

Limitations
The core mindset of generative design research is co-creation, especially during the Discover phase. Due to Covid-19, a limiting barrier was put on the setting of the co-creation, which was now online instead of physically together in a room. This negatively affected the concentration, focus and fun during the generative sessions. Also, some participants had difficulty with the online conditions, like sound, video and software tools.

2.4.3 Sampling Method

General
The interviewees were selected based on snowball sampling. Each participant was asked whether they could direct me toward someone that fitted the requirements. The starting point of the snowball sampling was the implementation team. They were chosen because of their rare position within the organisation; in between all the stakeholders. Standard sampling would therefore have been impractical (Biernacki & Waldorf, 1981). The interviewees are divided into two types, based on that type other questions are asked. The difference is that the Type 2 group was involved in the initiation and can thus look back upon it and the other Type 1 group can only talk about the current situation.

Type 1
- A stakeholder with a different role in the chain.
- An employee that had changed perspective from against to for the transition.

Type 2
- An employee was involved in the initiation of the collaboration agreement.

Table 2 gives an overview of the stakeholders outside the critical case that were used for collecting data. Different methods of data collection were deployed. The interventions used were the alignment session with the expert team and the mapping session with the implementation and category manager.

Case study: Project team
The case study was selected based on the criteria for a critical case. This sampling method is most useful if the amount of cases that can be sampled is small (Stewig & Stead, 2001). According to Patton (1990), the critical case is selected as an extreme showcase; "if it can happen there, it can happen anywhere.". Table 3 lists the participants of the critical case, their department and the data collection methods used on each. The intervention that was used was the collaboration session, which is described in the next section.

The dimensions that make the case critical are defined as;

- High resistance to the transition in project members
- Use of a sustainability pilot in project
- Low amount of experience with the collaboration agreement

Role	Type	Department	Amount	Data collection		
				Formal	Informal	Intervention
Assetmanager	2	V&OR	1	x		
Lead Buyer Fysiek	2	IB	1	x		
Catergory Manager	2	IB	1	x	x	x
Implementation Manager	1	IB	4	x	x	x
Regievoerder	1	V&OR	1	x		
Projectmanager	1	IB	1	x		
Member Expertgroup	1	IB	2		x	x

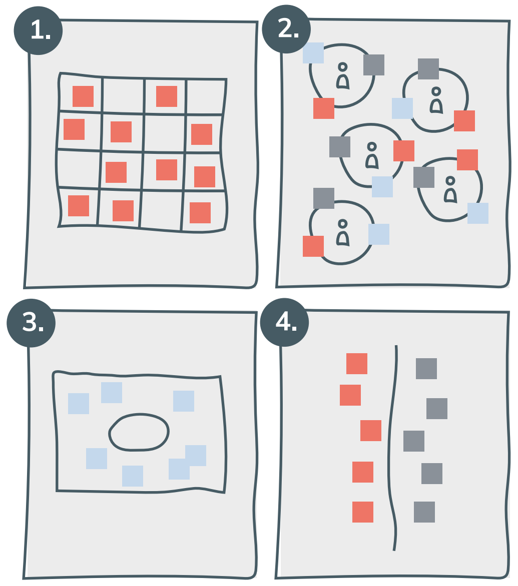
Table 2 : General interview participants

Role	Department	Amount	Data collection		
			Formal	Informal	Intervention
Projectmanager	IB	1	x		x
Contractmanager	IB	1	x		x
Omgevingsmanager	IB	1		x	x
Werkvoorbereider	IB	1	x		x
Directievoerder	IB	1			x
Contractor	-	1	x		x
Implementation Manager	IB	2		x	x

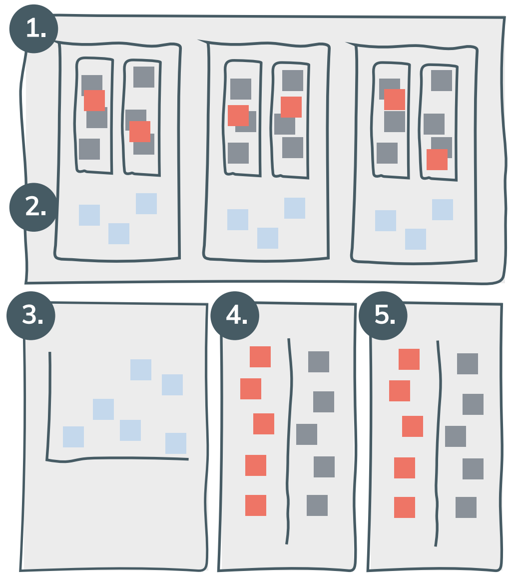
Table 3 : Case Study participants

2.4.4 Interventions

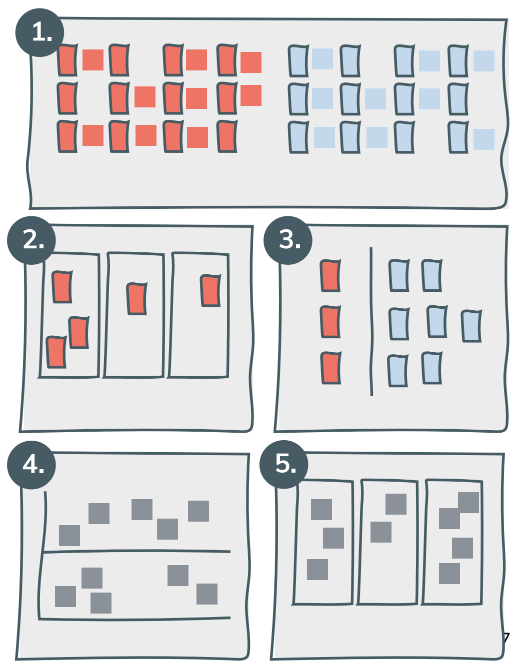
Collaboration Session
The observations during the project start-up of the critical case have led to the desire to dive deeper into the manifestation of collaboration in the minds of the project team members. Since collaboration was not discussed during the start-up, but instead the team dove immediately into the content of the project. The goal of the intervention is to open up the conversation about the expectations of the collaboration and behaviour that fits into that image. Afterwards, a risk meeting is observed to discover changes in behaviour. The intervention consists of 4 phases; (1) a fun brainstorm to create simple activities that will support getting to know each other, (2) an introduction of character traits, responsibilities and interests in the project, (3) the definition of collaboration is discussed and (4) from experience risks in collaboration are discussed and solutions are formulated. A full session plan is included in appendix D.



Alignment Session
The observations during meetings of the expert team of sustainability & circularity resulted in a concern about the level of alignment within the group that leads to distortion in the way they present themselves to the municipality. The team was unaware of each other's activities and skills, making cross-over learning between the tracks (procurement, design and facilitation) difficult. The session' goal was to create shared knowledge on the current status of the team and deliver input for the desired strategy. The intervention consists of 5 phases. (1) Within each track the activities are placed on the transition paths and trends in their activities are formulated. (2) Each track reflects on whether these activities are what they need to do and what they would need to accelerate. (3) The insights are presented and the needs map on priority and difficulty. (4) Every individual list what they want to learn from others and how. (5) Every individual lists the tools they use and with what purpose. A full session plan is included in appendix E.



Mapping session
Multiple observations of internal and external meetings with the implementation team have led to the observation that the team has a lot of insights but are unable to solve all the challenges they face. The goal of the intervention is to document their insights and make them aware of the support they need to complete the implementation successfully. The intervention consists of 5 phases; (1) the observations from the team are linked with the barrier cards and their activities with the driver cards, (2) the barriers are categorized on the certainty of existence in the organisation, (3) the with certainty detected barriers are linked to possible helpful drivers, (4) each of these drivers is cut into possible tasks and mapped based on priority and ability of the team to complete and (5) a retrospective is done looking at which ask and activities they should start, stop or continue. A full session plan is included in chapter 5.2.



2.5 Results

The data collected in the critical case are linked to the barriers discovered in the literature. The results are explained in connection to the project team. In some cases, there is some differentiation between the data and the literature.

2.5.1 Project Team

Construct	**Lack of Know-How**	**Perceived loss of control**	**Lack of conviction of need to change**	**Role unclarity**	**Increased workload**
Definition	This construct plays a role at different levels in the organisation. At the practical side of the organisation, the project teams are unaware of how to collaborate in a team, the phases to build a good team. Their perception towards collaboration is that it is unimportant and easy. While they display distrust and power struggles toward their new team member; the contractor.	Team Members want to safeguard the business as usual method because that keeps the client in control. Also the manner that the change was introduced made the members feel like they have to surrender some of their control over the choices they can make.	The bigger picture of the change toward a circular city is regarded as unnecessary for some. This attitude is causing rejection of sustainability initiatives because the risks seem to outweigh their perceived benefits.	After years and years working in a certain flow, the change has resulted in different desired tasks and methods of proceedings. Since these have not been clearly communicated to employees in their preferred form, policy, they will not act appropriately to their new role.	Two factors play a role in the increased workload of the project team members. Firstly the members need to spend time figuring out their new role. Secondly the new contract has shifted some work from one role to the other, resulting in increased workload for one and decreased for another.
Proof Quotes & Observations	"I want to move into the direction that we generate clear agreements in a conversation about how we are going to collaborate. I believe this is very important, because at the moment everyone is just going it based on past experiences." - *Contractor* "Sometimes I miss the urgency, but the contractor had not seen anything, so he did not have time to think of any questions. This makes it difficult. Normally you would get a contractor that has won a tender and thus thought about it." - *Project Manager* *Project start-up* - The contractor is asked about his proposal on a sustainbility pilot. During his explanation he is interrupted by different parties bringing in the risks. They did not ask questions to the contractor about his plan. *Collaboration session* - All participants agreed on their definition of collaboration, such as trust, honesty, respect, open communication, effort towards a common goal and understanding each others' perspective. However, turning those values into behavioural agreements was very difficult.	"Only then contractor get a extra boost to really try their best and not just sit back and wait for the work to come to them." - *Project Manager* "Clients are used to set their own conditions to how and what they want to procure" - *Catergory Manager* "The escalations are always on attittude and behaviour. But when people start to say that they will document everything on email to have proof, with that attitude you are not going to collaborate." - *Contractor*	"There are people that would like to implement sustainability in their project. However it is a chain of links and if someone somewhere does not include it, then it will still become a traditional project." - *Implementation Manager* "You have a lot of non-believers when it comes to sustainability, because they believe that everything will be fine and find its' own way. And some poeple wonder why Amsterdam had to go further than the national goals." - *Catergory Manager* "The urgency on to integrate sustainability in projects is missing. Usually it is presented as not the right moment or projectteams have other reasons why for that specific project they cannot do it. Also I will find out when it is to late to change." - *Expertteam Sustainability & Circularity* *Project Start-up* - The contractor proposed the use of a new pilot to reduce transport movements during the execution. The proposal was met with a critical mindset by listing the risks and obstacles and reasons why it would not work. (addition: pilot was never executed)	'Now we have to coordinate between contractors and I think this is a bad thing. I want to have one contactperson and not having to be in the middle of 2 contracting parties and coordinating changes in the planning." - *Project Manager* "We have a collaboration agreement and we have to perform together, but at the moment you have two islands; the client and the contractor. There is little connection for a group that should be seen as a team." - *Contractor* Risk Meeting - The omgevingsmanager tosses up the confusion about the possible contributions of the contractor in the meeting.	"But now I have to discover so much, like how this and that works, with what to take into account, the preconditions and what things I must know." - *Project Planner* "It is easier because the tenderproces is completed, so does not need to be done again. Now you only need to fine tune the further agreements and that makes everything easier." - *Contactmanager* *Collaboration Session* - Even Though most participants indicated that a conversation about collaboration would be desired, the first date had to be moved. I received an email on the morning of the session that one person cancelled due to a shift in his priorities and lack of time to do both.
Literature	Change might require employees to take different roles. When employees do not have the necessary expertise, capabilities, knowledge and skills, they are not equipped to meet that expectation (Kurb, 1996).	In the old situation, people experience the 'comfort zone', where they feel in control over their actions and the expected reactions from others. Changing will mean moving out of that zone that is not controllable to the same degree (Gill, 2002).	Individuals might not be convinced of the reasoning behind the need for them to change their behaviour. This is often the result of questions on a deeper level of meaning and the values that the change will bring the individual (Gill, 2002).	Often the change will have implications on the role descriptions and the position of that role in the system (Kirsch et al., 2011). This can impact the relationship between the employee and their supervisor (Kirsch et al., 2011) and create power shifts (Gill, 2002).	The change might increase the workload of certain roles and decrease the workload of others. Also the investment to adapt to the new way of working requires time in the workweek (Gill, 2002). If the workload remains the same, this time will be additional and thus will result in longer work days or more work in normal working days.
Differentiation	In this case the teams believe that the skill of teamwork is something that they can easily do, but the difficulties lie with other parties.	The comfort zone in this case includes the urge to record and document extensively in order to safeguard themselves from 'expected' reactions from the contractor that will enforce their view that the contractor is stealing from them.			

Lack of Know-How

During radical change, employees should tackle the barrier of lack of know-how. Change might require employees to take different roles. When employees do not have the necessary expertise, capabilities, knowledge and skills, they are not equipped to meet that expectation (Kurb, 1996). However, with the needed development, they can acquire this.

All team members in the critical case have a similar view on the definition and practice of collaboration, when asked. This was checked during the collaboration session. They mentioned trust, honesty, respect, open communication, effort towards a common goal and understanding each others' perspective. However they had difficulty with explaining what collaboration would entail in practice. This insight was confirmed through the observations during their meetings, where a proposal was interrupted during the presentation and the response was a list of risks instead of questions.

Showing that they believe that they know what collaboration is, and some even feel like they are practicing it. The literature does not describe that before you can develop the desired skills, the employee must know what they do not know.

Perceived loss of control

A barrier of change detected in the project teams is the perceived loss of control. Changing will mean moving out of that zone that is not controllable to the same degree (Gill, 2002). Team Members want to safeguard the business as usual method because that keeps the client in control. Also the manner that the change was introduced made the members feel like they have to surrender some of their control over the choices they can make. The new situation, in which they need to collaborate, requires them to step out of their comfort zone. Literally by trusting in the contractor. However team members still have the perception that the contractor will steal from them. Having that mindset will have the effect of tightening control by documenting and recording extensively to safeguard themselves from 'expected' reactions.

Lack of conviction of the need to change

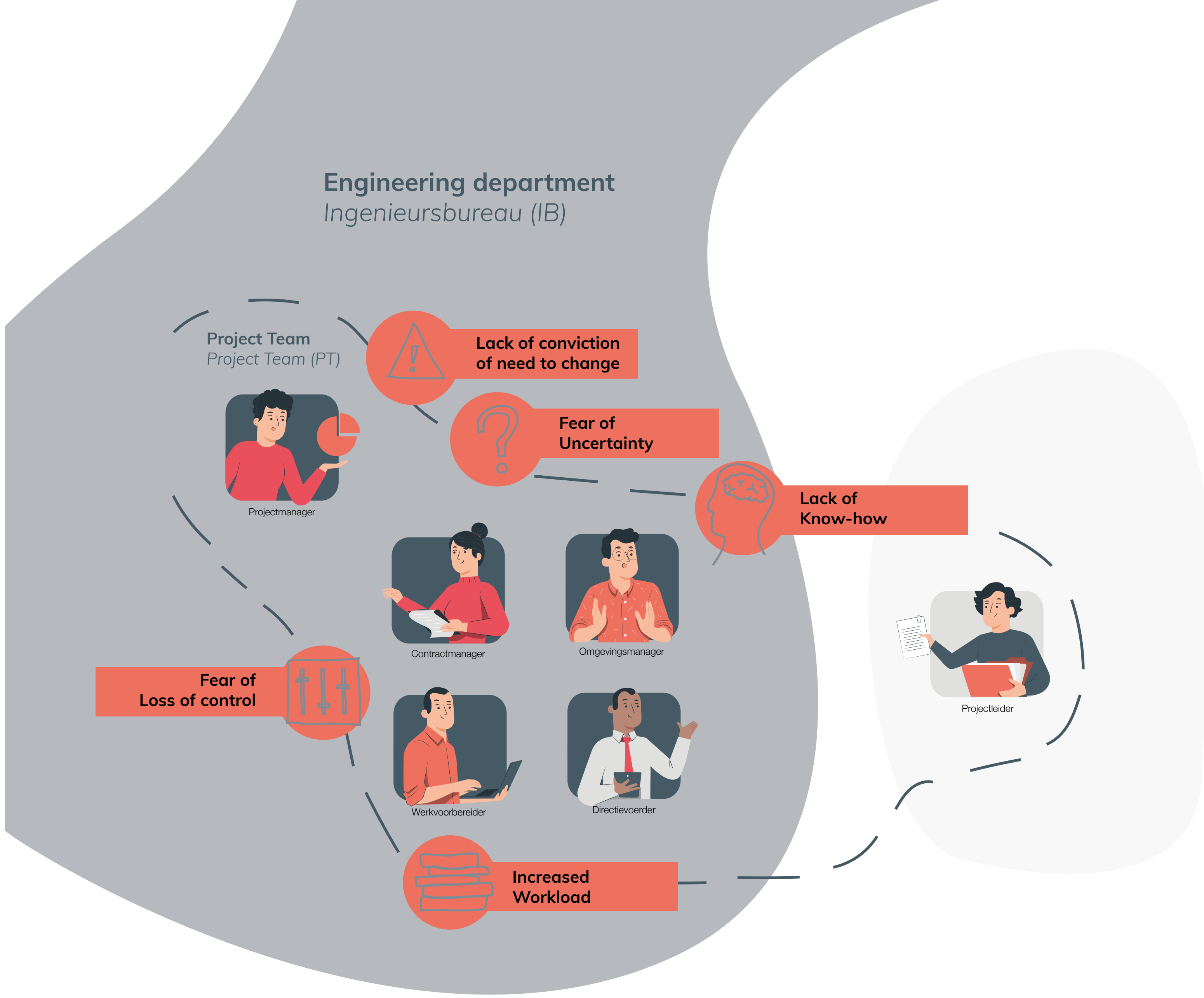
The reason behind the change is to fulfill the ambition of the municipality of Amsterdam to be 100% circular in 2050. However project teams lack the conviction of the need for changing their behaviour. This is often the result of questions on a deeper level of meaning and the values that the change will bring the individual (Gill, 2002). Some arguments were given to explain the missing conviction. Some project members regard circularity as unnecessary. Others lack the urgency of the need to change, shown through the times that sustainability initiatives are postponed or excluded from projects. The given reasons for exclusion are that the perceived benefits are too low compared to the risks of trying something new. Also many people are involved in a project and if only one is against the inclusion the project will continue in a traditional way.

Role unclarity

In the state before the change, all employees understood their role and the activities in it. However, the change in the project team has resulted in a different dynamic between contractor and client and thus a change in roles. Often the change will have implications on the role descriptions and the position of that role in the system, including power shifts (Kirsch et al., 2011; Gill, 2002). Their new role descriptions, positions and behaviour has not been properly introduced to the team members, creating uncertainty in the roles that each member fulfills and the role of the contractor that can contribute to others team members' activities. The shift will have an impact on the power dynamics in the team.

Increased workload

Some project team members are experiencing a lack of time due to increased workload. The difficulty of finding the correct information about the new activities requires an investment of time and energy besides their daily activities. Even though the workload of the contract manager might decrease due to the change, an individual in another position does not. Also, the investment to adapt to the new way of working requires time in the workweek (Gill, 2002). All project team members need to shift to the new required behaviour and will first work slower before being adjusted to the new behaviour.



Key insights

- The project teams struggle with the 'lack of know-how' on ways to collaborate in a multidisciplinary team.
- The project teams 'perceive a loss of control' in the new situation, therefore clamming to old patterns.
- The project teams have a 'lack of conviction of the need to change' to support circularity.
- The project teams experience 'role unclarity' about their task and positions in the new situation.
- Some project team members have an 'increased workload' caused by the change.

2.5.2 Implementation Team

The implementation team is responsible for implementing the collaboration agreement. Therefore the barriers directly in their vicinity have a large impact on their functioning. Next, the results for those barriers and linked to the data.

