

MASTER THESIS

A co-creative development tool kit for social cohesion

By Eva van Genuchten



Wat we doen

Onze tools

Over ons

Contact

Combine
Collaborate
Co-create

Lees verder ▾

In het kort

- Doel: samen een ontwerp maken voor de Eco-Unit.
- Duur sessie: 2 uur
- Aanvang: 20 bewoners en wijk manager
- Naar: ruimte met tafels en stoelen voor ong. 4-5 groepen

5. Het ontwerpen van de Eco-Unit

Doel

In de vijfde stap komen de vorige stappen eigenlijk samen. Hier wordt samen met bewoners en eventuele stakeholders gebouwd aan een model Eco-Units. Het doel van deze stap is dus om aan het einde een ontwerp voor de Eco-Unit te hebben.

Hoe ziet de sessie eruit?

Deze sessie wordt geleid door de wijk manager en Eco-Units. De behoeften uit de vorige sessie worden herhaald en in groepjes van 4-5 bewoners wordt er een functie bedacht voor de container. Als er een functie gekozen is, kan er gebouwd gaan worden. In groepjes gaan de bewoners weer aan de slag. Door middel van kaartjes met verschillende onderdelen en 3D bouwblokken kan er een Eco-Unit worden samengesteld die binnen het budget past. Het budget wordt gegeven aan de bewoners in de vorm van een aantal punten. Aan het einde presenteren de groepjes hun idee aan elkaar en wordt het beste idee gekozen.

Resultaat sessie

Aan het einde van de sessie is er een ontwerp voor een Eco-Unit. CO gaat dit vervolgens uitwerken tot een offerte voor de klant. In sommige gevallen kan het goed zijn, om het uiteindelijke ontwerp eerst nog een keer voor te leggen aan de bewoners.

Materialen



Kaart van het gebied waar de Eco-Unit komt, geprint op formaat 1:10. Het model staat dan meteen in de context.



Viltstiften zodat bewoners zelf nog nieuwe onderdelen kunnen tekenen.



Het 3D model bestaande uit verschillende onderdelen en blokken.



Onderdelen kaartjes met uitleg over de verschillende onderdelen waar uit gebouwd kan worden.

MASTER THESIS

A co-creative development tool kit for social cohesion

By Eva van Genuchten

In collaboration with



Colophon

Master Thesis

A co-creative development tool kit for social cohesion

By E.J.S. van Genuchten

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Date of Graduation: 31/08/2018

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Disclaimer

All photographs and visuals were made by me, unless specified otherwise.

PREFACE

During this graduation project I had the chance to work on a combination of topics that are of personal interest to me: social cohesion, co-creation, sustainability and branding. I want to thank Eco-Units for giving me this opportunity and I sincerely hope that this graduation project will take their start-up company to a next level. Bianca and Leon, thank you for the collaboration and the long rides to Delft you had to make.

Although the last six months felt a bit like a roller coaster, I enjoyed the project a lot because I've got to know many new people, and I got the chance to work on a project that could make a positive impact. I am very happy with the result of the project. I have learned a lot, especially in making all decisions on my own. Luckily, I wasn't completely alone in this journey and therefore I would like to thank a few people. First of all, I would like to thank my family for always being there for me, always trying to keep up with what I've been working on and supporting me throughout the last six years. I would like to thank Clint for being there every day, calming me down during my freak-out moments, and taking me out to do something fun every now and then. Marloes, thank you for all the coffees we drunk together, the sparring moments, spontaneous eating out lunches, and reading my green light report. Berber, thank you for all the advices, sparring and reading my almost final version of the report.

Moreover, I had some great distractions throughout the process. I want to thank my colleagues at Stromboli for all the after-work-drinks and fun we had. Also, the rebuilding activities at the rowing association that I have been working on with some great people, gave me some distraction every now and then (and sometimes it stressed me out even more). Anne, Sarah, Tom, Jörgen, Paul, Matthijs and Jelte you are awesome.

Furthermore, I would like to thank everybody who made this graduation project possible: all the people I spoke to in the Vastenoavondkamp and Venlo (Jan, Christelle and all other residents in the neighbourhood, Gé and alderman Aldewereld); Simone and Hanneke from Aedes; Eline and all others who helped me out at the municipality of Rotterdam; and Anne, Bart, Annette, Clint and Marloes for doing one final pilot session with me.