Construct	**Lack of compelling case**	**Organizational rigidity**	**Lack of dedicated effort**
Definition	The vision should provide a compelling case for the change of the organisation and the individuals. However while top management might have envisioned this clearly, this has not been communicated in a compelling manner to the essential part of the stakeholder to ensure implementation.	The project teams are used to clearly defined policy and only when these are changed in line with the change, they might act. Most of these rules are still based on the old behaviour and thus enforces the organisation to resist the change.	The Implementation team is dealing with a long list of barriers, but seem unequipped for the needed time and skills to succesfully implement the change. This shows a lacking amount of dedication from the organisation to implement the change.
Proof Quotes & Observations	"The decision for this step is made by top management and now it slowly flows towards the 3 to 4 layers lower where we are in the organisation. There they did not explain well where they want to go to and why they created this new contractform." - *Contractor* "We are also not really sure, what we are working toward" - *Implementation Manager* "Truthfully, I think that the SOK is a new form of how we already did it in the past, but with the need for added investment of time and energy. I heard once the saying 'the chain is as strong as the weakest link'. So this means that they organise a lot of different things but forget to inform us" - *Project Planner* *Project team Meeting* - The category manager was asked to join the project team during this meeting to explain the reasoning behind the SOK. The projectteam still had many questions and this topic.	"If the sustainability ambitions are clearly constructed into rules, that employees can give the correct execution of in their work, that would be great. Not only for the Bureau of Engineers but also for the city. But I do not see that changing by itself. The is important because many client live by rules and procedures, especially in the Engineering department." - *Catergory Manager* "It is hard right now because it is a switch and the budgets are fixed multiple years earlier, without the sustainability factor calculated in it." - *Contractmanager* "The idiot thing is that we are still request budgets based on the indicative estimated budgets. This is where it goed wrong, because we make budgets based on a first estimate and not on the genuine price at the end of execution of the work." - *Regievoerder*	"We are suppose to be working on strategic level, but we are continiously pulled toward the operational side. Ofcourse those activities are important too because they help the SOK work. However it was never the intention, but we still keep doing it." - *Implementation Manager* "We have been trying to get more people in the team for support, however it is unclear through whom we need to ask." - *Implementation Manager* *Barriers & Drivers Session* - Multiple barriers that were indicated as present in the organisation by the team, but they were also determined as things that the team did not have time or the right skills to solve.
Literature	When the communication on the reasoning of the change is lacking, this can lead to objections, unwillingness to help with problem-solving and the use of tactics and behaviour that will slow progress (Gill, 2002). Therefore the communication should include compelling evidence by explaining the benefits for each individual (Gill, 2002).	When an organisation is fixated on following the policy and rules, there is little space left to be flexible, this often occurs when the size of the organisation is bigger (Haveman, 1993).	If not enough employees are given the task to focus on making the change successful, the change will be viewed as unimportant (Gill, 2002).
Differentiation	Part of the reasoning behind the change is the vision of the future situation. This has not been communicated well enough by top management to every level underneath, including the team implementing the change.		

Departments 2.5.3

One concern has been discovered that impacts the relationship between departments instead of specific teams.

Construct	**Lack of sponsoring**
Definition	The city council has not linked financial benefits to the change towards circularity, creating shortages in lower levels that want to act on these ambitions.
Proof Quotes & Observations	"We accept that we must be sustainable, that we as a city have chosen this path. It must be more sustainable, therefor we must pay for that. Every politician that thinks that we can do that for the same price does not understand." - *Regievoerder* "In general it is a little more expensive and in the transition is has not been well ajusted, because everything has been calculated based on projectbudgets for 5 years. However, now the SOK has made the prices higher. This will mean that we have a shortage in budget." - *Contract manager* "The city council likes to call out ambitions of sustainability, but did not give financial support. It is strange that they feel that sustainability will not cost us more." - *Assetmanager*
Literature	Resources, such as budget and time, are opted to be necessary for keeping the momentum of change going. The lack of resources can therefore be a barrier (Gill, 2002). Since the manager or leader is most regularly the distributor of the resources, the lack of sponsorship of such a leader can result in underfunded change (Klitsie et al.,2019).
Differentiation	

Lack of compelling case

The communication on the case for the change has not clearly reached all important stakeholders, like the implementation team. Project teams are informed by the implementation team, therefore they are missing this conviction to change, because without a compelling case that is difficult. The lack of a compelling case leads to resistance and an unwillingness to help with problem-solving and the use of tactics and behaviour that will slow progress (Gill, 2002). Leading to an increase of pressure on the implementation team to provide this information.

Organisational rigidity

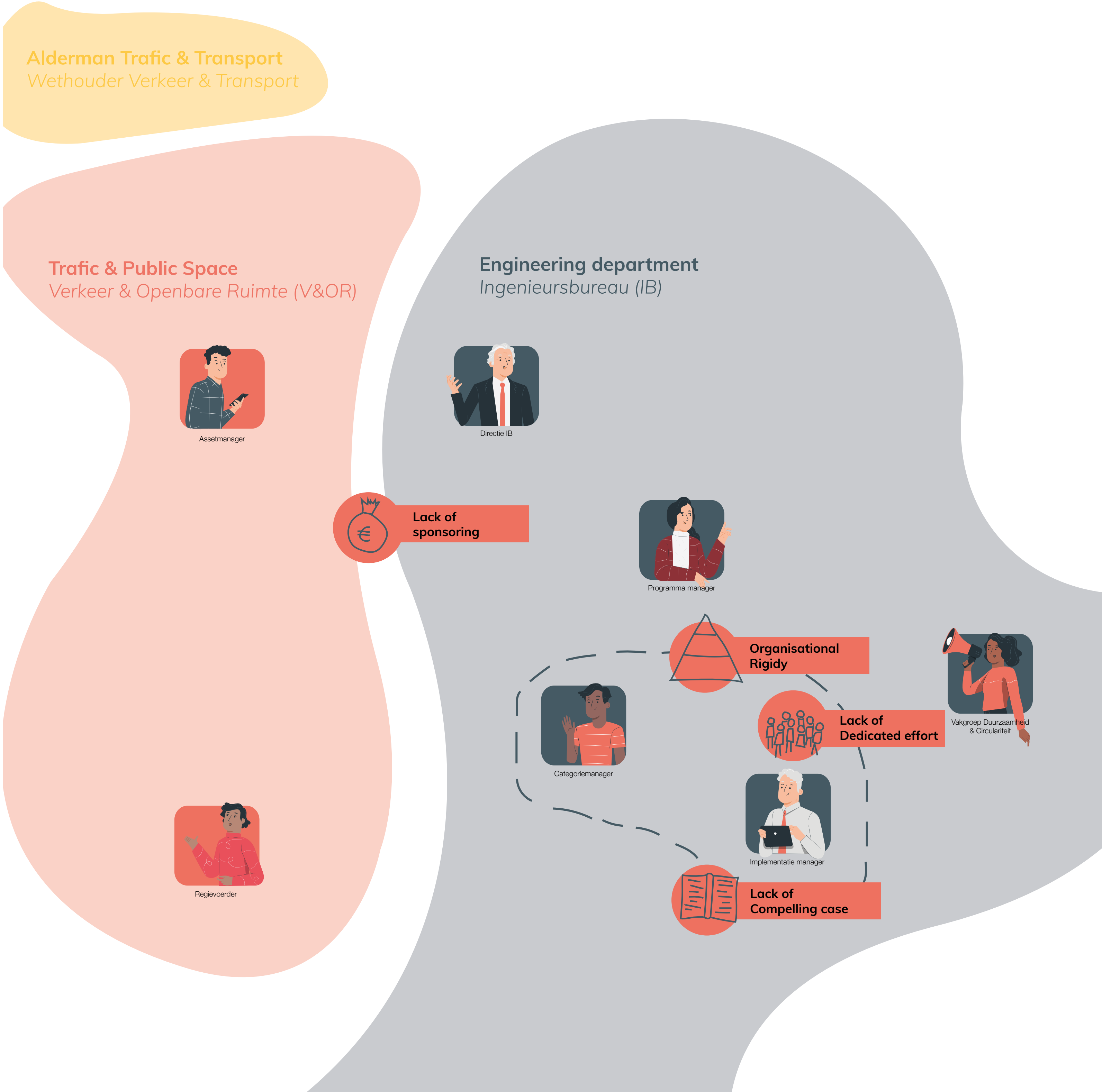
The engineering department employs people that desire clear rules and policy before they can change. This is a common phenomenon for bigger municipalities because this often occurs when the size of the organisation is bigger (Haveman, 1993). Changing and experimentation are avoided and thus unexpected shifts are resisted. In this case the sustainability aspect was not introduced in line with the budget and current price estimation process. This creates enough reasons to resist the implementation.

Lack of dedicated effort

The Implementation team is dealing with a long list of barriers, but seem unequipped to tackle them all. This is due to a lack of available time for the people in the team. This problem has been indicated but the need for support is still apparent. Even if the current people in this team had more time, they still indicate that for certain barriers they do not have the skills to implement the solutions. If not enough employees are given the task to focus on making the change successful, the change will be viewed as unimportant which should be avoided (Gill, 2002).

Lack of sponsoring

The ambition for transition of the city towards circular has not been properly financially supported in the form of resources, such as budget and time. This decision affects the whole organisation and thus also the change in the engineering department. Project teams are faced with higher prices but feel the effect that has on budget shortages, possibly not feeling certain enough to accept that. This means that the change is underfunded and that will harm the momentum of the change (Gill, 2002).



Key insights

The implementation team has a 'lack of a compelling case' to convince the stakeholder of embracing the change.

The implementation team struggles with the 'organisation rigidity' which limits the opportunities to experiment and change.

The implementation team has a 'lack of dedicated effort' being a team without all the disciplines needed for implementing change.

The change initiative has a 'lack of sponsoring' of their internal client to fill the financial gap left by investments in circulair solution of the contractor.

Key insights

Context

A cultural shift is needed in the client-contractor relation to move from the toxic past toward a collaborative future.

Policymakers have formulated a vision with sustainability, innovation and collaboration in its core.

Contractors experience a disconnect between the sustainability ambitions of the municipality and the translation to tenders.

Contractors experience an increase in bureaucracy, complexity and indecisiveness that negatively affect the collaboration.

Organisational analysis

Top management decided to create and directly implement the collaboration agreement

The Implementation team was formed to deal with the resistance.

The Implementation team is iterating on the solution of the resistance.

There is a list of principles presenting the ideal collaboration between client and contractor.

The relevant stakeholders form a complex network with different relations and responsibilities.

There is a top-down decision-making format that puts the responsibility on top management.

The implementation team is in a key spot between all the different stakeholders.

The implementation team prioritises operational activities over strategic ones.

The implementation team struggles with the frequent involvement of stakeholders in the development.

The implementation team have been explaining the intention to employees.

The implementation team consists of a team silo and input from other expertises for new solutions.

Literature review

The amount, frequency, direction, intentionality and speed of change influence the approach for implementation.

Uncertainty increases when the direction of the change moves more away from the known way of working.

Radical change impacts the structure, processes and culture of an organisation and is more difficult than staying close to the existing culture and objectives.

Change in public organisations can be managed similar to private companies.

There are various different barriers to change and drivers to support change.

People that experience resistance to change in organisations will pass through the stages of denial, anger, bargaining and depression before acceptance.

The Kotter 8-step model is an effective approach in public organisations.

In public organisations negotiation and empirical understanding style of change management as commonly used.

Designers are most effective in a learning or organic way of managing change.

Empirical research

The project teams struggle with the 'lack of know-how' on ways to collaborate in a multidisciplinary team.

The project teams 'perceive a loss of control' in the new situation, therefore clamming to old patterns.

The project teams have a 'lack of conviction of the need to change' to support circularity.

The project teams experience 'role unclarity' about their task and positions in the new situation.

Some project team members have an 'increased workload' caused by the change.

The implementation team has a 'lack of a compelling case' to convince the stakeholder of embracing the change.

The implementation team struggles with the 'organisation rigidity' which limits the opportunities to experiment and change.

The implementation team has a 'lack of dedicated effort' being a team without all the disciplines needed for implementing change.

The change initiative has a 'lack of sponsoring' of their internal client to fill the financial gap left by investments in circulair solution of the contractor.

03

Define

3.1 Insights

The key insights collected in the discovery phase through organisation analysis, literature review and empirical research are used to argue the scope; the creation of a change vision and rising awareness in the implementation team to the complexity of implementing change.

3.1.1 Type of change

The amount, frequency, direction, intentionality and speed of change influence the approach for implementation.

The literature review showed that there are multiple different types of change and defining the correct type is important to distil the correct implementation approach. Therefore the next paragraph will define which type of change is initiated with the implementation of the collaboration agreement.

Top management decided to create and directly implement the collaboration agreement.

In public organisations negotiation and empirical understanding style of change management as commonly used.

Since the decision was made to directly implement the new contract form, instead of gradually making small changes. The 'speed' can be concluded as high and thus as immediate change. Also, because the change was made through a decisive moment, one can argue that it must be intentional and can be seen as driven change. Even though the need for circular solutions is high, the internal pressure to react fast was low. This can be deduced from the information that the lead buyer's only option was to use his given mandate because convincing others was difficult. Therefore the change was anticipatory. In addition, the change of contract was seen as the one-off solution and the change frequency is therefore incidental.

A cultural shift is needed in the client-contractor relation to move from the toxic past toward a collaborative future.

Radical change impacts the structure, processes and culture of an organisation and is more difficult than staying close to the existing culture and objectives.

Even though the change was initiated as a process change, it also impacted the culture and structure of the organisation. The cultural transition that employees are required to make, by moving from a contractor-client relationship of hierarchy and competition to trust in a collaborative setting is a sizable shift. Also, the contractor is now part of the team during the project, already showing a structural shift as well. Therefore this change can be defined as radical change. This conclusion also determines that the direction is likely to be transformational.

Uncertainty increases when the direction of the change moves more away from the known way of working.

There are various different barriers to change and drivers to support change.

People that experience resistance to change in organisations will pass through the stages of denial, anger, bargaining and depression before acceptance.

The more the direction of the change moves away from the known way of working, the more uncertainty is experienced. In this case, the transformational change means a large shift in direction. The change moves away from competition between client and contractor to collaboration. Radical change is difficult is manage and the likelihood of resistance can be expected, partly because the range of different barriers is wide. Most barriers are linked to people in the organisations that are experiencing the different stages; denial, anger, bargaining, depression and acceptance.

Radical change

There are different elements that are driving radical change in organisations. According to McKinsey (2007) these elements are the vision, leadership, the engine, the process and the context (figure 14).

Vision/ Leadership

The core of radical change is the aspiration of the initiative, which should be defined before the offset. This vision can be cut into smaller themes, three to six, and initiatives that will contribute to reaching this vision. Lastly, leadership should create a transformation story "to bridge the gap between top management and the rest of the organisation" (McKinsey, 2007).

Engine/ process

Keeping the momentum of the initiative moving requires ideas and energy. All kinds of ideas contribute by being practical or inspirational. Employees can also give input on what needs to change. This process requires a lot of energy from the change agents, because they also need to deal with the negative energy of the employees. The process supporting this momentum are the design and deliver cycles, that will also show the results of the change (McKinsey, 2007).

The negative energy can also be seen as the barriers of the change. The team should discover those before they can tackle them.

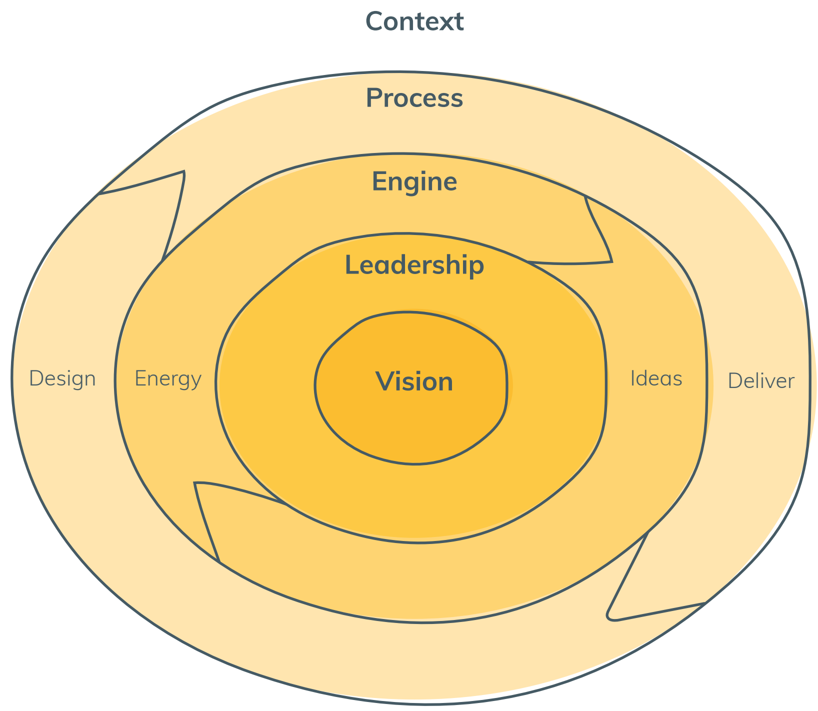


Figure 14: Ingredients for a succesful transformation (McKinsey, 2007)

Key insights

The implementation of the collaboration agreement in the municipality of Amsterdam can be regarded as radical and transformational change, because it required fundamental rethinking of structure, processes and culture.

3.1.2 Key barriers

The system map (*figure 15*) demonstrates the key detected barriers and stakeholders that experience them.

Project team

The project teams struggle with the 'lack of know-how' on ways to collaborate in a multidisciplinary team.

The project teams 'perceive a loss of control' in the new situation, therefore clamming to old patterns.

The project teams have a 'lack of conviction of the need to change' to support circularity.

The project teams experience 'role unclarity' about their task and positions in the new situation.

The uncertain and unclear character is a factor that binds the detected barriers from the project team together: role unclarity, lack of know-how, lack of conviction of the need to change, perceived loss of control. Also, the lack of conviction of the need to change is directly linked to explaining the intention behind the change initiative to all the stakeholders in the organisation. Concluding, that the communication the reason behind the change initiative has been ineffective.

Implementation team

The Implementation team was formed to deal with the resistance.

The implementation team is in a key spot between all the different stakeholders.

These are barriers that the implementation team should be able to deal with because they are formed to deal with the resistance of the organisation. In addition, they are positioned in a key spot between all the different stakeholders, which makes the ability to connect easier.

The Implementation team is iterating on the solution of the resistance.

The implementation team struggles with the frequent involvement of stakeholders in the development.

Instead, the team is iterating on the solution without frequent involvement of the stakeholders in the development. This begs the question whether they are following an effective implementation approach.

3.1.3 Approach

Change in public organisations can be managed similar to private companies.

The Kotter 8-step model is an effective approach in public organisations.

The literature review demonstrated that an effective implementation approach for radical change is the Kotter 8-step model. This model is frequently used in the private sector. But the literature review demonstrated that the public sector can be managed similarly, therefore this model will function as the foundation for a successful implementation.

The next section will reflect on the current approach of the implementation team in resemblance with the Kotter 8-step model.

Key insights

The communication behind the intention of the change has been ineffective causing the lack of conviction for the need to change in project teams. The implementation team should deal with this resistance but are experiencing difficulty.

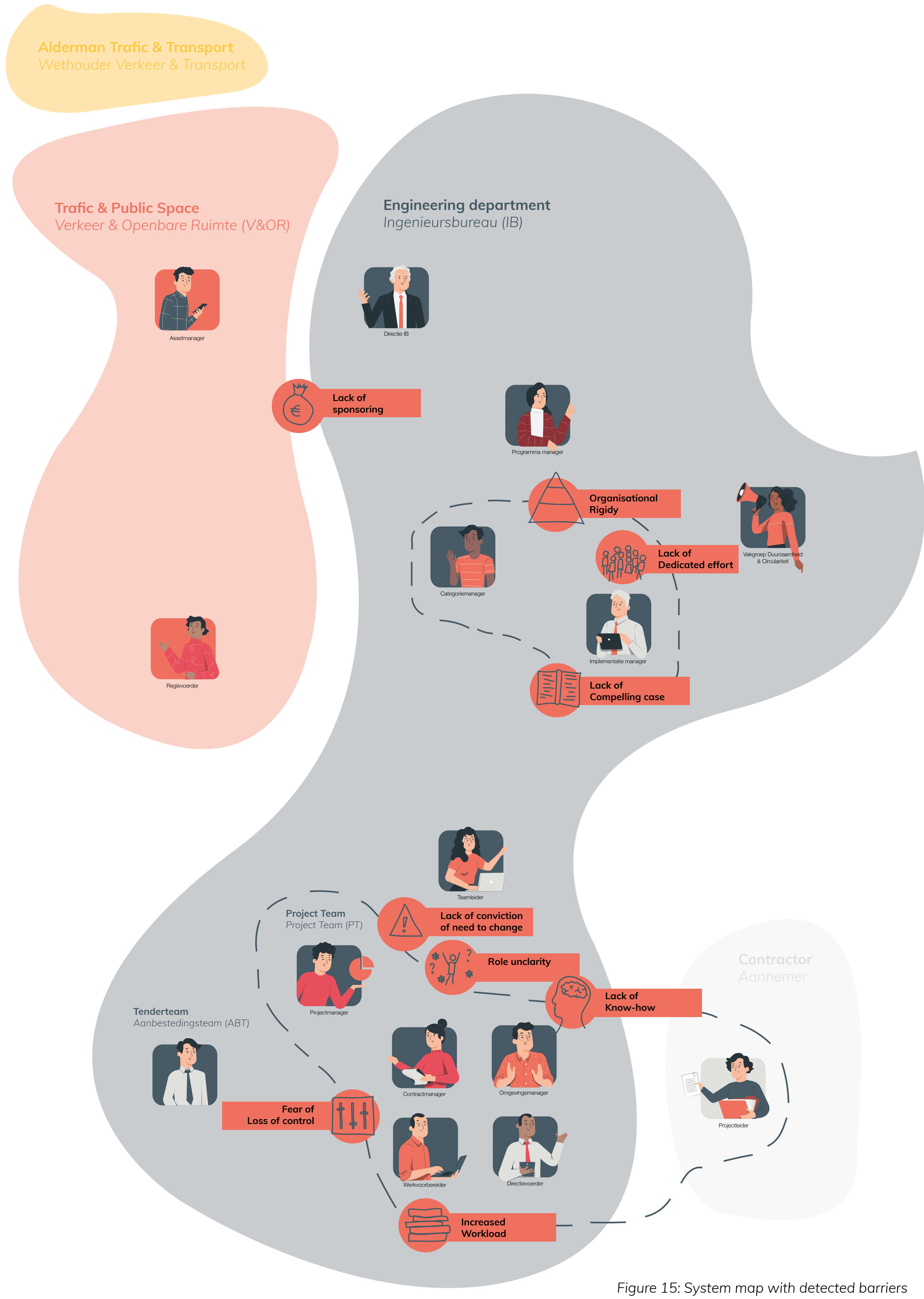


Figure 15: System map with detected barriers

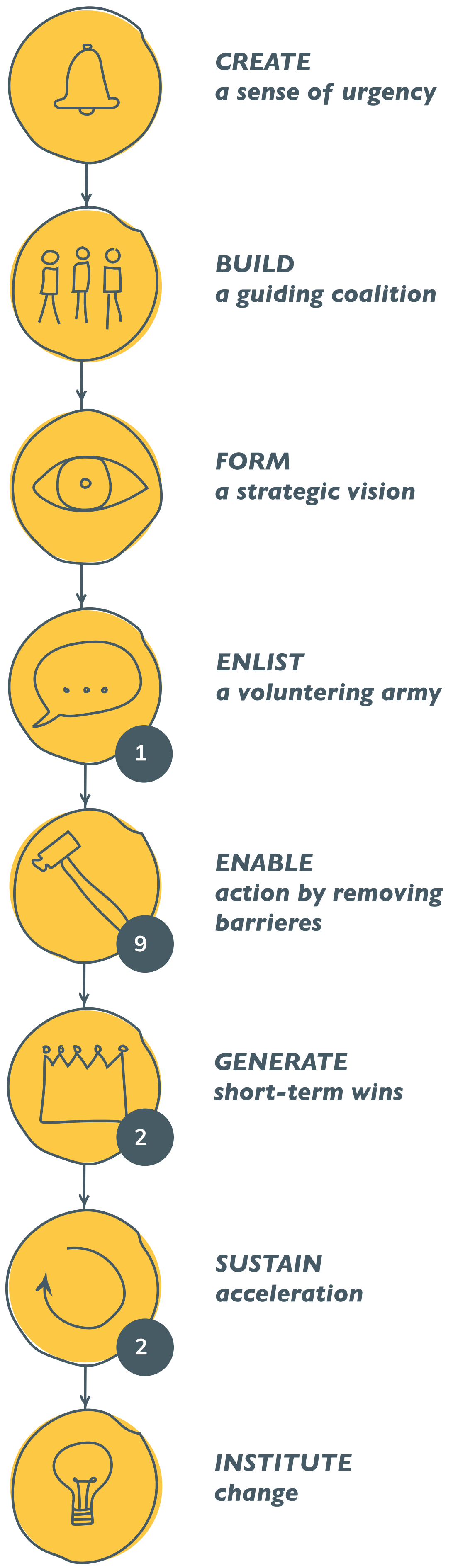


Figure 16: Number of activities of the Implementation team mapped on the Kotter 8-step model

Kotter's 8 step model

1. Create a sense of urgency
Since it is difficult for people to get out of their comfort zone, having enough time to anticipate the inevitability of change is the first step. Next, getting them to understand the need behind the change, like a window of opportunity that is open now. Also, continuously motivating them to accept disruption and letting go of the status quo. The goal is to create readiness for change in the organisation. Spreading this message must be done repeatedly to ensure that all employees are reached and convinced.

2. Build a guiding coalition
Having a strong group that supports the change and has the energy to act upon will create the backbone of the change. This group includes representation across levels and functions in the organisation, to address all perspectives in the organisation but also observe the effects. This diversity will help translate the message to all individuals. The group should show commitment to the initiative and therefore also be accountable for it.

3. Form a strategic vision
This coalition will put their heads together to create a vision of the desired state. The result should include the actions and initiatives that will be the roadmap to that state.

4. Enlist a volunteering army
When the vision is being communicated, the goal is to rally a significant amount of employees to become change agents. A percentage of 15 to 50 of the organisation will start the momentum going. In these employees, a wave an excitement should arise to put effort into the initiatives.
The effort they give is through their motivation and for this they should receive recognition.

5. Enable action by removing barriers
To support the initiatives and action that is happening, removing the processes that cause inefficiency is useful. Firstly spotting those barriers is crucial. To empower the employees they should feel more freedom and bureaucracy works against this.

6. Generate short-term wins
Since change often takes a long time transitioning, the energy must be boosted throughout the process. The communication and celebration of results, small and big, will show the progress that is being made. Monitoring by measuring qualitative and quantitative data continuously makes tracking easier. Also, the wins or effective initiatives can be replicated.

7. Sustain acceleration
Success in the process will lead to credibility. It is important to use this to press forward and use the momentum to tackle the bigger obstacles, such as systems and structures. Also, keep involving more and new people in the change initiative.

8. Institute change
The most difficult change is of the culture, this can be done through convincing people that the newly embedded behaviour results in better performance.

Reflection current approach

The implementation team have been explaining the intention to employees.

The implementation team has a 'lack of a compelling case' to convince the stakeholder of embracing the change.

The activities from the implementation team can be clustered on the steps in the model that they impact. It must be mentioned that the lead buyer fysiek did give one presentation about the change initiative. Also, a blog post was written on the topic. However, as the frameworks' first step explains, repetition is of essence to reach and convince all employees. Also the detected barrier 'lack of conviction to the need of change' indicates that this was not successfully done. Also, the team is still repeatedly asked to explain the intention behind the change initiative to stakeholders. The implementation team struggles with this task due to the detected barrier of the 'lack of a compelling case'. Not having a convincing story about the reason and goal of the change initiative, makes it harder to convince others.

The mapping of the activities on the framework was done with one of the implementation managers. Figure 16 shows the number of activities per step.

Enlist a volunteering army (1)
- Give recap presentations on the reason behind the SOK in project teams.

Enable action by removing barriers (9)
- Give recap presentations on the reason behind the SOK in project teams
- Enable action by removing barriers
- Set up forms for the start of a project
- Send a mail before the project start-up to briefly support the start of collaborating
- Have meetings with the contractors about their projects
- Deal with escalations on collaboration
- Develop tools for insights in predicting workload for contractors.
- Develop tools for measuring sustainability value
- Develop the SOK on fair pricing

Generate short term wins (2)
- Rapport on the progress every quarter
- Measure the results on collaboration in project teams with a 5-question form

Sustain accerleration (2)
- Public tendering process for district centrum
- Public tendering process for renewal of the SOK

Most of the activities are in the step of enabling action by removing barriers. However, some barriers pull them to actions like giving presentations in enlisting a volunteering army. No activities fall into earlier steps. Showing that these important do not get the necessary attention to solve the detected barriers of 'lack of a compelling case' and 'lack of conviction of the need to change.

Key insights

The current implementation approach has skipped the first four steps of the Kotter 8-step model: create a sense of urgency, build a guiding coalition, form a strategic vision and enlist a volunteering army.

3.1.4 Vision

Similar to the Kotter 8-step model, in change management theory an initiative almost always starts with establishing a vision or aspiration of the desired outcome (McKinsey, 2007). The dynamics of change in systems are complex but can be catalysed and directed (Irwin et al., 2015). There is a need for compelling visions of the future that should "inform and inspire" organisations (Irwin et al., 2015). McAdam (2003) explains that having an 'overarching vision of the future state' is essential to radical change in organisations and acts as a pull factor. But the current approach of the implementation team shows that the steps to create the change vision were skipped or only received limited investment.

Current vision

Policymakers have formulated a vision with sustainability, innovation and collaboration in its core.

There is a list of principles presenting the ideal collaboration between client and contractor.

The municipality is using the vision from policymakers of the whole GWW-sector and trying to fit it in the Engineering department with the same level of abstraction. The implementation team has indicated being unaware of the exact vision for the Engineering department, which is the goal of the change. In hindsight, the change vision should still be created. Therefore, this will be the focus continuing in this project.

Effective change vision

When the vision is shared by the employees it is more powerful (McGivern & Tvorik, 1998). This vision should be "realistic, credible and an attractive future for the organisation" (Nanus, 1992). For designing transitions, two dominant factors are influencing the success of the outcome. These factors are 'a shared vision for the project, and a clear sense of ownership within the organization running the project' (Calabretta et al., 2016).

Concluding that having a vision that is shared and understood is essential to the implementation of the change.

There are a list of criteria for an effective change vision according to Kotter (1996);

- Imaginable
- Desirable
- Feasible
- Focused
- Flexible
- Communicable

3.1.5 Complexity

The implementation team struggles with the 'organisation rigidity' which limits the opportunities to experiment and change.

The relevant stakeholders form a complex network with different relations and responsibilities.

Contractors experience an increase in bureaucracy, complexity and indecisiveness that negatively affect the collaboration.

Multiple conclusions add upon the insight that this challenge and change initiative exists in a complex context: the complex network of stakeholders, the organisational rigidity and bureaucracy. Also, radical change is a complex form of change.

Cynefin framework

The Cynefin framework (figure 17) explains that one should be aware of the type of context you are trying to solve a problem, because each context requires different approaches (Snowden, 2007). This framework shows that different levels of complexity in context, requires different corresponding actions. Contexts that are simple and complicated assume that there are direct cause-effect relationships leading to good or

Key insights

The implementation of the change initiative requires an effective vision that is imaginable, desirable, feasible, focused, flexible and communicable.

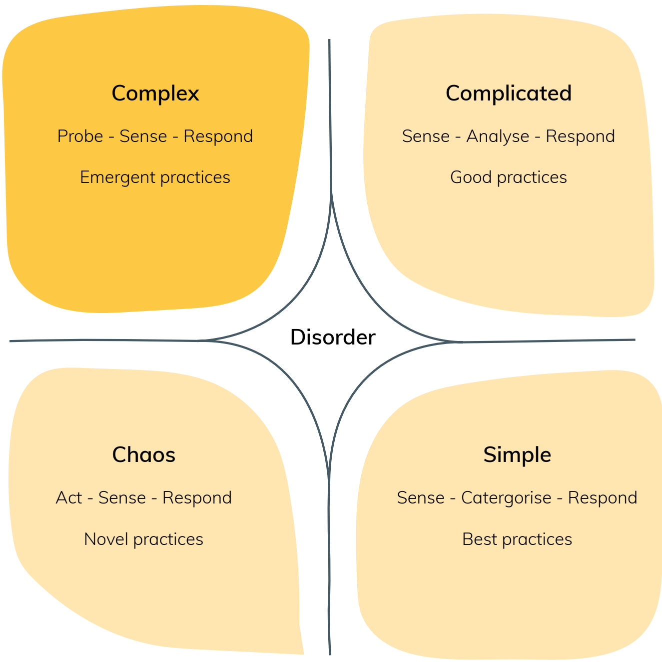


Figure 17: Cynefin framework (Snowden, 2007)

best practices to approaching challenges. On the other hand, in a complex or chaotic context these relationships are not immediately apparent. In these contexts, decision-making is based on the emergence of patterns and responding to those.

Complex context

The characteristics of the complex context are unpredictability, there do not exist right answers, and there are many unknown unknowns. Therefore there is a need for creative and innovative approaches to experiment. The goals will be to discover patterns in the system. The approach to dealing with his context is to probe, sense and respond. Meaning, that the team must look for patterns, then create ideas and experiment with the solutions. The results of the experiment will be the feedback on whether or not this will work.

3.1.6 Awareness

As concluded from the previous parts, the implementation team is responsible for the implementation of the change initiative. However, there is an effective vision missing in order to successfully use the implementation approach.

The implementation team consists of a team silo and input from other expertises for new solutions.

The implementation team has a 'lack of dedicated effort' being a team without all the disciplines needed for implementing change.

The implementation team prioritises operational activities over strategic ones.

The creation of a change vision takes time, effort and expertise. The implementation team is currently built with expertise in contract management. This creation of a change vision with a coalition required a more multidisciplinary team that can also facilitate strategic thinking. Besides, the team is already occupied with their operational activities and putting the strategic activities on the back burner. Both adding to the fact that the team is lacking dedicated effort to the initiative. However, the team cannot change this mindset while they are unaware of the gaps in their knowledge in change management and the complexity of their challenge.

Key insights

The approach of dealing with a complex context is to probe, sense and respond by finding emerging patterns, experiment and scale successful ideas.

The implementation team is unaware of the gaps in their knowledge in change management and the complexity of their challenge.

3.2 Scope

Due to the limited amount of time that can be spent on a graduation project, the problem and solution space need to be scoped. The factors that play a role in this decision are; the capabilities that a designer brings to create a solution and the location where the most impact can be expected.

3.2.1 Design capabilities

The design discipline has been broadening its attention to include societal problems. Once the focus was on designing products but through the years services and systems were added in the mix (Buchanan, 1992). Creative tools and methods that are useful during the implementation of change; visioning, role-playing, storytelling, assumption listing and organisational metaphors, team working, coaching, imagery, brainstorming, mind-mapping and analogies, challenging assumptions (McAdam, 2003). A concern is that these creative tools will cause discomfort in people unexperienced in creativity. The transition design framework (figure 18) demonstrates the four influencing areas of action; new ways of designing, mindset & posture, theories of change and vision for transition (Irwin et al., 2015). These are areas in which a designer can contribute to transitions of systems.

Designers are most effective in a learning or organic way of managing change.

Within change management, designers are most effective with contibuting by a learning and organic manageing style.

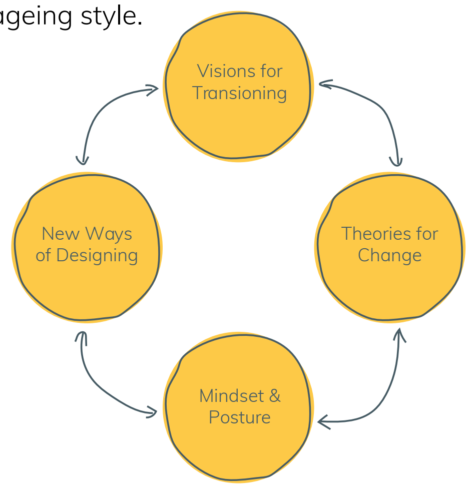


Figure 18: Transition Design Framework (Irwin, 2015)

3.2.2 Focus

Within the limitations of the graduation project, the focus of the project is selected based on multiple factors. Firstly, the possibility to reach and collaborate with the direct stakeholders. Secondly, the stakeholder that can make the most impact. Thirdly, my motivation for this direction will be based on personal interest.

Access
Due to Covid-19, the municipality has requested all employees that can work from home. Therefore getting into contact with new employees is challenging. The implementation team has indicated to be willing to invest their time into this project. Since the result will create value for the implementation and thus for their assignment.

Impact
The implementation team has the position in the organisation between the top management and the project teams as shown in Figure FIX. Also, they are responsible for the practical implementation of the SOK, thus the change. Therefore by focussing on their perspective and activating them to pursue new ways of implementing, the deliverables could make more impact.

Motivation
I feel more interested in the development of support for this team, because of my interest in change management. Information on change management and design skills bring new knowledge to the team and that makes me feel valued for my work.

3.3 Design Brief

In the Discover chapter, this thesis explored the barriers to the implementation of change that could be found at different levels in the organisation. As a result, the Define chapter selected the challenges that had the highest expected priority and impact. These were translated into this design brief, including a new problem statement, a design goal and requirements.

3.3.1 Problem statement

The initial problem indicated a broad difficulty with the implementation of the SOK in the organisation. The research showcased that the employees at multiple levels are unaware of the vision that the SOK is trying to work toward. The challenge is that the vision is not yet formulated and shared within the organisation, in order to rally people around the implementation. In order to overcome the resistance toward the change and create a shared change vision, the following problem statement was formulated.

How can the change vision be created and shared with all the relevant stakeholders of the SOK?

3.3.2 Design Aim

The insights from the define phase lead to these design goals that will help demonstrate when the project is a success. These goals are;

- Create awareness in the team on the complexity of the context and challenges with implementing radical change.
- Learn the team the importance of change management to their challenge.
- Clarify the steps to be taken to implement an effective change vision.

The combination of the new problem statement with the design goals can be translated into this design aim.

I want to build awareness in the implementation team of the complexity of implementing and managing radical change and the positive impact of an effective change vision.

3.3.3 Design requirements

Based on the insights from the previous chapters, the following design requirements can be drafted.

Feasibility
- The toolkit offers the stakeholders to benefit from the solution remotely (due to Covid-19)
- The toolkit is scalable and can be used in different situations and teams.
- The toolkit has content that gives a clear meaning of how to must be understood.

Viability
- The toolkit facilitates the documentation and structuring of insights of resistance.
- The toolkit provides knowledge building about change management.
- The toolkit enables action in the participants.

Desirability
- The toolkit invites stakeholders to adopt it.
- The toolkit inspires the stakeholders to think about new possibilities.

The final deliverable is evaluated on these criteria (chapter 5.4).

04

Develop

4.1 5-Step Approach

Based on Kotter's 8-step model and the insights gained through the discover phase, I have developed a 5-step approach for the implementation team to create and share the change vision.

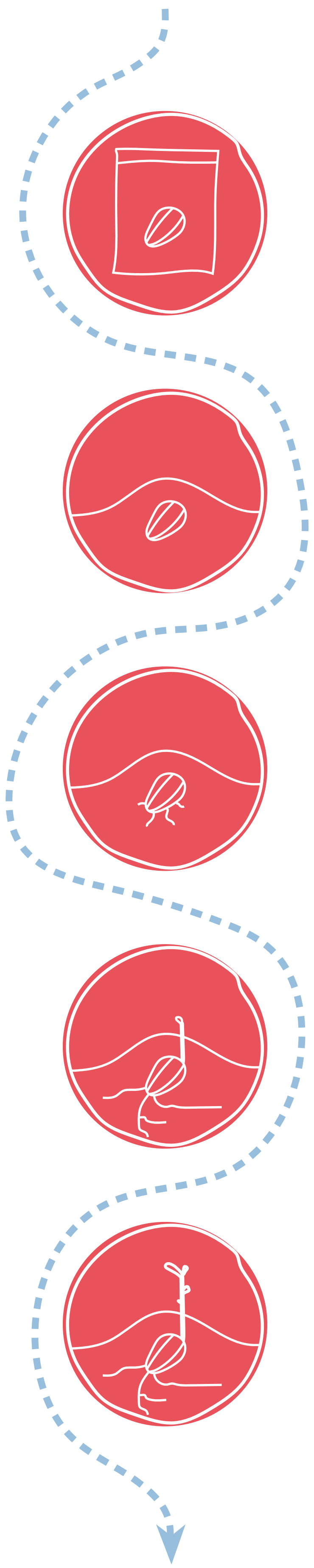
4.1.1 Development

Focus on vision
The 8-step model of change implementation follows the whole process. The scope focuses on the recurring element of design supporting visioning in transition design and creativity tools used for change management (Irwin et al., 2015; McAdam, 2003). The empirical research indicated that the implementation team experienced a lack of a compelling case and the project team a lack of conviction of the need to change. These elements show a need for a shared vision. In the first four steps of the 8-step model, vision is relevant.

Additional step
An extra step was created to be completed before starting the Kotter (2018) model. The assumption of the model seems to be that the people responsible for the change initiative are knowledgeable about change management and aware of the direction and amount of the change. However since the implementation team does not have the appropriate background in change management (chapter 2.2.3), they are not aware of this. To understand the need for the approach, they should first become aware of the type of change.

Metaphor
To clearly explain the steps in the approach, the metaphor of a growing plant is used. This was chosen because of its simplicity and recognizability. The goal was to explain the strategic jargon in a way that they can understand, use and later refer to when talking about the stages. In addition, a short introduction is added of the translation of the step for their change initiative, to give extra context to the explanation by using an example they understand.