Last but not least I would like to thank my graduation committee, Ingrid and Sylvia, for giving me advice every few weeks, helping me out when I was stuck, and your undiminished enthusiasm throughout the whole project. Ingrid you helped me to not leave the text to the benevolent reader, but to make sure the story was right and the details were correct. You always asked the right questions to trigger me, but also gave me confidence to do what I thought was good. Sylvia, thank you for your SPD view on the project, asking me all the practical questions, and giving me some confidence that I needed to make choices.

Thank you all.

Enjoy reading!

Eva

EXECUTIVE SUMMARY

Introduction

With a growing urban population, there has been growing attention for 'one of the biggest challenges of the 21st century': creating fair and sustainable cities (United Nations, 2014). In the Netherlands there is not only a growing urban population, but the Dutch government has also decentralised many welfare state tasks to municipalities, because social support is best given at a local level, close to the people who need the support (Rijksoverheid, n.d.). However, for Dutch municipalities this means more responsibilities with less resources and consequently a different, more collaborative way of working. Moreover, it creates a participation society where municipalities have to rely more on the self-reliance of their citizens (Gemeente Etten-Leur, 2014). Municipalities are therefore often looking for ways to improve the social cohesion in neighbourhoods (Steenhuis, 2010).

The company: Eco-Units

This is where Eco-Units wants to make a difference. Eco-Units is a social enterprise that explores the opportunities of reusing shipping containers in the public outdoor space. The concept that is explored in this project is to develop a container (meeting place) that improves the social cohesion in neighbourhoods.

Approach

The project is divided into four phases: discover, define, develop, evaluate and decide (van Boeijen, Daalhuizen, Zijlstra & van der Schoor (Eds.), 2014). In the first phase opportunities are explored through literature research, online research and a case study at the Buurtbox in Venlo. Based on this research, a design goal is formulated in the next phase. In the third phase a design is developed to meet the requirements of the design goal. In the last phase, the design is evaluated and changes are made to define the final design proposal.

A definition for social cohesion

Social cohesion is often a romantic view of villages in the past, where everybody knew each other and took care of each other. Therefore, social cohesion is better defined in this thesis. It does not only refer to the horizontal interaction (among groups and individuals in society), but also to the vertical interaction (between government and society). These interactions can be characterized by for example the participation of individuals (J. Chan, To & E. Chan, 2006).

A ready-made solution does not exist

From (field) research in the first phase, it was concluded that there is not one prefabricated solution for all cities and neighbourhoods, because improving the social cohesion asks for a different strategy in every neighbourhood. So, the design goal was specified as: designing a development tool kit for Eco-Units to be able to develop a Unit that stimulates social cohesion in disadvantaged neighbourhoods, in co-creation with local stakeholders and citizens. This goal shows that to create a meeting space in a container, specific needs and problems of the neighbourhood should be considered. Moreover, it creates a (long-term) collaboration between citizens (horizontal) and between citizens and the stakeholders (vertical). Lastly, by involving citizens in the process of designing the Eco-Unit, they will develop a sense of ownership and responsibility of the container, which is an important success factor for such a concept to work.

Framework

Therefore, a framework (figure i.1) was developed that shows the steps that are necessary to develop a container that stimulates social cohesion. Different stakeholders are involved from the start and for citizens a feeling of ownership of the Eco-Unit will be created in the process. The framework starts by finding the right stakeholders to collaborate with and creating trust between these stakeholders. The next phase is to create trust between the