Steps 4.1.2



Select seed
Before planting a seed, you normally select which plant you want. Deciding on the size and location inside or outside. The same is relevant for realising the type of change that has been instigated.
In this case the realisation that the needed change is a radical transition, because the desired change requires fundamental rethinking and new processes, structure and culture.

Plant
The seed is planted into the minds of the people in the organisation that the current situation is undesired and change is needed.
The project teams should feel the desire to fulfill the ambition of Amsterdam of being circular in 2050. Through being aware that their current way of working will not succeed.

Root
The first small roots shoot into the ground, these represent the ambassadeurs in the coalition that are connected to the organisation and the initiative.
Not only should the top management be involved, but also crucial other perspectives from different levels in the organisation to present their needs and values, like regievoerders, team leaders and project managers.

Sprout
The seed sprouted and something small popped up from the ground, indicating the direction of growth. This is the vision that is created to indicate the direction of change.
Together with the group ambassadeurs a change vision should be created that translates different needs into something that will benefit the organisations and the individuals in it.

Grow
This is the moment for the plant to grow, like the people behind the change initiative. Weeds are cut away to give the plant all the energy it needs, similar to the barriers of change in the organisation.
In order to grow the initiatives, drivers for communication should be optimised to reach all the people in the IB en V&OR and activate them to change.

4.2 Tools

Based on the proposed 5-step approach, tools were developed to support the team in those steps. First the design process is elaborated. Afterwards all the concepts are introduced per step of the approach.

4.2.1 Design Process

Ideation was done based on the last first four steps in the Kotter 8-step model. For each step, multiple "How to..." questions were formulated and brainstormed upon. Due to the Covid-19 limitations, the brainstorming was done in small groups offline or in a big group online.

The three sessions were held with a total of 8 participants: 3 students and 5 consultants. This way inspiration could be gained from peers and business experts. The latter was chosen to obtain input that came from a background of experience of working in the context of infrastructure. Due to the limited time available of the participants, the session would only consist of idea generation. This is the section of the ideation phase in which the new inspiration would stimulate the solution development.

Physical ideation
The physical brainstorm was done with me, followed by 2 design students and finally with another design student. For each separate brainstorm, the ideas created in the previous brainstorm were shown to help with associating and try to maintain some more interaction with other perspectives to stimulate creativity. An impression of the ideate session can be found in figure 19.

Online ideation
The online session was with one group of 5 innovation consultants, with experience within the context of infrastructure, who selected four 'how to... questions' due to time limitations. I used the brainwriting method to facilitate the ideation phase because it would limit the need to speak. Otherwise, it can become chaotic in the online environment. The brainwriting method is that each participant will individually create ideas for one 'How to..' and after a few minutes will switch with another participant to do the same.

Exclusion
The first step of the 5-step approach was later added and therefore was not included in these brainstorm sessions. The concepts in the first step of the approach were created through a co-evolution process. Where the problem and solution space are iteratively used. This means that the concepts in this phase were formed during the discovery phase, through trying out solutions and seeing what effect they would bring.

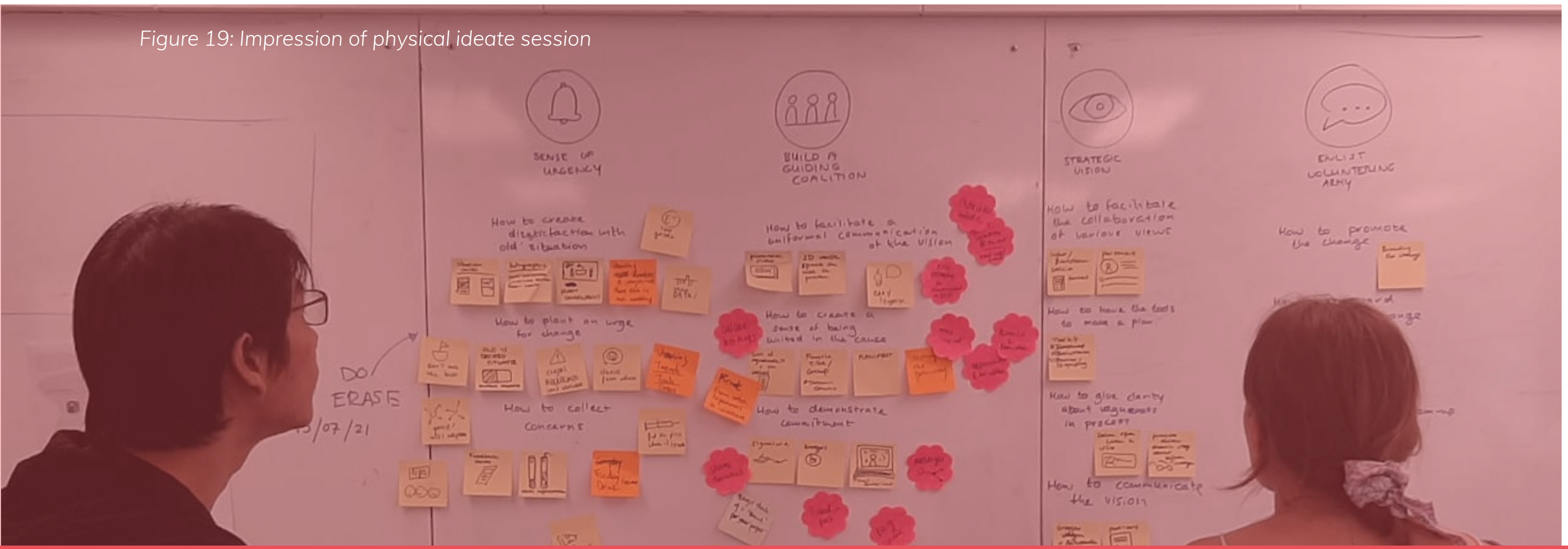


Figure 19: Impression of physical ideate session

How to's
Step 1: create a sense of urgency
- How to create a sense of dissatisfaction with the old situation?
- How to plant an urge for change?
- How to collect concerns about the current situation?

Step 2: Build a guiding coalition
- How to facilitate a uniform communication of the vision?
- How to create a sense of being united in the cause?
- How to demonstrate commitment?

Step 3: Form a strategic vision
- How to facilitate the collaboration of various views?
- How to have the tools to make a plan?
- How to create acceptance on the vagueness of the process?

Step 4: Enlist a voluntering army
- How to promote the change vision?
- How to reward people that change?
- How to empower people to develop their supporting ideas?

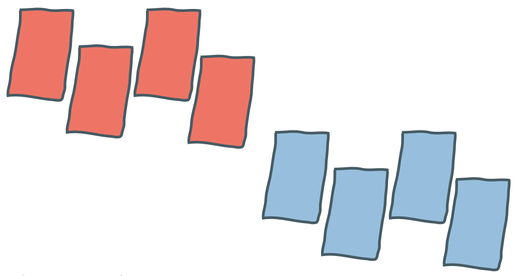
Results
The result was a lot of ideas, which were clustered per step (appendix F). The clusters were selected based on their newness and ability to get attention. Especially in the municipality, using solutions that are familiar do not get people involved, therefore a new approach is needed.

4.2.2 Concepts

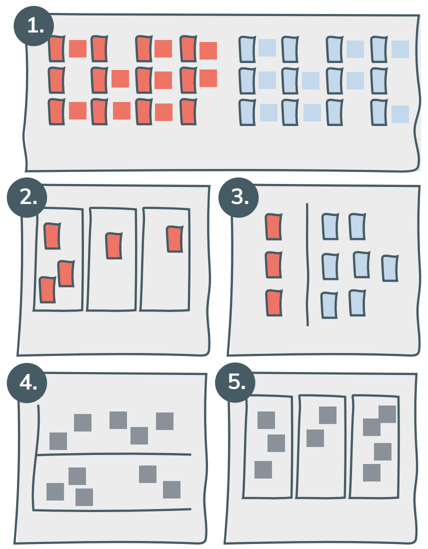
From some parts of the steps, only a list of recommendations is created, due to limiting time. For other parts, tools are developed into prototypes. Each step contains the goal, a description and a guide.

STEP 1: Select seed
To make the stakeholders realise the change that they have selected and are managing three tools were created.

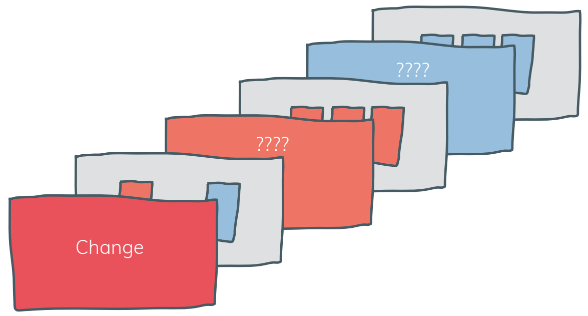
Change card deck
The barrier and drivers from the literature are converted into cards. The goal is to caution the team by showing the number of different barriers that challenge the implementation. Also, by showing the drivers that can support the change, the team can be encouraged.



Mapping session
The cards can be used to link insights from the team to detect barriers that currently play a role. Also, the activities of the team can be linked to drivers to understand the possibilities. Finally ending with concrete actions the team decided upon.



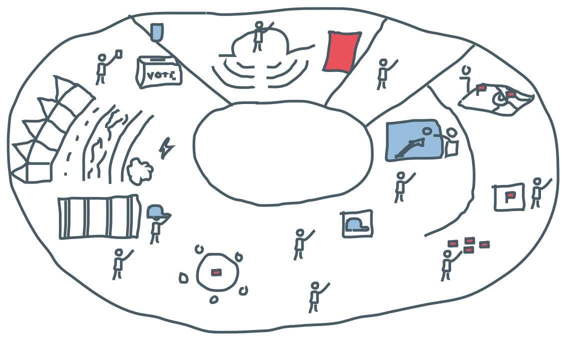
Presentation stakeholders
To let the realisation of the size of the change sink into the minds of all the stakeholders, a presentation structure has been created. During the presentation the stakeholders are asked to use the card deck to answer: "*which barrier they encounter in their activities?*" and "*which driver they use to implement the change?*". During the presentation, the collaboration agreement is used as a case to explain the change.



STEP 2: Plant
These tools will help create a sense of urgency in all employees to change.

Warning signs
Most information is shared online, therefore having physical trigger warnings put up on location will stand out. These warnings will contain data that has led to the need for change. Examples of this data can be; the amount of money spent on legal battles with contractors, the time that projects took longer than planned and the CO2 emitted per project on average.

Boundary object
A 3D visualisation of the organisation in the state it is currently in, showing how ambitions are changed and influenced by people in each layer of the organisation. It functions as a translation tool for people to reflect upon. The city council decided on the ambition, which is translated into policy. This is embedded in the procurement strategy, which in turn leads to choices in the project teams. Those choices impact the citizens that live near the construction, who will vote for the next city council.

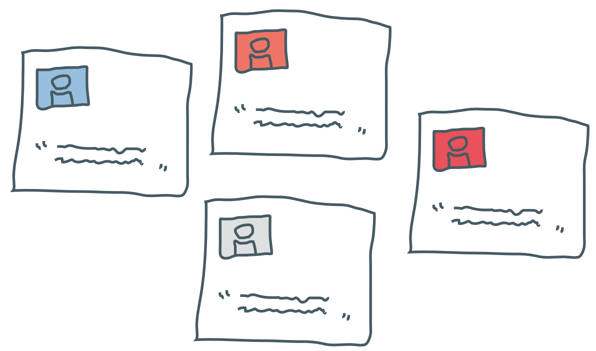


STEP 3: Root
These tools will help build a coalition of ambassadeurs who are bonded in their wish for change and desire to contribute to the creation of the change vision.

Visual identity (chapter 4.3)
The coalition will be bonded through the use of one visual style in their communication and a team name. The 'ToekomstIBouwers' is based on their purpose of creating the change vision of the future (Toekomst) for the Engineering department (IB), their background as engineers and thus builders (Bouwers). The style is playful and cheerful because the future should be seen as bright and the activities the coalition is involved in should be seen as fun.

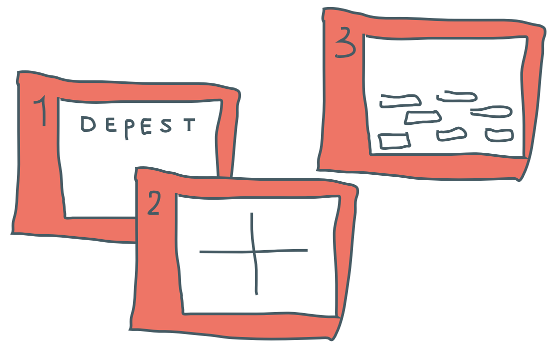
TOEKOMST
IBOUWERS

Personas
To fill the coalition with different perspectives, the persona's will function as reminders of which roles are relevant stakeholders. The personas also indicate the different attitudes people can have towards change. The content per persona includes a description of their role and responsibilities, the benefits they perceive the SOK brings and the concern they have and a quote to voice their attitude. Appendix G shows the first version of the persona's.



STEP 4: Spout
These tools will help create a change vision of the engineering department.

Vision session
The creation of the vision will pass through different phases. Firstly, the trend analysis with the DEPEST method will help create an overview of the possibilities that will influence the future. Based on a combination of two trends, the outer scenarios of the future will be described. Two groups will discuss one future scenario in combination with a list of elements that an organisation deals with, such as leadership, policy and motivation. Next, we can discuss which situation would be most ideal to move toward as an organisation and which specification of the organisation would be useful. With all this knowledge of the future organisation, a vision is formulated. Tip: ask participants to work stage out with LEGO, to stimulate their creativity and playfulness.



Vision criteria (appendix H)
An effective vision is based on a list of elements, such as imaginable, desirable, feasible, focused, flexible and communicable (Kotter, 1996). To make this list more memorable, these criteria are combined with the 'spark' (Heijne & van der Meer, 2019). The result is a criteria list that can be shared with all participants to clearly communicate the elements of an effective vision: (S) specific & sharp, (P) positive, (A) ambitious & Achievable, (R) relevant & realistic, and (K) Keep it simple. Appendix H shows the first version of the Spark criteria.

STEP 5: Grow
This tool will help enlist a volunteering army of people that want to invest the effort to change.

Information platform
The communication about the change initiative should go through one central point. An information platform provides a structure for this. Here the employees should be able to find answers to questions like; Why do we need to change? How do I change? What can I do to support this change? Ideally, the platform will provide a spot for two-way communication, where people can voice their needs and concerns and the implementation team can respond.

4.3 Visual Identity

Although creating a communication style is not the main focus of this project, showing a united front with one clear message and style will help visibility.

Therefore a communication style for the coalition is created. The level does not have to be too polished, because it will only be for internal use. For external use, the Amsterdam style should be used.

4.3.1 Communication style

The insights from previous parts helped define the direction of the style. The SOK values as described in chapter 2.2.1 include transparency, fun and diversity. As this is required from project teams to do, showing model behaviour is important for leadership (Kotter & Heskett, 1992).

The mission of the coalition should be "envisioning the future of the IB within the GWW-sector, where the goal of 100% circularity in 2050 is reached". Due to the fact that members of the coalition are selected based on their affiliation with the ambitions of the municipality of Amsterdam.

Values

The combination of the insights and the mission has led to the creation of these coalition values.

Transparent communication

For the coalition, it is important to be open and honest to the organisation about the purpose of the group and communicate about the progress continuously.

Playfulness in co-creation

The collaboration and co-creation of the change vision should not become a critical discussion group, because critical attitudes will dampen the ability to be open and creative. Tackling the collection of the insights in a playful way will break that behaviour.

Future-proof inspiration

The coalition has the purpose to think about the future and find inspiration in trends that need to have a place or be anticipated in the future.

These values are a foundation, however, the different perspectives that give input in the coalition are their strengths. Therefore having a manifest with values formulated to create a common link will be more effective if all members will be able to formulate this together. Especially because the purpose of the coalition is to collect their insights and not force things upon them.

Naming the coalition

Lastly, the name of the group should be unique within the organisation, in order to avoid similarities with other groups and causing confusion. Currently, this is a common phenomenon, for example with the name implementation manager which can refer to the SOK implementation team, a group of team leaders or consultants on implementation. Ideation has been done on the name. Because the mission of the coalition will involve the future (Toekomst) of the engineering department (IB), this must be clear in the name. The GWW-sector is involved in building and the coalition is formed in order to build a future vision. The combination of these elements has resulted in the name: ToekomstIBouwers. A simple logo was created in which readability was the main concern (figure 14).

Figure 20: Logo coalition: ToekomstIBouwers

Communication examples

Having the coalition members display their link with the group will cause repetition in the organisation. Also in the current work situation, all employees of the municipality still work from home and communicate through online calls. An example from the communication style is created playing into this opportunity. Many employees use a background in video calls to hide their home and project a message. Figure 15 shows a background that ambassadeurs can use as a conversation starter and have an opportunity to be transparent about the purpose of the coalition. The sketchy writing and visuals are used to demonstrate playfulness. The visualisations add to the topics of the future, like energy transition, innovation and nature.

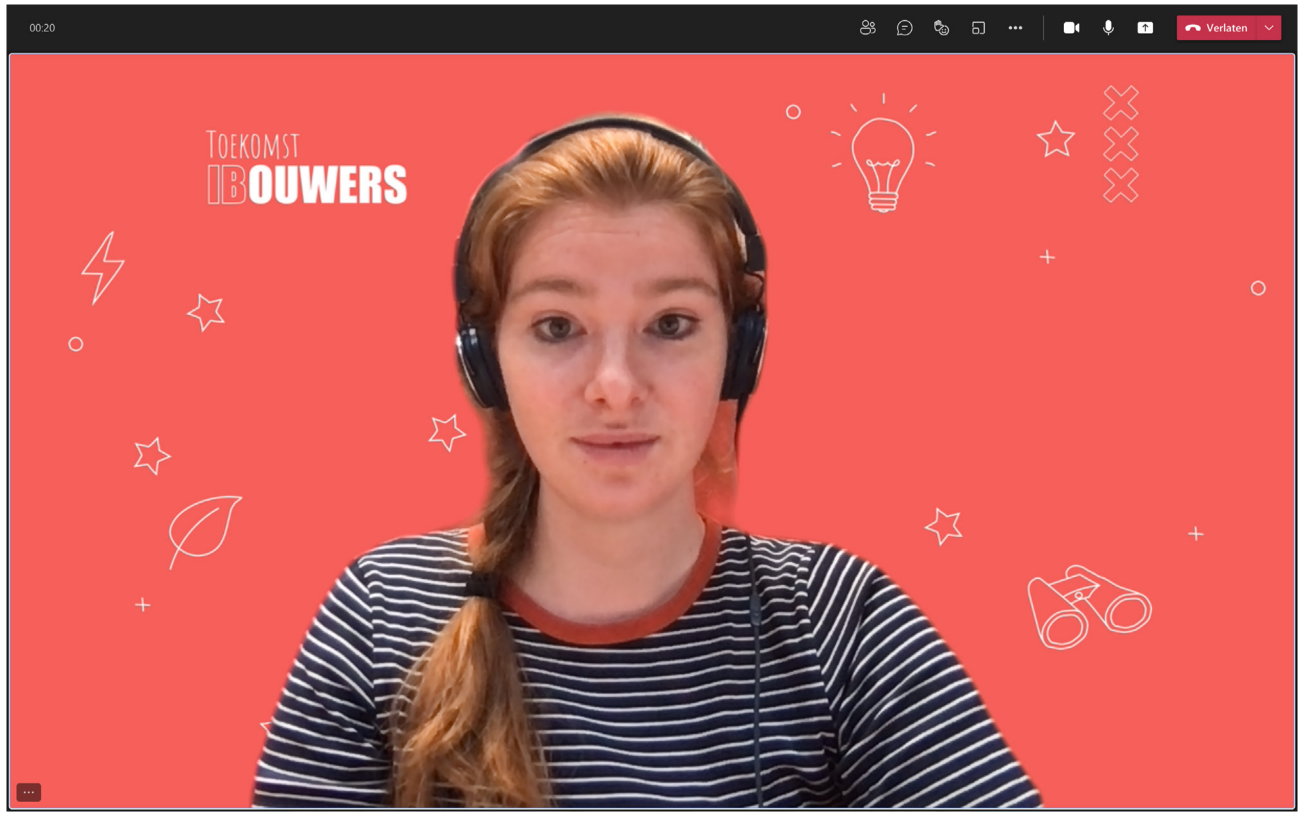


Figure 21: Example of communication style: screensaver

05

Deliver

5.1 Toolkit

Detection, Action, Reflection
This toolkit will help the teams in detecting the current state of their change initiative and help realise the complexity of implementing change.

The toolkit is a collection of tools to help a team start the conversation about the change initiative, collect their experiences and share their insights. A toolkit is "a generic name for frameworks, concepts, models, or methods", that in this case is used to lead a team through the first step 'select seed' of the 5-step approach (chapter 4.1.2)(Jarzabkowski & Kaplan, 2015). The first step of the approach is about being aware of the type of change that is instigated or selected. This toolkit focuses on that awareness and realisation of the complexity of change.

Target audience
The intended users for the toolkit are teams that are implementing a change initiative that is receiving resistance from the organisation, are uncertain about their possibilities in solving this conflict and are interested in learning more about managing change. Therefore it is more likely to be useful for people that are beginners in the field of change management.

Content
The toolkit consists of the one Change card deck, five mapping session canvases and a presentation slide deck for the first step in the 5-step approach (figure 22). It can best be used after detecting resistance to the change initiative.

Outcomes
The result of the mapping session should be a list of agreements including new activities that should be completed. After these activities are implemented in the team, they might again discover resistance. This cycle can be repeated continuously. Then the presentation slide-deck can help convince other stakeholders of the complexity of your challenge.

Use
The Change cards deck can be used daily to help link events to barriers or inspire new activities through the driver cards. This deck is also essential to all the other tools in the kit. The mapping canvasses are part of the mapping session that is advised to participate in at least once. Afterwards the canvasses can separately be used when deemed necessary. The presentation slide deck is a format that supports the sharing of the obtained insights with other stakeholders in the organisation.

Figure 22: Content of toolkit

5.1.1 Change Card Deck

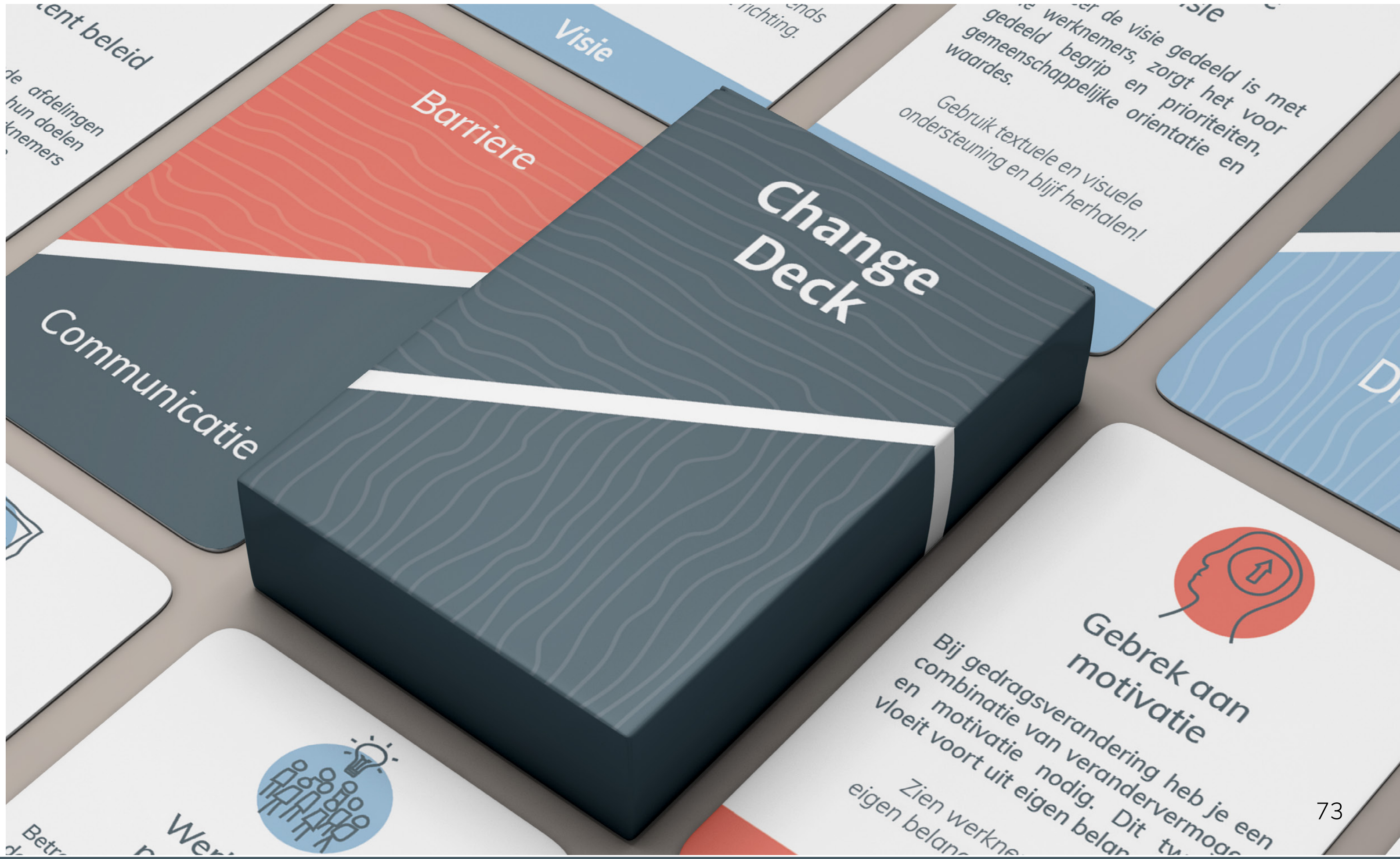
The Change card deck is used as a brainstorming technique to explore the problems of the implementation and the activities that can lead to solutions. These cards are used to create an overview of the barriers and drivers of change in organisations to facilitate the detection of barriers and create awareness of the activities that can help. The cards were created, iterated and evaluated with stakeholders in the municipality and experts dealing with change in other areas. The cards are an essential part of the mapping session.

The Change card deck (figure 23) is based on the literature review on the barriers and drivers in change management (chapter 2.3.3). Each category consists of different sub-categories; vision, leadership, management, communication development, structure, performance and individual, to help detect the location of the barriers in the organisation.

Use
When the user encounters barriers in their work they can take the card deck and link it directly to one of the barriers. This will make documentation of qualitative information easier and will give more clarity in situations with resistance about what is the true cause. The driver cards can always inspire when the user is unsure about what they can do to help take the resistance away.

The added value of the card deck:
- Learn about change management
- By looking at the barriers, you can link your experiences and observations with the insights
- By looking at the drivers, you can get inspired about the possible activities that can help you implement change.

Figure 23: Visualisation of the Change Deck



Card design

The cards are designed for both physical and digital use. This lead to the decision to put the cluster on both sides of the card, because in an online whiteboard environment only one side of the card can be visible.

The visual identity (chapter 4.3) was used for the playfulness representation of the cards. The build-up of the cards can be found in figure 24. Every card has a visualisation of the barrier or driver to improve clarity. The title will be the first items people see and use and has therefore been checked on language clarity by a teacher in Dutch language. In case it still leads to misinterpretations explanation has been added. Also, the barrier titles are more defined and steering the user in a specific corner to check whether or not this barrier plays a role. On the contrary, the driver titles are more open to interpretation, leaving space for creativity to fill in vagueness with ideas.

An extra trigger for the user, on the barrier cards, to think about the connection to their organisation is the orientation question, for example '*Can the new situation be objectively compared to the past situation?*' for for poor status measurements. The driver cards contain a tip of possible activities to make use of the driver to inspire the user, for example '*pick an employee of the month*' for reqard system.

A few extra empty cards have been added to the deck, to give people the freedom to add new barriers, drivers and categories. In the end, most barriers and drivers involve people, behaviour and internal values and can therefore not be completely covered in this deck. The freedom will also stimulate the creative mindset, because of the open possibilities. In addition, other teams can add cards that might be specific to their project, organisation or context.

All the cards, 3 introduction, 22 driver, 28 barrier and 3 empty cards, can be found on the next pages.

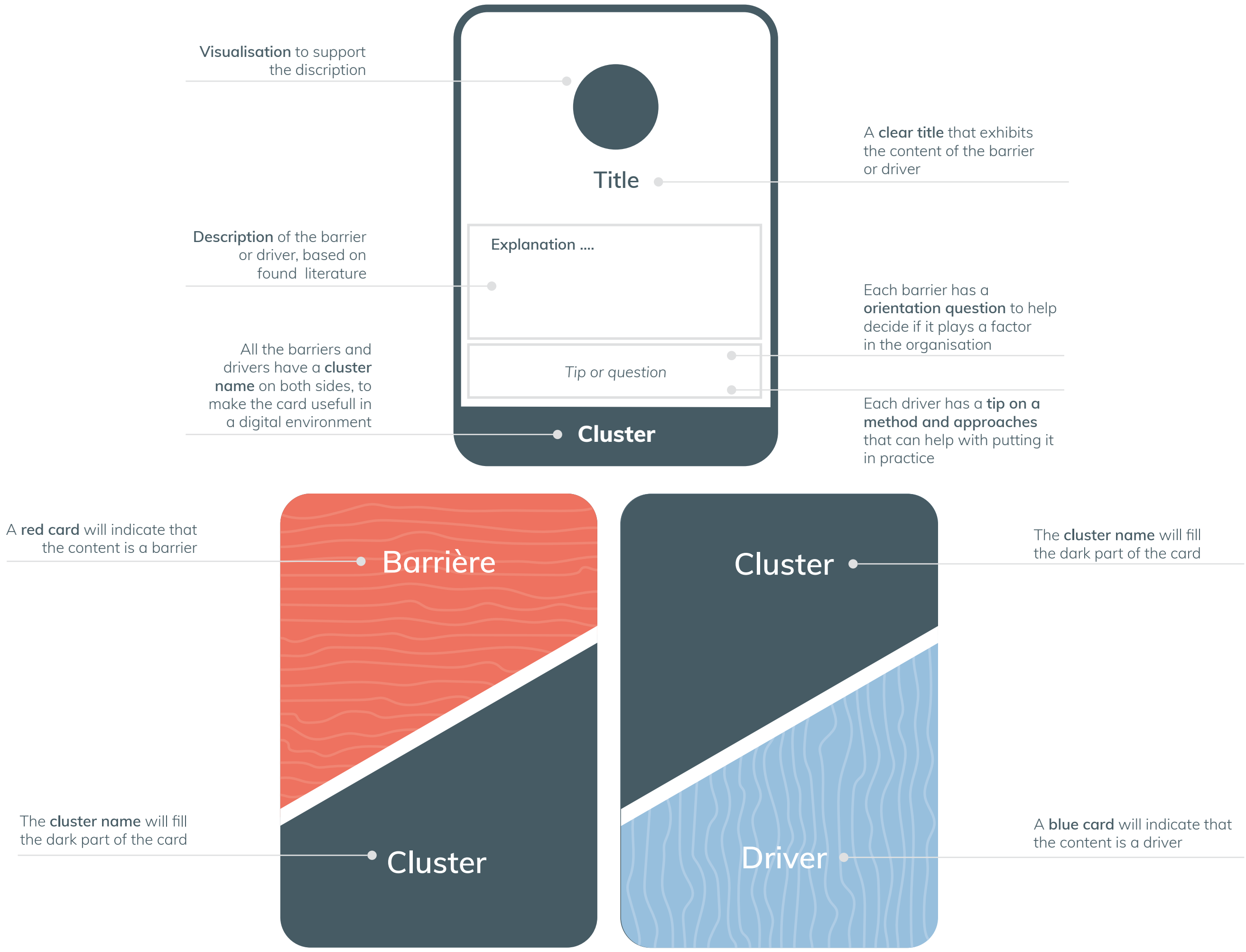
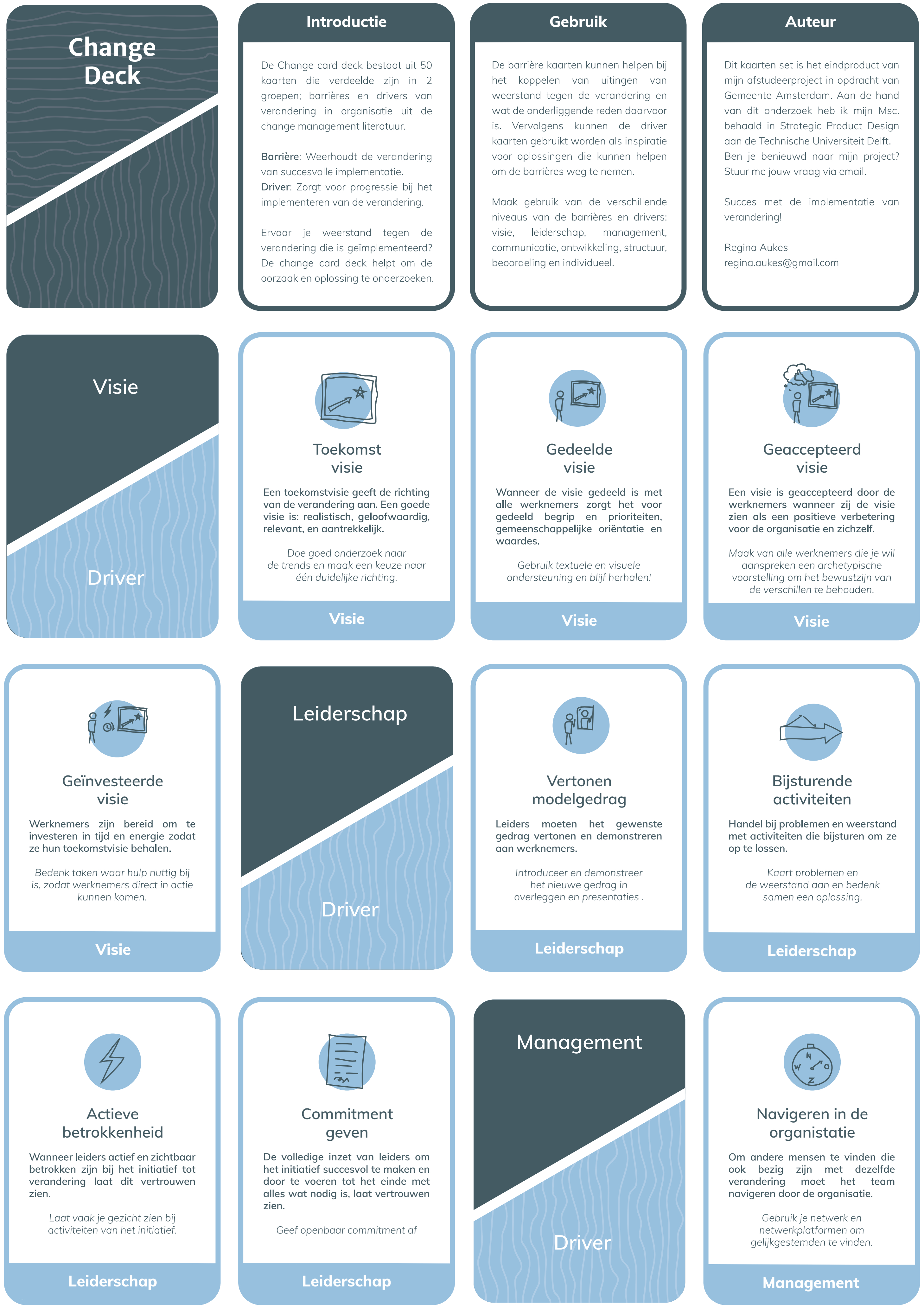


Figure 24: Discription build-up of the card design



Empathie tonen

Het inleven in de impact die de verandering heeft op de werknemers maakt dat je beter kan inspelen en omgaan met hun zorgen.

Spreek in gesprekken met alle werknemers openlijk over hun zorgen.

Management

Communicatie

Driver

Open communicatie

Een open communicatie zorgt ervoor dat werknemers hun mening kunnen delen en alle informatie verkrijgen. Dat neemt dubbelzinnigheid en onzekerheid weg en geeft kracht terug.

Gebruik actief één digitaal platform.

Communicatie

Constant updates geven

Houd werknemers in de loop van het proces op de hoogte over details en veranderingen zodat dit niet als een verrassing op komt.

Stuur updates in de mail en zet ze op een platform met een overzicht van alle informatie.

Communicatie

Successen delen

Het delen en vieren van de successen van de verandering en het effect op de organisatie, neemt anderen mee in het proces en geeft inzicht in de status van de implementatie.

Stel tussendoelen op en vier het succes als team en deel dit met anderen.

Communicatie

Adresseer de weerstand

Door met de organisatie te communiceren over de punten die weerstand opleveren, laat het team zien dat ze de zorgen hebben gesignaleerd en begrepen.

Neem een vragenlijst af bij werknemers of ze vergelijkbare zorgen hebben.

Communicatie

Luister naar het systeem

Vraag de organisatie naar hun perspectief over de verandering. Communicatie moet een balans hebben tussen vertellen en delen van informatie, luisteren en informatie ophalen.

Probeer in sommige gesprekken enkel vragen te stellen.

Communicatie

Ontwikkeling

Driver

Kennisdeling

Train de werknemers in de nieuwe kennis en praktijk die ze nodig hebben voor hun werkzaamheden.

Zet workshops, cursussen, coach sessies en trainingen in om kennis te delen.

Ontwikkeling

Oefenen van nieuw gedrag

Voor sommige ontwikkelingen is het nodig om het nieuwe gewenste gedrag eerst in de praktijk uit te voeren, door 'learning by doing' te gebruiken.

Knip de nieuwe gewoonte in kleine behapbare stapjes die je vervolgens kan uitbouwen.

Ontwikkeling

Structuur

Driver

Veranderkracht organisatie

De mate waarin een organisatie kan veranderen en zich kan aanpassen; gevoeligheid voor omgeving, tolerantie voor andere meningen, gewilligheid om te experimenteren, falen en ervan leren.

Heeft de organisatie veranderkracht?

Structuur

Beoordeling

Driver

Werknemer werving criteria

Neem nieuwe werknemers aan die al voldoen aan het gewenste gedrag en gedachtegang of open staan voor het leren ervan.

Definieer welke eigenschappen en vaardigheden de nieuwe ideale werknemer per functie heeft.

Beoordeling

Beloningsysteem

Wanneer het gewenste gedrag wordt beloond en het ongewenste gedrag niet, zullen werknemers sneller zich inzetten om te veranderen.

Kies maandelijks 'de werknemer van de maand'.

Beoordeling

Individueel

Driver

Werknemer participatie

Betrokkenheid van werknemers bij de planning, pilot programma's en de vorm van de implementatie maakt dat men meer open staat tot verandering.

Betrokkenheid is een gevoel, niet enkel het vragen om feedback.

Individueel

Gevoel van urgentie

Het ontevreden gevoel dat de huidige of oude situatie ongewenst is en moet veranderen maakt dat er een gevoel van urgentie gaat spelen.

Beargumenteer en beschrijf de oude situatie en wat daar verkeerd aan is.

Individueel

Barrière

Leiderschap

Gebrek aan sponsoring

Wanneer er te weinig middelen, zoals tijd en geld, beschikbaar worden gesteld ter ondersteuning van de verandering kan dit het momentum verstoren.

Zijn er genoeg middelen beschikbaar voor de verandering?

Leiderschap

Moeite met omgaan met weerstand

Een leider kan terughoudend zijn in het ondernemen van actie tegen weerstand door onwilligheid of onvermogen.

Wordt er gehandeld als reactie op de weerstand van werknemers?

Leiderschap

Wantrouwen in het leiderschap

Werknemers die geen vertrouwen hebben in het leiderschap en de visie die is ontwikkeld, zullen deze ook niet aannemen.

Hebben werknemers vertrouwen in de visie als die door een leider wordt gedeeld?

Leiderschap

Gebrek aan draagvlak

Leiders zijn niet alleen te vinden in de top van de organisatie maar ook op andere plekken. Wanneer de leiders waar mensen naar opkijken het initiatief niet ondersteunen brengt dat schade aan het draagvlak.

Geven alle soorten leiders zichtbaar hun steun?

Leiderschap

Gebrek aan controle

Bij gebrek aan controle van leiders over problemen en weerstand bij de implementatie van de verandering, is het risico dat het verder escaleert.

Wordt er genoeg actie ondernomen om controle over de weerstand te hebben?

Leiderschap

Barrière

Management

Matige planning

Te veel de nadruk leggen op de visie leidt af van de stappen in het proces naar het resultaat. Net zoals het vieren van het behalen van de mijlpalen in het proces.

Zijn alle tussenstappen duidelijk?

Management

Matige status metingen

Wanneer het team vergeet om een progressie te monitoren is het moeilijker om argumentatie en bewijs aan te leveren voor het effect van de verandering.

Is het mogelijk om de huidige situatie te vergelijken met de oude?

Management

Gebrek aan toegewijde inspanning

Wanneer te weinig werknemers de taak hebben om op de verandering te focussen met tijd en energie dan komt de verandering over als onbelangrijk.

Zijn er genoeg werknemers bezig met de implementatie?

Management

Mislukte verander initiatieven

Wanneer er veranderinitiatieven zijn mislukt in het verleden, zullen werknemers sceptischer zijn over het huidige initiatief.