Fig i.1. - The proposed framework

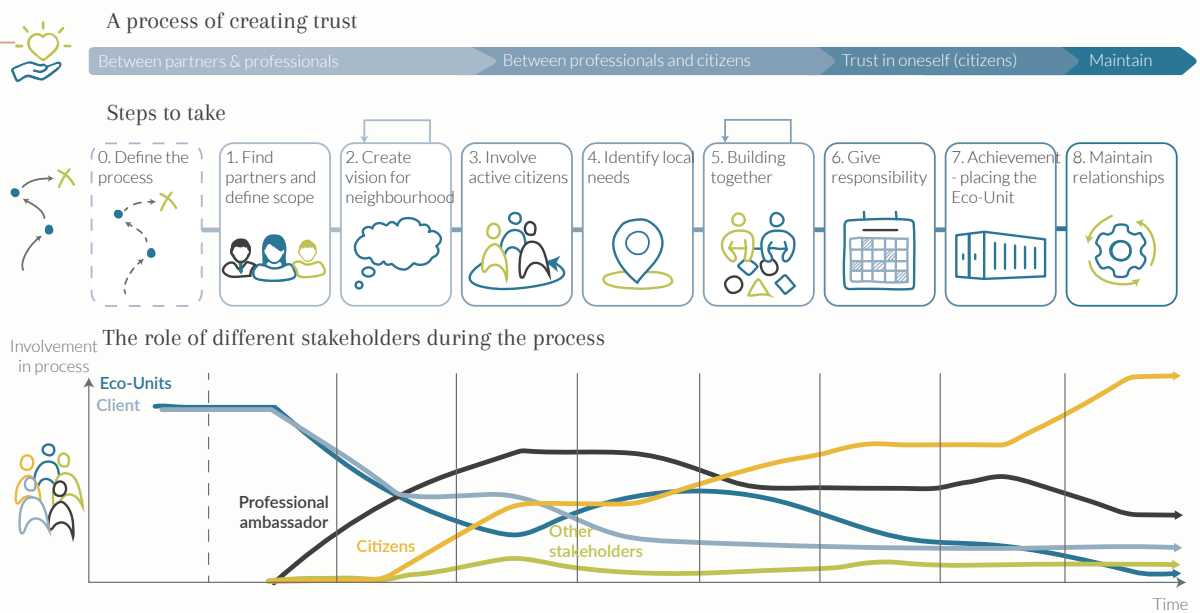


Fig i.2. - The toolkit and proposed visual identity



stakeholders and citizens, by involving the citizens in the design process. First needs of citizens are identified and then the actual Eco-Unit is co-designed. In the last phase citizens will get more responsibilities and therefore trust is created between citizens. The framework visualises the steps that are needed and shows the involvement that the different stakeholders will have in each step. For example, citizens will be involved increasingly, while the role of Eco-Units will decrease throughout the process.

Tool kit

From the proposed framework, a tool kit was developed. Each step has its own tool or a list of recommendations to carry out the step. The tools were prototyped and the tools for step 2 and step 5 were tested. Moreover, the tools were discussed with Eco-Units. An example of what the tool kit looks like is shown in figure i.2.

Visual identity

In the first phase of the report, it became clear that the

corporate identity of the company was not clearly defined yet. Therefore, suggestions have been made on how to better define this identity. For example, the transparency of a social enterprise is very important. Figure i.1 and i.2. also show this visual identity.

Conclusion

To meet the design goal three aspects have been developed: a framework, a tool kit and a visual identity. This research should help Eco-Units to further develop themselves as a social enterprise. It has implications for their business model. The former business model was to sell a product, whereas now a big part of the business model is to consult municipalities, housing corporations and organisations on how to improve the social cohesion in neighbourhoods. The thesis therefore also contains many elements that can be interesting for housing corporations and municipalities on how to improve their collaboration with citizens.

GLOSSARY

Business Model Canvas (BMC)	The Business Model Canvas is a tool to describe the rationale of how an organization creates, delivers and captures value (Osterwalder & Pigneur, 2010).
Disadvantaged neighbourhood	An area where the liveability is often very low, due to an accumulation of problems.
Eco-Unit	The name of the product of the company that commissioned the assignment.
Eco-Units	The company that commissioned the assignment.
Future Communities	A British platform for research related to social sustainability (Future Communities, n.d.)
Just City Index	A set of values that help designing for a just city (Design for the just city, n.d.)
Liveability	“The extent to which the living area fits the requirements and wishes which are imposed thereon by humans” (Leidelsemeijer, Marlet, Ponds, & van Woerkens, 2012).
Official ambassador	A person who works for a governmental organisation or housing corporation and is a local neighbourhood coordinator or community manager for this organisation. This person has a heart for the neighbourhood and therefore has a bridging function between citizens and the organisations.
Open4citizens	A European research project that looks into using open data for citizen participation (Open4Citizens, 2018).
Participatory Citymaking	A Dutch research project that explores how bottom-up initiatives interact with governmental organisations by using small-scale experiments (Participatory Citymaking, 2018).
Positioning	The position of your product or service in the market in relation to those of competitors, in the mind of the consumer.
Product Service System (PSS)	An integrated whole of combined products and services that together fulfill a specific need.
Segregation	“The spatial effect of inequality along different dimensions” (Ponds, van Ham & Marlet, 2015).

Social cohesion	The state of affairs of both vertical (between government and society) and horizontal (among groups and individuals in society) interactions (J. Chan, To & E. Chan, 2006).
Value proposition	The combination of products and services that a company offers to a (segment) of customers

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PART A INTRODUCTION

In the first part of the report the topic of the graduation project is introduced, which is the design of a product service system that stimulates social cohesion. First of all, the relevance and the focus of the project are explained, the company Eco-Units is introduced and the assignment is clarified. In the second chapter, the approach of the project and the structure of the report are described.



Related Appendices:

A.1. | Opening
of the bee
hotel | See
page 4

1. INTRODUCTION OF PROJECT

Dutch municipalities were given more responsibilities with less resources, often making them depend more on the self-reliance of citizens. Therefore, they are looking for new ways to empower citizens, as will be explained in this chapter. Secondly, the company, the context of the project and the assignment are described.

1.1. A Growing Urban Population

With a growing urban world population, that is expected to surpass 6 billion people in 2045, creating sustainable (socially as well as environmentally) cities will be one of the biggest challenges of the 21st century (United Nations, 2014). In the Netherlands the urban population is expected to keep growing as well, especially in the four big cities (The Hague, Amsterdam, Rotterdam, Utrecht), but also in the bigger municipalities of 100.000 citizens or more (CBS, 2016b).

The growing attention for creating fair and sustainable cities can also be seen in projects like the *Just City Index* (Design for the just city, n.d.), *Future Communities* (Future Communities, n.d.), *Open4Citizens* (Open4Citizens, 2018), *Participatory Citymaking* (Participatory Citymaking, 2018), and many more.

1.2. Participation Society

In January 2015 the Dutch government has decentralised many tasks of the welfare state to a more local level: the municipalities (Rijksoverheid, n.d.). The three tasks that Dutch municipalities are now responsible for are youth care, employment and income (participation law), and care for chronically sick and the elderly. The idea behind this is that social support is best given at a local level, close to the people who need the support, making it also more effective and more cost and time efficient (Gemeente Etten-Leur,

2014; Rijksoverheid, n.d.).

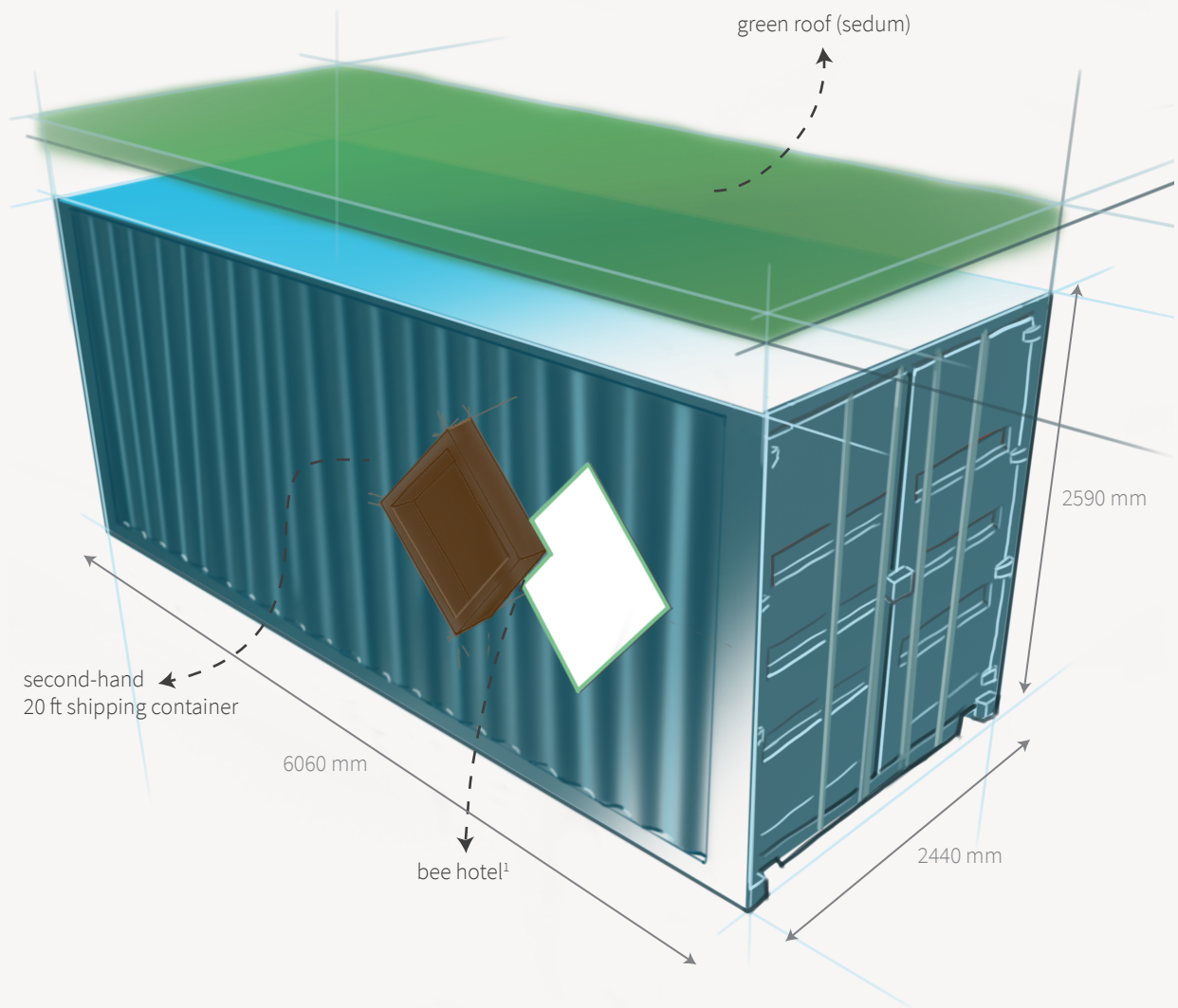
For municipalities this means more responsibilities with less financial resources and consequently a different way of working. Therefore, municipalities often have to rely more on the self-reliance of citizens, creating a participation society (Elsevier, 2013; Gemeente Etten-Leur, 2014). Because they are more dependent on the self-reliance of citizens, municipalities and policy makers are often looking for ways to improve the social cohesion and liveability in neighbourhoods and cities (Steenhuis, 2010). The reasoning behind this is that a society where people know each other well, will make them more likely to take care of each other, and therefore put less pressure on the municipalities and government.