Zijn er veranderinitiatieven die in het verleden zijn mislukt?

Management

Barrière

Communicatie

Gebrek aan overtuigend verhaal

Bezwaren, vertragingstactieken en onwil kunnen het gevolg zijn van gebrekkige communicatie over de aanleiding van de verandering.

Spreekt de argumentatie van de voordelen voor elk individu?

Communicatie

Inconsistente communicatie

Verschillen in de berichten over visie, planning en proces kan leiden tot misvattingen en de verspreiding van roddels.

Vloeit alle communicatie voort uit één plek met één verhaal?

Communicatie

Barrière

Ontwikkeling

Gebrek aan kennis & kunde

Als werknemers andere rollen krijgen door de verandering. Ze kunnen zonder de nodige kennis, vaardigheden en expertise niet aan de nodige verwachtingen voldoen.

Hebben werknemers de kennis en kunde om hun rol uit te voeren?

Ontwikkeling

Verstoorde routines

Als werknemers niet gewend zijn om te gaan met verandering, zullen ze diepgewortelde routines en gewoontes hebben.

Wanneer hebben de werknemers voor het laatst hun routines moeten veranderen?

Ontwikkeling

Barrière

Structuur

Inconsistent beleid

Wanneer verschillende afdelingen inconsistent zijn in hun doelen en strategie, zullen werknemers conflicten ervaren bij interactie.

Dragen alle afdelingen hetzelfde doel uit?

Structuur

Verschillen in prioriteiten

Wanneer er verschillen zijn in de prioriteiten van afdelingen, kan dit tot conflict leiden bij het verdelen van middelen en bij samenwerking.

Handelen alle afdelingen volgens dezelfde prioriteiten?

Structuur

Rigide organisatie

Wanneer een organisatie draait op het volgen van regels en beleid is er weinig ruimte over om flexibel te handelen. Dit komt vaak voor bij grote organisaties.

Is er ruimte in de organisatie om flexibel om te gaan met regels?

Structuur

Bureaucratie

Organisatie met veel bureaucratie heeft vaak het mandaat hoog in de organisatie, waardoor beslissingen vaak omhoog worden geschoven en dit de verandering vertraagd.

Waar ligt het mandaat?

Structuur

Barrière

Beoordeling

Inconsistent beloningssysteem

Wanneer oud gedrag nog wordt beloond in plaats van het gewenste gedrag laat dit inconsistentie zien.

Zijn de beoordelingscriteria aangepast richting het gewenste gedrag met passende beloningen?

Beoordeling

Onduidelijkheid in rollen en functies

Verandering heeft vaak implicaties op rolbeschrijvingen, de positie van die rol in het systeem en de relatie met de leidinggevende.

Is iedereen op de hoogte van wijzigingen voor hun functie?

Beoordeling

Barrière

Individueel

Gebrek aan zelfvertrouwen

Werknemers kunnen gebrek aan vertrouwen hebben in het uitvoeren van nieuwe vaardigheden die van hen worden verwacht.

Kunnen alle werknemers met gemak het nieuwe gedrag toepassen?

Individueel

Gebrek aan vertrouwen in anderen

Werknemers kunnen een gebrek aan vertrouwen hebben dat anderen de vaardigheden en kennis niet hebben die van hen wordt verwacht.

Uiten mensen hun zorg over anderen of ze wel klaar zijn voor verandering?

Individueel

Vergroten werkdruk

Verandering kan bij sommigen de werkdruk vergroten en bij anderen verkleinen. Ook is een investering van tijd nodig voor het leren en doorvoeren van aanpassingen.

Hebben werknemers de ruimte in de werkweek om te veranderen?

Individueel

Angst voor het onbekende

Onzekerheid komt vaak voort uit de angst voor het onbekende. Bij verandering treedt dit op wanneer werknemers deze onduidelijk vinden.

Wordt de verandering ervaren als onbekend voor werknemers?

Individueel

Gevoel van onveiligheid

Een werknemer kan een onveilig gevoel ervaren bij verandering. Dit kan te maken hebben met vragen over baanzekerheid.

Heeft de verandering invloed op de baanzekerheid van werknemers?

Individueel

Gevoel van verlies van controle

Wanneer de verandering wordt opgelegd aan de werknemers, voelen zij een verlies van controle over hun werk.

Hebben de werknemers controle gekregen over de invulling van de verandering?

Individueel

Gevoel van verlies van status

Werknemers kunnen het gevoel krijgen dat hun status in de organisatie onder druk staat. Dit kan leiden tot weerstand?

Veranderd de status van sommige werknemers in het systeem?

Individueel

Gebrek aan motivatie

Bij gedragsverandering heb je een combinatie van verandervermogen en motivatie nodig. De motivatie vloeit voort uit eigenbelang.

Zien werknemers het eigenbelang in het proces van veranderen?

Individueel

Gebrek aan overtuiging van verandernoodzaak

Werknemers kunnen niet overtuigd zijn van de verandernoodzaak als het hun waardes ter discussie stelt.

Staan de waardes van werknemers in lijn met de verandering?

Individueel

The Change Card Deck

A collection of the barriers and drivers of change.

Contains

- 3 introduction cards
- 22 driver cards
- 28 barrier cards
- 3 empty cards

5.2 Mapping session

As part of the first step in the 5-step approach, selecting the seed, the mapping session is facilitated. It tries to the purpose of the step by creating awareness of the selected change and its complexity. The session is created especially for the team that is actively implementing the change and therefore often interact with the stakeholders of the change, such as the project teams. The series of canvases help structure the mapping session.

5.2.1 Overview

The goal of the session is to collect insights and become aware of the complexity of change and the different skills needed. The Change card deck is an essential tool during the preparation and the session. The flow of the insights during the session is visualised in figure 25. During the preparations, the team members will each collect insights from the behaviour and reactions of stakeholders that show resistance or create hurdles. Also, they are asked to list the activities that they perform in their work to drive the change and limit the resistance. The team members are encouraged to use the Change card deck as inspiration during their stocktaking, offering some support when they seem out of ideas.

The first action of the team together will be to link their insights to the barrier cards and their activities to the driver cards. The result will be that some barrier cards will have collected evidence to based their insights. The assumptions canvas will categorise the barrier cards based on their confidence that it is present or does no play a role. The result will be a selection of detected barriers, backed up with evidence. Similarly, the activities from the team can be linked to the driver cards, resulting in a selection of utilised drivers.

The linking canvas will help the team think about what possible drivers can contribute to solving the detected barriers. They are stimulated to look at all the drivers and not only the utilised drivers that they are already actively using. Since they might be utilising certain drivers in overcoming barriers, but in the next ideation phase, new ideas of activities can still be obtained.

The activities canvas represents the ideation phase of the session. The team is asked to let go of their critical mindset and brainstorm concrete ideas of activities for each driver that was linked to a detected barrier in the previous phase.

These ideas will be structured with the use of the priorities canvas. Each idea must be placed on the timeline based on its priority. In addition, they must discuss whether they have the skills and knowledge to perform this activity or that it requires support from outside the team. An optional question for these support activities is which role or expertise they would need to successfully perform that activity.

Lastly, the team is asked to reflect on their current activities and whether they should stop certain activities to make space for new activities to start. The reflection canvas will facilitate that conversation.

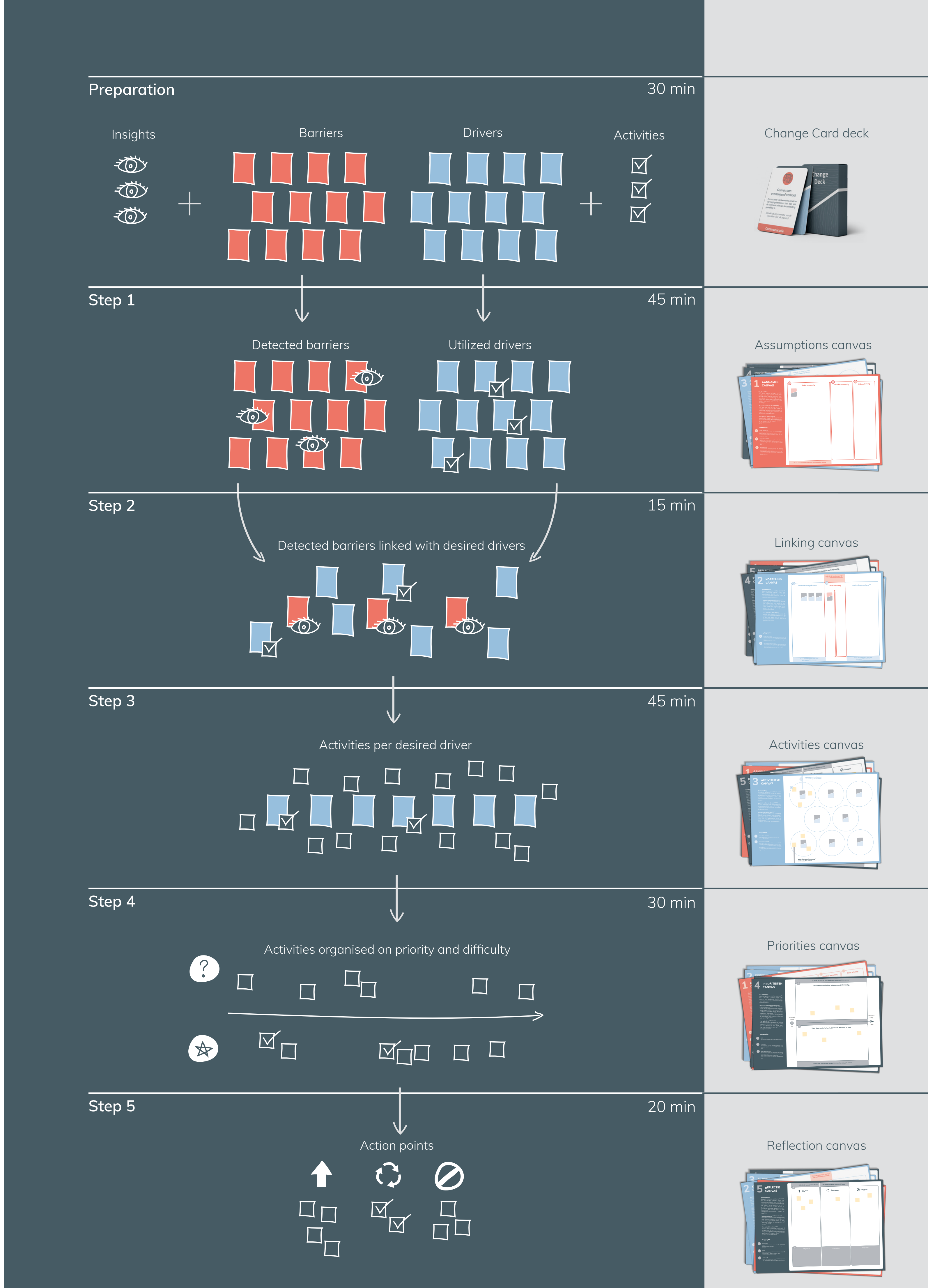


Figure 25: Overview mapping session

5.2.2 Facilitator

A requirement for the mapping session is that a facilitator will lead the team through the phases and support the discussion. The facilitator is responsible for the process and the team will provide the content. The role is especially important to collect the insights during the discussion when participants are occupied.

Location

The tools for the mapping session were designed to be usable in an online setting beside a physical session. In the case of an online session, the facilitator is responsible for setting up the online whiteboard, such as Mural or Miro. The content on the board should include the Change cards and the canvasses. When the session is in a physical location, the facilitator should make sure the room is spacious enough for all participants. In addition, the facilitator should provide the printed canvasses, pens, post-its and Change card deck.

Time management

The time spent on the mapping session depends on the investment the team wanted to put into it. For each phase, there is advice on the minimal needed time. However, a team might not have the time available to complete the whole session in one block. Then the facilitator can decide to cut the session into separate parts. The best place to stop the first session would be after Step 2 (figure 25). The stop is right before the ideation on new activities starts. Then the participants can be given the homework task to think about possible solutions that can help utilise the desired drivers.

Documentation

After the session, the content and results should be documented and given to the team as feedback. If the facilitator expects that the discussion in session will be fruitful, it can be practical to make an audio recording. However, make sure that you first ask for the permission of the participants for privacy reasons.

Tips

Especially with online meetings, frequent breaks are necessary to keep the team concentrated and focussed. Energizers at the beginning of the meeting can be used to increase the energy in the participants or prepare them for the desired mindset. For example, giving the participants a drawing challenge before the brainwriting can prepare them to work more visually during the third step.

Drawing challenge

Make groups of two and let the participants decide which person is the attacker and who will be the protector of the chest. They will draw a chest in the middle of an A4 paper. Now the attacker will draw an attack procedure, to try to obtain the chest. In response, the protector will draw a defence mechanism. This can continue until there is a clear winner, a resolution or the time is up.

Two truths and one lie

Each participant will give three statements about themselves, two of them are truthful and one is a lie. The other participants are asked to reason which statement is the lie.

5.2.3 Preperation *Collect your insights on the current situation.*

The goal of the preparation is for each team member to individually think about their current job activities and collect insights on resistance. Often qualitative data is deemed as less important. However, it can give depth to the reason behind the resistance against the implementation of change. Therefore, documentation of quotes and observations can lead to new knowledge.

Steps

Firstly, each team member must individually collect quotes and observations from stakeholders that are causing resistance on post-its. They can only include data from their personal experience and must exclude hearsay. The barrier cards can help trigger new memories of situations.

Secondly, each team member must individually collect their daily activities on post-its. They can include activities that they perform or even finished in the past. When they feel like they hit a wall, it is time to take out the driver cards and use them as inspiration to recollect all activities.

Lastly, the team will gather to discuss the discovered evidence for resistance, by putting the evidence post-it next to the relevant barrier card (figure 26). Similarly, the activities can be linked to the driver cards.

Added value

In addition, the whole team has read the cards at least once before starting the mapping session. This will save time during the session when they are able to recall some cards more quickly. Also, in order for them to learn about all the factors in change management, repetition is a useful tool to help them remember.

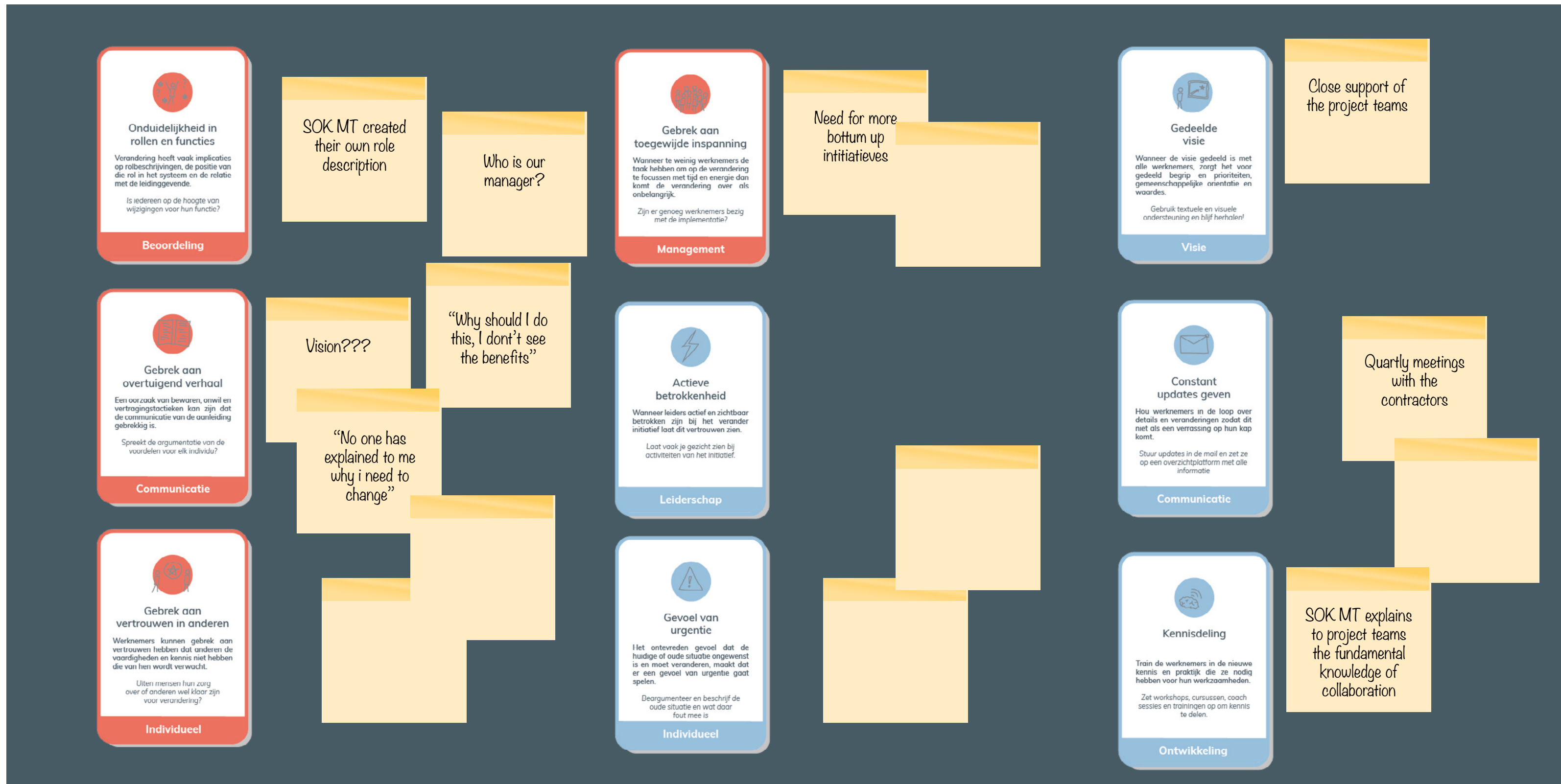


Figure 26: Example of representation of preparation phase

5.2.4 Assumptions canvas *Can you speak of certainty or assumptions?*

After completing the preparation assignment, the team will collectively continue the mapping session (*figure 27*). The goal of the assumptions canvas is to facilitate the discussion with the confidence that a barrier is present. The three categories are present with confidence, unsure about presence and absent with confidence.

Steps

The team will discuss each barrier card that has evidence connected to it. The pressing question is whether this is enough evidence to confirm that this barrier is playing a role against the implementation of the change. If this is confirmed, then the card can be moved to the corresponding space on the canvas.

Next, the barriers with evidence that were not moved to the category 'present with confidence' can be discussed. This time the question is whether the barrier fits in the 'unsure about presence' category. The same question does for all the barriers without evidence. Perhaps the team has not been aware of instances that this has been stopping progress in the change initiative.

The barriers that are left can be moved to the category 'absent with confidence'. If the team find a card that they feel does not fit here, it can always be put in the other categories.

Inspiration

The canvas is inspired by the framework 'the (un) known (un)known', which can help teams to be aware that some things are assumptions because of the lack of valid proof (Rumsfeld, 2011). The categories 'present with confidence' and 'absent with confidence' are based on known knows, the things we know with certainty that we know. The other category 'unsure about presence' is linked with the known unknowns, the thing we know that we do not know because of gaps in our knowledge.

Next

The barrier cards in the category 'present with confidence' are necessary input for the next step.

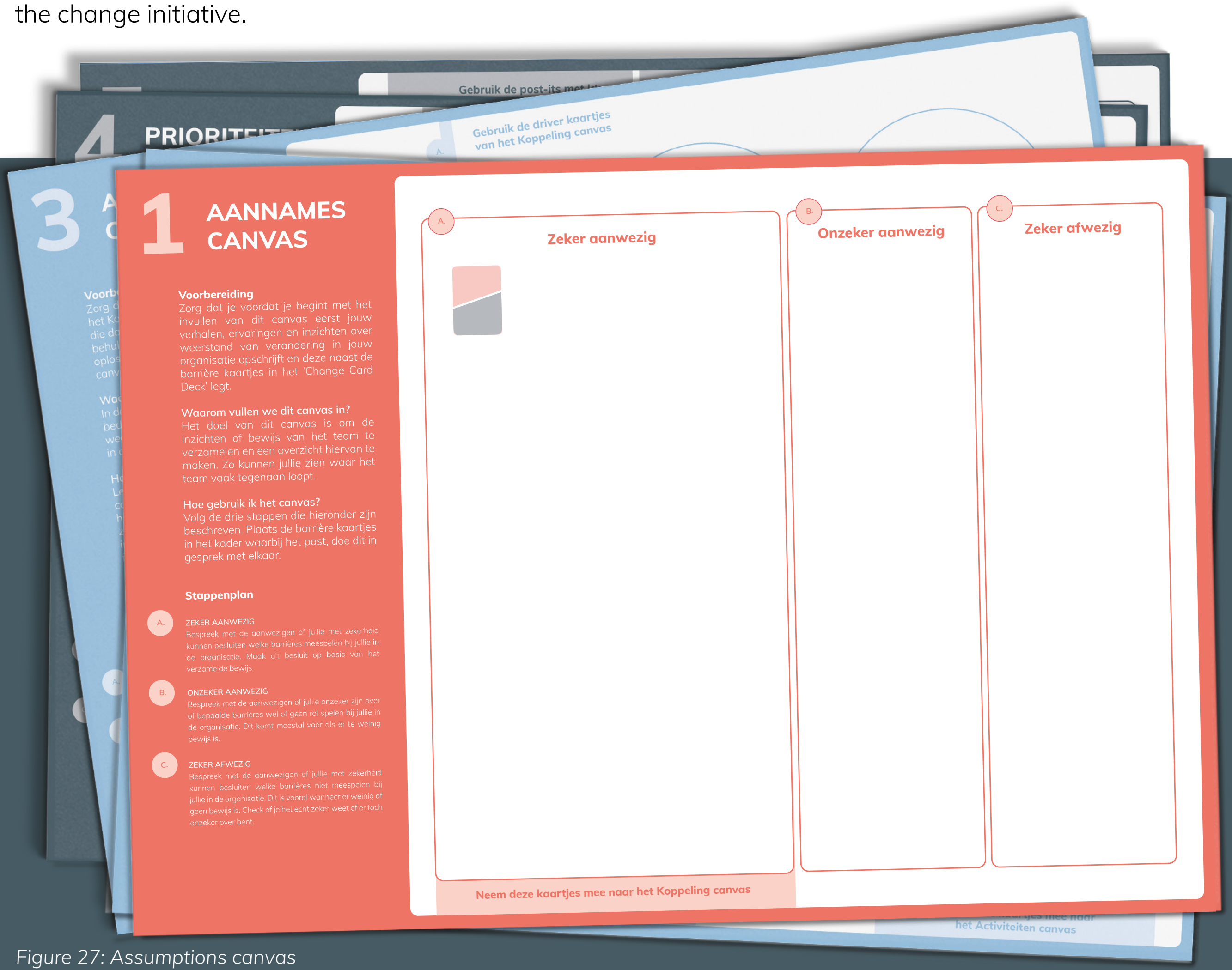


Figure 27: Assumptions canvas

5.2.5 Linking canvas *Find the driver to your barrier.*

The goal of the linking canvas (*figure 28*) is to challenge the team to find possible connections between the problem barriers and the solution drivers. It is the first step into finding new activities to utilise the useful drivers.

Steps

The facilitator can prepare the canvas, by moving the barrier cards that are deemed present in the organisation from the assumption's canvas to the corresponding box on this canvas.

Now the team will discuss which driver cards could help dissolve a specific barrier. Some connections might seem obvious, but others can be more subtle. So, make sure the team takes their time to look over all the possible drivers. The distinction between utilised drivers and drivers without activities already linked does not limit the choice, both can be used.

Figure 28: Linking canvas

5.2.6 **Activities canvas** *Ideas on how to apply the drivers.*

In the next phase, the team will move into the ideation phase. The goal of the activities canvas (*figure 29*) is to facilitate the brainwriting process, based on the drivers linked in the previous phase.

Steps
The facilitator will start by moving the driver cards from the linking canvas to the activities canvas, one card per circle. In addition, they will explain the rules of ideation (Heijne & van der Meer, 2019): quantity breed quality, postpone judgement and hitchhike on other ideas.

Now that everything is prepared, the team can be divided among the circle and thus the drivers. During the brainwriting, each member will spend three minutes focussed on finding ways to use the driver in the circle. After this time, they will move to another circle and repeat that action. The facilitator can force the participants to first read the ideas from the previous brainstorm in that circle, to stimulate people to be inspired by the other ideas, before letting them continue brainwriting. After all the circles have had at least 4 rounds of time spend on them, the phase is completed.

Inspiration
Brainwriting is a form of brainstorming, that is designed with different benefits (Heijne, 2019). The switch to individuals writing their ideas increases the speed and efficiency. In addition, the task is completed in silence and each participant by itself, allowing both extroverts and introverts to contribute. While each participant will be brainwriting on one challenge at a time, they will switch around every few minutes. This passing around will allow the participants to hitchhike on other ideas and improve on them.

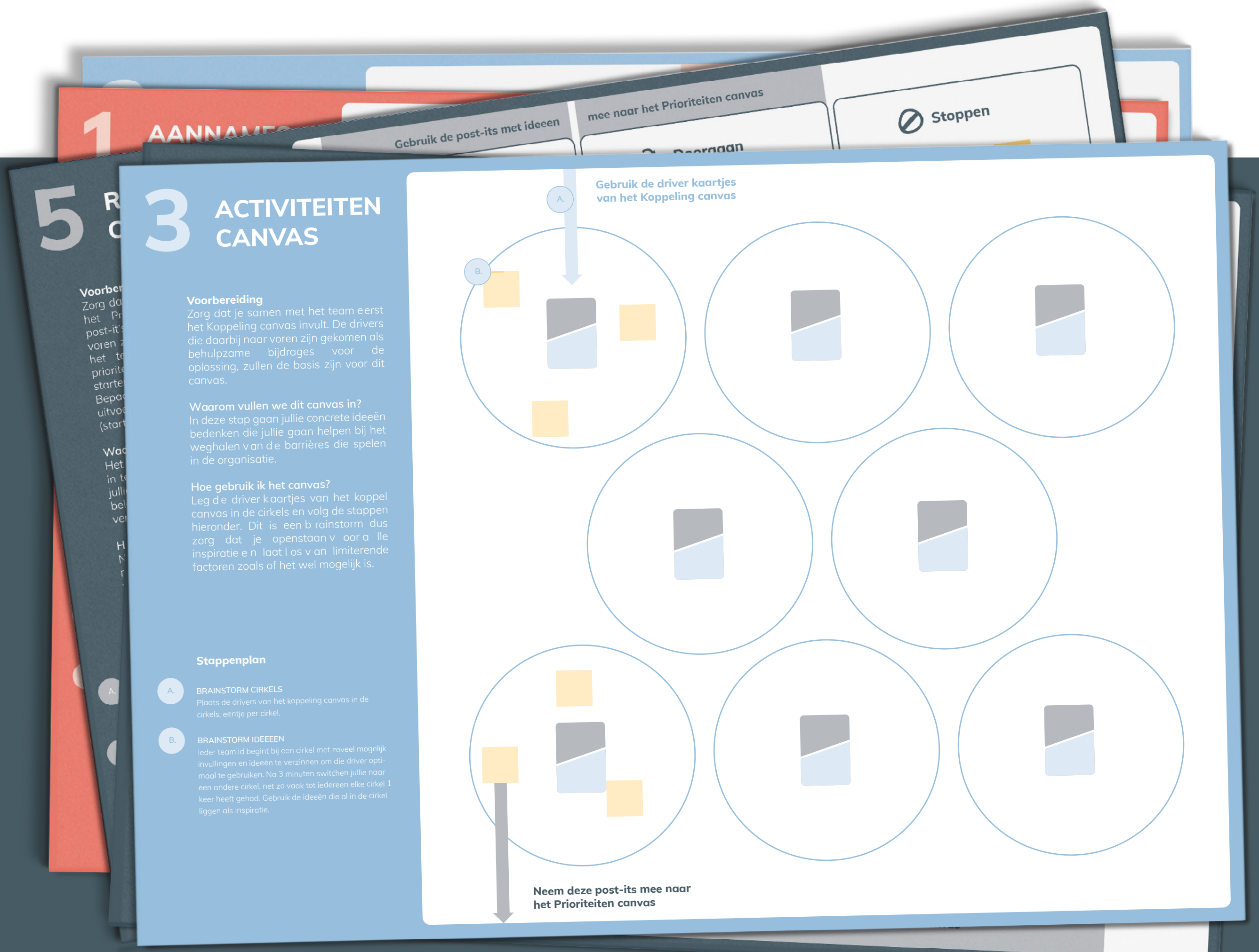


Figure 29: Activities canvas

5.2.7 **Priorities canvas** *Should WE do this?*

The next step in the ideation phase is reverging, structuring the ideas to be able to make decisions. The priorities canvas (*figure 30*) will help in this process. The ideas are ordered on the timeline based on the priority (high or low), resulting in a short term or long term divide and the ability of the team to perform this activity.

Steps
The team will now discuss where each idea or post-it must be placed on the canvas. This can be done by answering two questions each time; how important is realising this idea? and can our team complete this idea successfully?

When the answer to the second question is negative, this leads to the question; who does have the skills and knowledge needed to complete the idea? If the team can come up with an answer or first direction in finding it, the facilitator must make sure it is documented.

Inspiration
The C-box is a reverging framework that makes the participants structure their ideas on two axes. The benefit of this step is making the valuation of the ideas visual, based on the requirements. This will help the team see where they need help and what they should do first. The purpose is to prepare the team for deliberate converging and decision-making (Heijne & van der Meer, 2019).

Tip:
Having difficulty with agreeing on what ideas to prioritise? Try going back to the goal of the change initiative. If the connection is still too abstract to decide, you can try the exercise called 5 times why. Ask yourself 5 times why you want to achieve that goal to discover the underlying values, which might be easier to link to ideas.
If the team believes that they can successfully complete all the ideas, an additional question can be asked: What is in your circle of influence? Perhaps all the ideas do concern your team, but only a small amount you can influence as well.

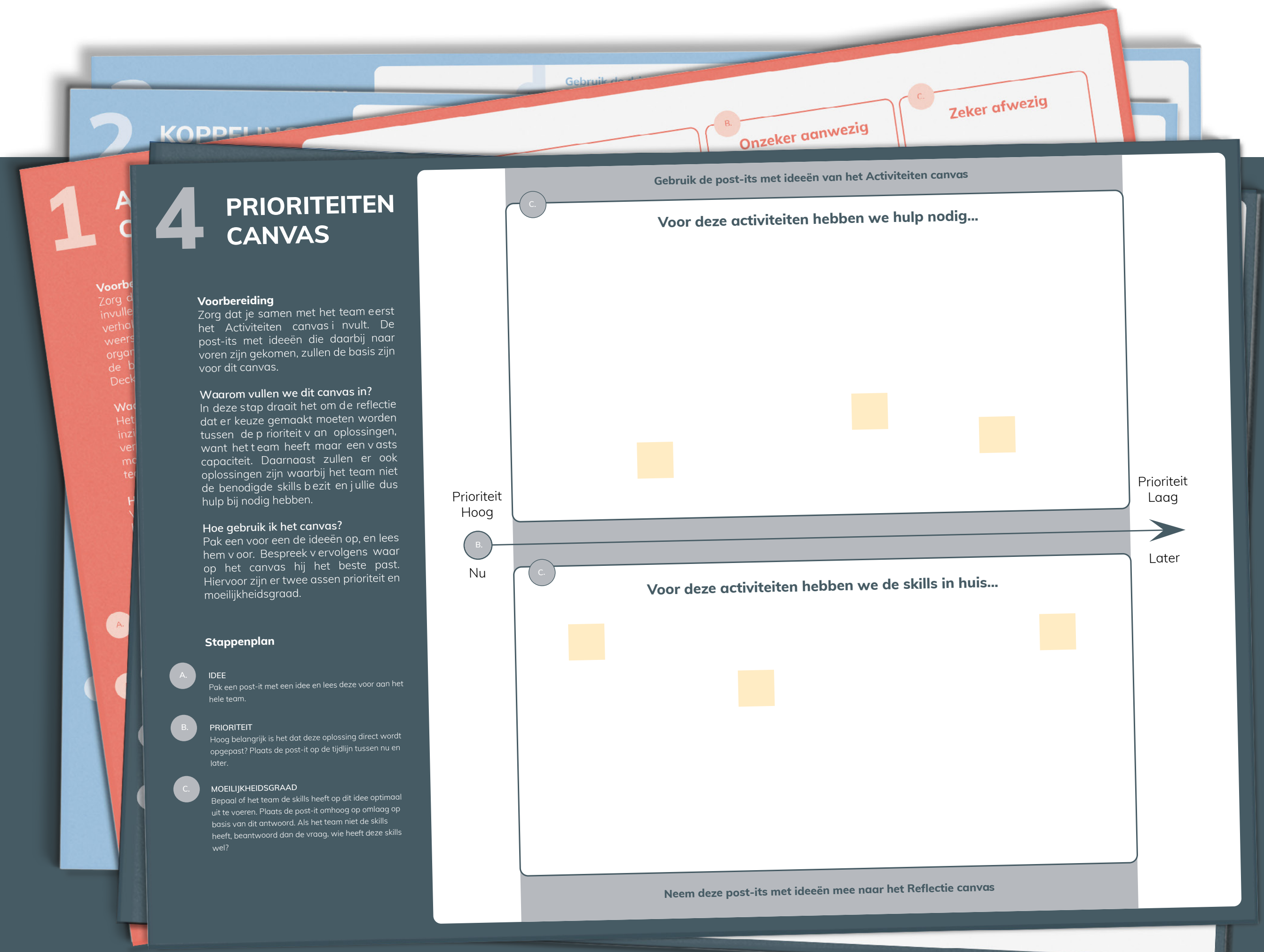


Figure 30: Priorities canvas

5.2.8 Reflection canvas *What now?*

The last phase of the mapping session is to give the team the chance to make decisions on what they want to do. However, because a team has limited hours in the week, doing new things also needs to mean stopping with other activities. The reflection canvas (*figure 31*) will facilitate the reflection moment with the team.

Steps

Firstly, each team member is asked to individually write down activities or behaviour on post-its they want the team to start, stop and continue with.

After around 5 to 10 minutes, the team will reconvene and share in three rounds what they wrote down. Similar activities can be clustered, during the sharing.

Next, the team will discuss and decide on which items they agree and want to commit to. These items are moved to the agreements. This is also the moment to discuss who will take ownership over specific items.

Inspiration

Agile working teams believe reflection or retrospective is an important moment to look back on the recent past and learn from those insights. The 'Start, Stop, Continue' is a form of action-oriented reflection that facilitates this conversation. It tries into the mindset that collaboration should be in continuous improvement.

Tip

The numerous ideas that might seem interesting and valuable can become overwhelming. Therefore I advise the team only to pick one every two week to start. Make sure that in those two weeks you really focus on implementing that idea.

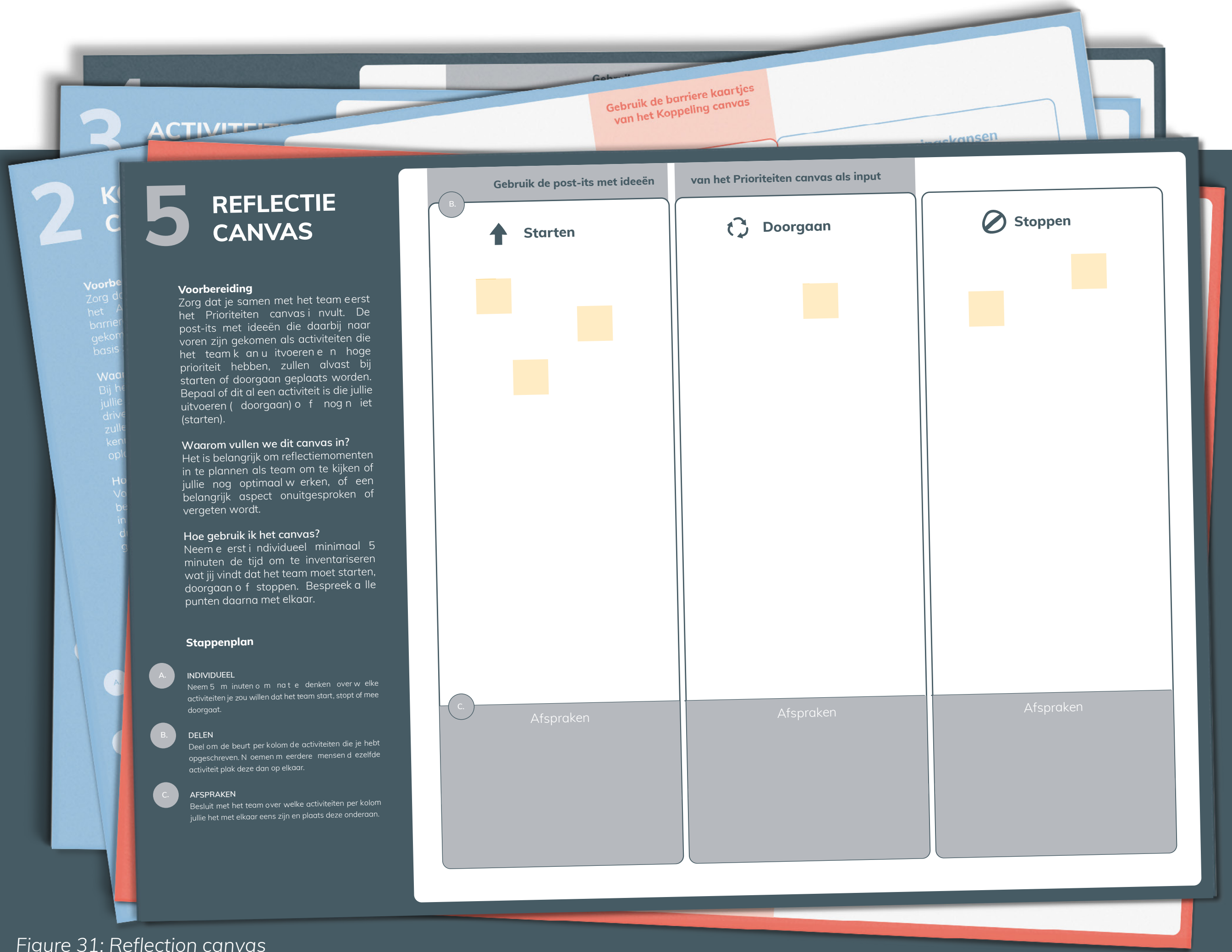


Figure 31: Reflection canvas

5.2.9 Feedback

The goal of the feedback sheets (*figure 32*) is that the participants will never lose the results and decisions made during the session. After the mapping session, it will be key to communicate the outcomes clearly with the team. The feedback will provide an answer to these questions: What was the purpose of the session? What were the discussion points? What were the results and agreements? What is next?

Structure

Firstly, the feedback will remind the team of the purpose of the session and why it was beneficial for them.

In the session, different decisions were made, such as barriers that are certainly present, linked drivers to those barriers, the possible useful activities and the agreements made with the team. All these decisions should be communicated.

Thirdly, insights from interesting discussion points and quotes from during the session that showed disagreement and in-depth information and details should be shared.

Lastly, provide a preview of the next session with its homework task included, when the session is divided into two meetings.

Figure 32: Summary of the first part of the mapping session

5.3 Presentation Slide Deck

The last tool in the toolkit is a presentation slide deck that will help the team to spread the knowledge that they obtained during the session in an interactive manner.

5.3.1 Set-up

After you completed the session and realised that different activities are needed to successfully implement the change initiative. Now it is time to convince other parties, such as top management about your newly acquired needs. This presentation slide deck (figure 33) is created to provide a structure to this process through having an interactive presentation. The deck is filled with examples of the case of the implementation team, but the cards can be switched out.

The interaction
At two points in the presentation the audience is asked for input based on their personal experiences. For each of the barriers and drivers a question will require them to look through the card deck to find one that they find fitting to the insight. Depending on the audience size, all or 3 people can be given the opportunity to share their decision.

The style of the presentation is in line with the visual identity (chapter 4.3) created for the change initiative. It will catch people's attention because of the difference with the Amsterdam style.

Figure 33: Visualisation presentation slides on computer

5.3.2 Build-up

Next, an exmaple of the presentation slide deck is shown in figure 34 and the text will represent a possible way to present the content.

The topic of the presentation is change in the municipality of Amsterdam. We will lead you through the process by having some interaction and sharing information on our case.

Introduction on radical change
There are different types of change and the amount of change that is initiated can have a lot of influence on the resistance that it will get. Two options in change are incremental and radical change. In incremental change the initiative will only make small changes that stay in line with the organization's culture and objectives. While radical change included a big shift at once on multiple levels. *Introduce case of the team and what type of change it is.

What are barriers and drivers?
In our team we looked at the barrier and drivers of the implementation of this change initiative. The definition of barriers is: something that prevents something else from happening or makes it more difficult. The definition of driver is : something that makes other things progress, develop, or grow stronger. Does everyone follow?

Question 1: Which barrier of change do you encounter?
Now we are wondering if you can answer this question. You can use the Change card deck (physical or online) to pick one and give an argument for it. I will ask some of you to share. Make sure that the insights are only based on your experiences.

Case:
*Give a max of 4 cards as example of the barriers that the team has encountered in their mission to implement change.

Question 2: Which drivers of change do you use to implement change?
Now we will do the same for the driver cards. Respond to this question. You can use the Change card deck (physical or online) to pick one and give an argument for it. I will ask some of you to share. Make sure that the insights are only based on your experiences.