This project will focus on creating more liveable neighbourhoods in growing Dutch cities, by improving the social cohesion.

1.3. The Company: Eco-Units

The project is commissioned by a social enterprise, Eco-Units, recently founded by Bianca Pouw and Leon Gerrits. They started the company, because they wanted to create more impact in their work. Their vision is that “a well-equipped public space creates relaxation, gives energy, offers safety, and brings people closer” (Eco-Units, 2018). Through exploring opportunities of re-use of shipping containers, their goal is to develop sustainable products for

What is an Eco-Unit?



fulfills a
local need



sustainable and
certified materials



produced at
social workshop

Fig 1.1. - What is
an Eco-Unit?

¹ A bee hotel is a space made for solitary (wild) bees to nest in. Many solitary bee species are becoming extinct. However, they are very important for pollination of plants. Wild bees don't sting, so they are not dangerous to humans.

the public space.

Their product portfolio is centred around the Eco-Unit. As visualised in figure 1.1. an Eco-Unit is a sea container that has been rebuilt in a sustainable way to fit a certain local need, and at the same time adding to the biodiversity of that area. The Eco-Units always have a green roof (sedum), and a 'bee hotel' attached to the unit. The bee hotels are also sold separately. If energy is needed, solar panels are used. Eco-units are built at a social workplace (Eco-Units, 2018).

The advantages of using a shipping container is that it is already a waste product. A shipping container is movable from one place to another, but at the same time also very durable, when standing in one place. By making sure air is allowed to flow beneath the shipping container, it can be used for at least 15 years. Lastly, the shipping container is vandalism proof, which adds to the durability.

With the design of their recycled containers the company wants to improve the public space, for example by offering a meeting point and by adding to the biodiversity of the area. Their current product portfolio is still in development, but consists of an e-bike parking, and an exhibition space.

1.4. Background Information

Eco-Units found several inspirational examples of such a social cohesion stimulating container. One of these inspirations is the 'Buurtbox' in Vastenoavondkamp in Venlo. This 'Buurtbox' is a container that contains toys to play with for the children of the neighbourhood. The Buurtbox was placed there as a compensation to the nuisance of rebuilding activities in the surrounding flats. Designer and artist Daan de Haan designed the Buurtbox, shown in figure 1.2. It seems to have improved the social cohesion in the neighbourhood and is run by a group of enthusiastic volunteers from the surrounding flats. It also shows the binding factor that children can have in area where people with many different backgrounds live together.