Case:
*Give a max of 4 cards as example of the drivers that the team has used in their mission to implement change.

Opportunity for questions

Figure 34: Example of filled presentation slide deck

5.4 Evaluation

The concept evaluation helps to solve the design brief: FIX. In this part, the set-up of the evaluation is described. Also, the results of the evaluation are provided to make a case that the toolkit is feasible, viable and desirable.

5.4.1 Pilots

Mapping session pilot
The last activity of the project is the pilot of the toolkit with the implementation team of the collaboration agreement, who are responsible for the implementation of the change initiative and the clients of the deliverable. The aim of the pilot is to test the design requirements (chapter 3.3.3).

Process
From the implementation team, four team members participated in the pilot. All participants were asked to complete the preparation phase in the allocated Miro board. There they could already investigate the other stages of the mapping session. The team had space in their schedule for two meetings of one hour. This meant that we would have to rush through the session and select only a few cards on each canvas that would continue to the next canvas.

Set-up
The input for the evaluation was collected through three different ways. Firstly, the participants agreed to have the audio of the session and the discussion taped for evaluation and feedback purposes. Secondly, the output in the form of ideas and decisions would give more intel. Lastly, the participants gave feedback and reflected on the value of the session at the end.

Presentation slides pilots
The presentation slide deck was tested in a series of three presentations to different stakeholders: (1) the lead buyer fysiek and the assetmanager, (2) another team in public procurement planning a change initiative, and (3) the expert group of sustainability and circularity. During the presentation, the understandability of the questions were asked and the ability to quickly find recognition in the barrier and driver cards. Also, the response to the new knowledge that radical change is complex was observed. The responses to the questions were also documented. More presentation opportunities were listed, but due to time limitations those presentations were cancelled.

5.4.2 Expert evaluations

The design requirements also mentioned some criteria that would be harder for the team to give a valuable evaluation on. Therefore expert input and evaluations were planned during the ideation and with the final toolkit. The experts were: a strategic designer (Flatland), a designer/ innovation consultant in the GWW sector (Suit-case), a change manager/ agile coach (Schiphol), three employees experienced with implementing innovation (Municipality of Amsterdam) and a change manager/ designer (Schiphol).

Ideation phase
The first three experts gave comments during the ideation phase, those have been considered and added during the creation of the toolkit. Some can still be found in the recommendations, because other suggestions were given priority. The experts would walk through the steps of the canvasses with a case from their practice and change initiative that they brought in.

Final deliverable
The final toolkit was evaluated by a group of people active in supporting implementation initiatives in the municipality of Amsterdam, the team is called ICAS. They were interested in the project and the results and that was how the conversation started. The spontaneity of these conversations meant that the only clear feedback was the level of interest that they showed in the toolkit and the possibility to use it.

A thorough evaluation was conducted with a change manager at Schiphol with a background in strategic design. In preparation she was sent the toolkit including some context description. During the evaluation she first gave general feedback on the product as a whole. Later each of the design requirements were discussed and her response was documented.

Additional recommendations
Currently the participants are asked to link the barriers to the drivers. However, when people have no background with knowledge on change management, they might feel underqualified to do so. When the toolkit would already provide a system map with linked barriers and drivers in the literature, they might feel like they have a starting point. They can still decide to deviate but can also save time by copying those connections (Strategic designer, Flatland).
In addition, a selection of proven strategies for a pair with a barrier and driver can be provided. In case the team cannot come up with useful ideas (Innovation manager, Suit-case).
Building on this thought, the participants would be able to share these strategies or other ideas on a community platform. This will get the motivated people more involved and knowledgeable. This platform can provide interaction, information and ideas (Change manager, Schiphol).

Symbols explained

The proof contains a comment that is possible to improve upon.

The proof contains mostly positive feedback but still needs more evaluation to confirm.

The proof is significantly positive and by enough different parties that it confirms that the design requirement is met.

5.4.3 Feasibility

The toolkit offers the stakeholders to benefit from the solution remotely (due to Covid-19).
Proof: (Mapping session) The tools are all made available online in MIRO and the session was facilitated in MS Teams. The platform with the session is still available for the team, to give the team a space to add and continue on their work. (-) Even though the participants were asked to execute the preparation in the software, some had trouble getting in and editing. Later a participant indicated that *"the software did not work for them"*.

The toolkit is scalable and can be used in different situations and teams.
Proof: (Expert evaluation) During the expert evaluation with the innovation manager (Suit-Case) an interest was shown in using the toolkit with two different clients in the GWW sector. Also, the ICAS members showed interest in the cards being produced to make use in similar sessions possible. Confirmation of the scalability was given by the change manager (Schiphol): *"I believe this toolkit can be used by multiple different teams that are inexperienced but responsible for the implementation of change initiatives"*. Different ways of use were also seen as valuable: *"the session even gives the opportunity to use each canvas separately or do the session multiple times in a year"*. (-) Note that the session was not tested in different teams.

Proof: (Presentation) The cards are also featured in the presentation deck and during one presentation a request for the use of the Change card Deck in different teams planning change in their category.

The toolkit has content that gives a clear meaning of how to must be understood.
Proof: (Presentation) The questions asked during the presentation to the listeners were almost always understood in the correct way. (-) The bottleneck in one instance was the difference between an insight based on personal experiences and one that was experienced by someone else that you heard about. Even after explaining the difference, the listeners still kept to his answer. Therefore, a solution is still undefined.

Proof: (Mapping session) All participants felt capable to connect their insights to the cards. When they were unsure about the connection, they would discuss the position and would always find the right spot.

5.4.4 Viability

The toolkit facilitates the documentation and structuring of insights of resistance.
Proof: (Mapping session) Multiple participants mentioned that they needed to invest more time in this process and that the two hours they made available was not enough: "I believe that we should inventorize and elaborate on all the topics, if we have space for it I want to have more time for this", "shouldn't we make time for this every month to add on what we have."

Proof: (Expert evaluation) The overall concept of the cards was received as useful for documentation "the barrier and driver cards are a simple way to give structure to the insights" (Change manager, Schiphol). (-) However, the high number of cards was mentioned as a possible negative remark, because "it might result in participants only reading the titles and skip the descriptions" said the strategic designer (Flatland).

The toolkit provides knowledge building about change management.
Proof: (Mapping session) The participants were surprised by the content of the barriers and driver: *"the barriers and drivers are really clear, this are things we are engineers unaware of and now I see it"*, *"the fear of loss of status is so on point in the situation"*.

Proof: (Presentation) After one presentation in another team in the municipality of Amsterdam that is planning implementing change, they indicated that the change card deck made them realise how complex change is and wondered if they could use the cards some more.

Proof: (Expert evaluation) The change manager (Schiphol) responded very positively about the knowledge building it would provide to beginners in the field: *"the participants are being asked to think about and practice with change management. This way it is more likely to remember the new knowledge. Also giving them the opportunity to add on the cards with their own insights can help them feel more motivated to work with it more often."*.

The toolkit enables action in the participants.
Proof: (Mapping session) The mapping session has resulted in two activities being picked by the team. They are speaking up to management about their need for a day or week to reset and orientate on the current state of the implementation. Secondly, one implementation manager has pulled the activity of creating an implementation plan draft toward herself. The goal of the plan being to confront top management about their need for support.

5.4.5 Desirability

The toolkit invites stakeholders to adopt it.
Proof: (Mapping session) The implementation team has decided to use the framework as the foundation for a proposal implementation plan that must indicate the needs they have in a team in order to successfully implement the change. They follow the 5-step approach to plan out the needed step and use the drivers as inspiration and the documented barriers as argumentation. In collaboration with me, we build on the metaphor to completely use the Kotter 8-step model.

Proof: (Presentation) After one presentation, the list of meetings where the presentation would be useful became longer. This showed that the municipality was keen to spread the message. (-) However, it is still unclear whether they will use the slide deck when they need to present it themselves.

The toolkit inspires the stakeholders to think about new possibilities .
Proof: (Mapping session) The results of the mapping session included new ideas that the team is not able to do themselves, but would require a communication expert, IT support and a change manager. For the team, this is thinking outside the box of contract management.

Proof: (Expert evaluation) Creative techniques are known for their ability to make space to create new ideas, according to change manager (Schiphol). She also mentioned that *"the driver cards read as a more open invitation"* resulting in *"more freedom for out-of-the-box thinking"*.

06

Conclusion

6.1 Discussion

This project started with the initial research question:

"How can a design intervention help the SOK stakeholders, to decrease the number of hurdles for the implementation of the collaboration agreement in the municipality of Amsterdam?"

This question came along with several sub-questions that were answered during the discovery phase that consisted of a literature review, empirical research. The research used different data collection methods, interviews, informal conversations and interventions, to get deeper knowledge. After finding the relevant stakeholders, the current implementation approach and the key barriers of change, the design aim was formulated.

"I want to build awareness in the implementation team of the complexity of implementing and managing radical change and the positive impact of an effective change vision."

In this discussion, we will first look at the results produced in the discover phase to answer the initial research question, which lead to the creation of the 5-step approach and the 'detection, action, reflection' toolkit. Lastly, the limitations that resulted from the evaluation are reflected upon.

The explorative research showed that the municipality has a complex network of relevant stakeholders that are affected by the implementation of the collaboration agreement. In this network there are multiple detected barriers to change, such a 'the lack of conviction to change' in the project teams and 'the lack of a compelling case' in the implementation team. These barriers lead to the need for an effective change vision for this radical change initiative. However, radical change is complex and requires knowledge on change management. This expertise is missing in the implementation team. Therefore, before the change vision can be created, the team must be made aware of the complexity of their challenge and their need for change management expertise.

Being aware of the type of change that is implemented is the first step is the 5-step approach: select seed. The next steps will support the creation and sharing of an effective change vision with the relevant stakeholder. They are deduced from the Kotter 8-step model but modified with the use of a metaphor to increase understanding. The 'Plant' step will create a sense of urgency for change. Next the 'Root' step will support the forming of a guiding coalition including different perspectives. This coalition will form a strategic vision in the 'Sprout' step. This vision will be shared with the organisation to enlist a volunteer army in the 'Grow' step.

The 'Detection, Action, Reflection' Toolkit will give substance to the 'Select seed' step of the 5-step approach. It shows the implementation team the factors from change management that are barriers and drivers to change with the Change Card Deck. The large number of barriers will demonstrate the complexity of implementing change. While the large number of drivers will inspire the team to think of innovative solutions.

During the mapping session, the team is helped with detecting which factors play a part in their challenge and orientate what they are doing to tackle the challenges. Next, the team will be led through the creation of new actions that can support them. Lastly, they will reflect on their current approach and what is needed to be successful.

These outcomes can be shared with top management by using the Presentation slide deck to receive support. This deck helps the presentation to be more interactive in order to collect different perspectives and barriers that others detect. This can open up the conversation of the team's needs.

6.1.1 Limitations

The research was conducted with multiple different stakeholders, but mostly only one per discipline. This can lead to gaps in the understanding of the impact of the change specifically on certain roles. Involving more people with the same function, would lead to richer data.

The evaluation of the toolkit showed that a limitation of the online use of the change card deck and the mapping session was that some participants struggled with the online whiteboard tool. Even though Covid-19 forced people to invest in all the different digital tools, it can still cause difficulties with internet connection, disruptions from your email and problems with video calling applications. As well as that some digital tools are still new for some people and require time to get to know them.

I expect that the use of the toolkit online also limited the non-verbal communication between the participants, because it was harder to see cues when you are looking at the MIRO board. Also, during the project I felt that working from home and mostly using your laptop, decreased my creativity. So I expect that this is possibly also similar for the participants of the mapping session.

The team really needs an implementation plan, but that takes a longer process then the time I had to spend on this project. Even when the project was scoped to only raising awareness in the team of the complexity of the challenge, it is still difficult to realise change in their behaviour that can demonstrate that they have become more aware.

6.2 Recommendations

This section will elaborate on the recommendations of further research into the practical side of the toolkit and the change management capabilities of the implementation team and the municipality of Amsterdam.

This project supports the transition of the municipality of Amsterdam to a 100% circular city in 2050, which will require multiple successful changes to be implemented with high urgency. This calls for a different approach than the current culture, procedures and structure allow. The collaboration agreement might be a frontrunner in public procurement that is supporting this transition. However, they should be more aware of the complexity that radical change brings. The 'Detection, Action, Reflection' Toolkit helps the team to understand the basics of change management and the complexity of the factors that influence successful implementation. The key message of the toolkit is that there are many barriers to change, but also many drivers and thus opportunities for stimulating the implementation of change. Postpone critical thinking and use creativity tools to open up conversations about new ways to include stakeholders and convince them of the need to change. In addition, include all different stakeholders to create an effective change vision that portrays the desired future. Facilitate the mapping sessions, multiple times to embed the awareness in the minds of the team. Also, convince others to stop running and doing, but instead reflect on whether they are running in the right direction or if they need to change path. Next, I will elaborate on possibilities that could be explored in further research or projects.

Multidisciplinary teams responsible for the implementation of change

Especially in public organisations, change will impact different fields and will often be more radical because of the bureaucracy that is deeper embedded in the core. Resulting in the need for a team that is capable of jumping all the hoops. Diversity in the expertises of the team members will enable this. Probably it should include specialists of the context, but expertise in change management, communication, IT and others are also necessary. Only when dedicated effort is invested in the change initiative, the implementation can be successful.

More agility in the organisation

The municipality is built to never be able to collapse, but consequently, it is difficult to change. Companies need to change more frequently to keep being profitable, but municipalities will always get income from the government, decreasing the perception of urgency to change. A clear example of this can be found when looking at different transitions that companies have adjusted to, like digitalisation. The internal availability of digital tools and the use of the platforms to collect and analyse data is still at the bare minimum. The circular transition is here now. The municipality must embrace agility to respond to the changes in society, perhaps at the expense of a sense of security.

Space and freedom to experiment

The complexity of the context requires the opportunity to probe, sense and respond. In a complex context, it is impossible to predict the response of the organisation to certain changes. Therefore, it is important to have the space to experiment and observe the consequences of the change. For example, setting up one pilot team that will work differently than other teams for a few projects and seeing the effect on the results, process and team dynamics. It is important to collect insights and data from these experiments to compare them with the old situation and conclude whether it is more effective. When it works, implement. This way the employees and the organisation will learn to expect changes, instead of being surprised when they must let go of the known behaviour.

Increase involvement of stakeholders

Employees might respond positive, neutral or negative to change. All groups can bring useful information to the change initiative, in the form of ideas, questions or critical comments. The only waste is when you involve them in a late stadium and therefore are surprised with the input. Involving stakeholders from the beginning will allow you to incorporate their needs into the change initiative. When the change positively influence the individual needs of the stakeholders besides the organisational benefits, they are more open to the change.

6.3 Personal reflection

This last topic will be the wrap-up of my whole graduation process. In this personal reflection, I will look back on the beginning of this journey and what motivated me to start it on this topic. Also, how I worked on reaching my learning goals and whether or not I feel like I reached them. Lastly, I want to look forward to the interesting things that I touched upon and want to further learn more about.

Planning
Before beginning the project, I had ambitious ideas about the ideal planning and believed that it would work out. I would work according to cycles in which I would document all my activities and outcomes, every two weeks. These results, I could then share with my supervisors and clients. All, while keeping a healthy working schedule that did not include working in evenings and weekends. However, I underestimated the insecurity that I could feel from doing a project alone and showing all the rough drafts and ideas. If I would redo to do my graduation project, I would have more scheduled moments (that I cannot postpone) to talk with my supervisors from the beginning of the project and accept that the beginning of a design project is chaotic and uncertain.

A healthy working schedule is something that I sustained, even when other graduate students around me talked about working all day, every day. I see the benefits of taking time to do other things and distract yourself from the project to later get back with a fresh mind and new inspiration.

The agile way of working that I wanted to incorporate, in the end, might have been less strict about the set moments of reflection and documentation. However, the use of a kanban board throughout my project, digitally in Trello and with post-its on the wall, helped me to make tasks small, and see the progress that I made.

Systemic Design
During my master's, the topic of systemic design was frequently mentioned but the information enever went into too much depth. Therefore, this was a direction that I wanted to incorporate in my project, and thankfully the complexity of the challenge allowed this. Besides reading up on different tools and papers on the topic of system design, I participated in the Systemic Design Salon, an initiative started by the Systemic Design Lab of the TU Delft. Here we would discuss projects from other students and reflect on the application and overlap of literature on our projects. It was really helpful to have this interaction with others while learning a new direction in the design expertise.

Organisational complexity
Similarly to the desire to learn about systemic design, I wanted to learn more about dealing with complexity. The political context and bureaucracy that is part of the municipality was an instructive environment to get more information on how to navigate it. For example, when presenting to top management, the more successful style is when you ask questions that they can only answer in line with your conclusions.

At first, it was difficult to see the opportunities for a designer to fit into this world of rules and hierarchy. However, slowly I could turn all the obstacles into opportunities to show the organisation how different approaches are also valuable. Visualising is still a skill from designers that is very clear to other people, but in this case, also shows the differences in the way of working that will open up conversations and lead to questions.

Personal development
Doing an individual project means that you are responsible for the process and the results. This was and perhaps still is a crazy thought. Writing down the learning goal of having confidence in myself and my design capabilities, was the easy step. As I reflected upon before, I felt insecure multiple times during the project. While I learned more about acceptance of the process, I still tried not to show this insecurity to my clients. I wanted them to see a confident young designer that would bring a new perspective. Later, I heard this was also exactly what they saw, which is something I can be proud of.

Next steps in learning
The boundary, that withholds me from writing down my thoughts, is something that I want to get rid of. Therefore, I want to keep practising with writing, which starts by just doing it and less critical comments already before starting.
In this project, I touched upon topics that I find interesting and want to keep investing time and energy into to become more acquainted with these fields; systemic design and change management.

Process
This report is a logical representation of my project that is force-fitted into a format that would be easiest to understand while reading. However, design projects rarely go in such a structured and ordered way. Therefore, I felt like I needed to include figure 35, to show how a design process feels and how it probably also looks from the outside. At first glance, it is a mess, chaotic and tangled. Slowly during the project, it will unravel and insights and connections will become visible. The two coloured lines show the solution space and the problem space that both go in different directions. Sometimes they overlap and make sense, this is where the connections happen and moments of clarity appear. In this report, only the moments of clarity are included, but I also want to give credit to the chaos.

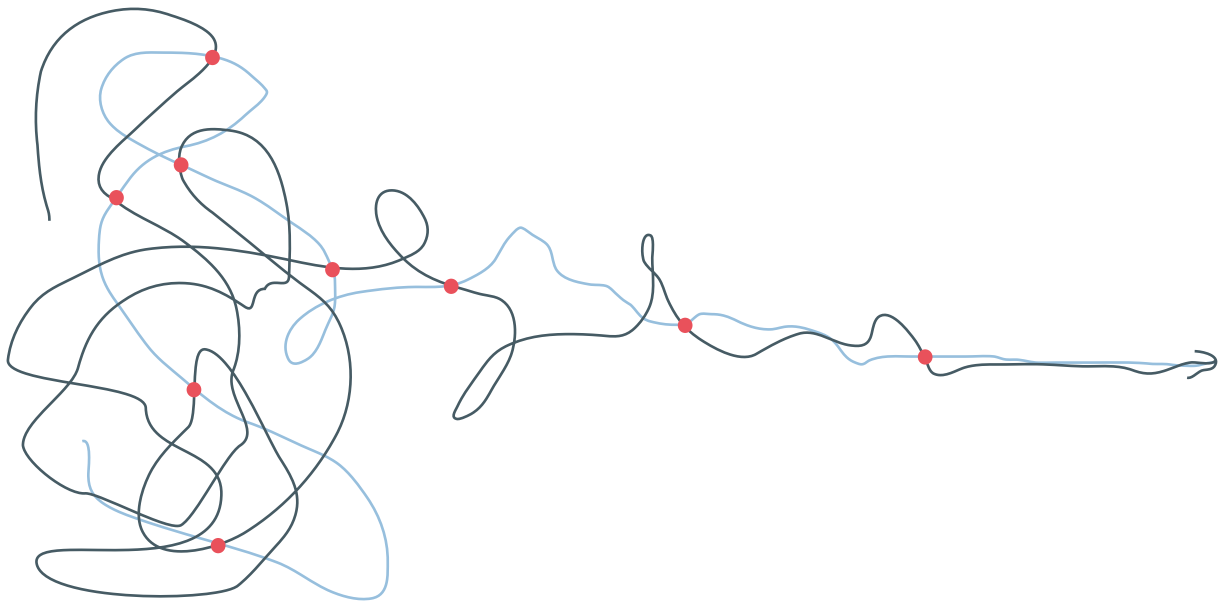


Figure 35: Design process

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