Eco-Units donated a bee hotel to the neighbourhood, and therefore they have a personal connection to the Buurtbox,

although the container is not theirs. The Buurtbox has been an inspiration for Eco-Units to commission this project. At the start of the project it is used as a case study for explorative research. Many stakeholders, like the residents, the housing corporation and the municipality, are connected to the Buurtbox. They are interviewed to get a more general view of how such a container concept could work in a neighbourhood, and to get insights into the needs of the different stakeholders. A more elaborate introduction to the Buurtbox can be found in Appendix A.1.

1.5. The Assignment

Eco-Units sees a big opportunity in extending their product portfolio with an Eco-Unit that supports social cohesion in disadvantaged neighbourhoods in cities: a central meeting point, where people and children come outside to meet, play and connect with each other. The Eco-Unit should add to the socially and environmentally sustainable city, as described in paragraph 1.1.

However, for Eco-Units it is unclear yet what functionalities the Eco-Unit should have to support social cohesion in different neighbourhoods in cities in the Netherlands. They have seen some inspirational concepts with the same goal, like the Buurtbox. But how to develop a concept that can be scaled and be relevant to more cities and neighbourhoods? Moreover, how should this concept be implemented? Which stakeholders will need to be involved? And how to create value for the different stakeholders, the users and the company Eco-Units?

One of the questions that is probably going to be very important during this project, is the question of ownership. The community should consider the product as theirs, in a way that they make use of and feel responsible for the Eco-Unit. However, in most cases the Eco-Unit will probably be funded by a third party, like the municipality, or multiple parties. Therefore, not only the product itself is important, but also the system of stakeholders around the product. What role will each of these stakeholders play in the final **Product Service System**?



Fig 1.4.5 The Buurtbox in Venlo

A **Product Service System** innovation is based on the idea that a product is not only the physical result of an industrial production process, but instead the product is an integrated whole of combined products and services that together fulfil a specific need. Moreover, considering the complexity of stakeholders and the system as a whole, offers possibilities to not only take into account the profit and competitiveness of a company, but also the sustainable long-term benefits (Manzini & Vezzoli, 2003).

Related
Appendices:A.2. | City
Challenge
Etten-Leur |
See page 8

2. PROJECT APPROACH

The project is divided in four phases: discover, define, develop, evaluate & decide (van Boeijen, Daalhuizen, Zijlstra & van der Schoor (Eds.), 2014). In this chapter the approach to the four phases are explained, as well as the structure of the report, which are both visualised in figure 2.1.

Phase 1: Discover In the first phase of the project the focus is on discovering what's already out there. Firstly, an (online) literature research is conducted. Moreover, an internal analysis of the company has been done to see what should be taken into account when designing for Eco-Units. Thereafter, an external analysis was done, by researching trends and developments, and competitors. Lastly, but most importantly, a case study in Venlo is described. The Buurtbox in Venlo is a good example of what Eco-Units wants to achieve with their product. Observation and qualitative interviewing methods were used to find the relations between stakeholders and identify problems and needs.

Interestingly, at the same time a City Challenge was launched by the municipality of Etten-Leur. The assignment of the City Challenge was to come up with ideas that will increase the contact between neighbours in Etten-Leur (CityChallenges, 2018). This assignment fitted the goal of the graduation project, and could offer some funding for a pilot. Therefore, it was decided to also participate in this challenge during the discover phase. One of the concepts ended in the top 10, but this was not enough to get funding for a pilot. The CityChallenge is described in appendix A.2. and will not be described further during the report.

Phase 2: Define In the next phase, the conclusions from the first phase were used to create a more general view of the stakeholders in cities. Moreover, a design goal and design guidelines were defined. The design goal focusses on the

development of tools for Eco-Units to develop a container for different neighbourhoods in co-creation with citizens and stakeholders. Lastly, the value proposition of the product service system is described.

Phase 3: Develop During phase 3 the design is developed. This starts with the description of a framework that is at the basis of the design. Three design components can be identified: the tools and methods, the tool box that combines the tools and methods, and the visual identity of Eco-Units.

Phase 4: Evaluate and Decide In the last phase on of the tools is evaluated with the municipality of Rotterdam, the tool kit is evaluated with the final user of the tool kit: Eco-Units and a peer evaluation has been done with one of the tools. These evaluations are used to propose a final design proposal and business model. Lastly, recommendations for implementation are given.

Throughout the project, design outcomes will be used for further research, which is also called a research through design approach. So by designing, new knowledge is generated (Hepworth, Mulder & Kleinsmann, 2016; Stappers & Giaccardi, 2017). For example, the concepts generated for the city challenge were used later on in interviews with stakeholders to better understand their needs.

The report is structured according to the phases described before, and consists of six parts.

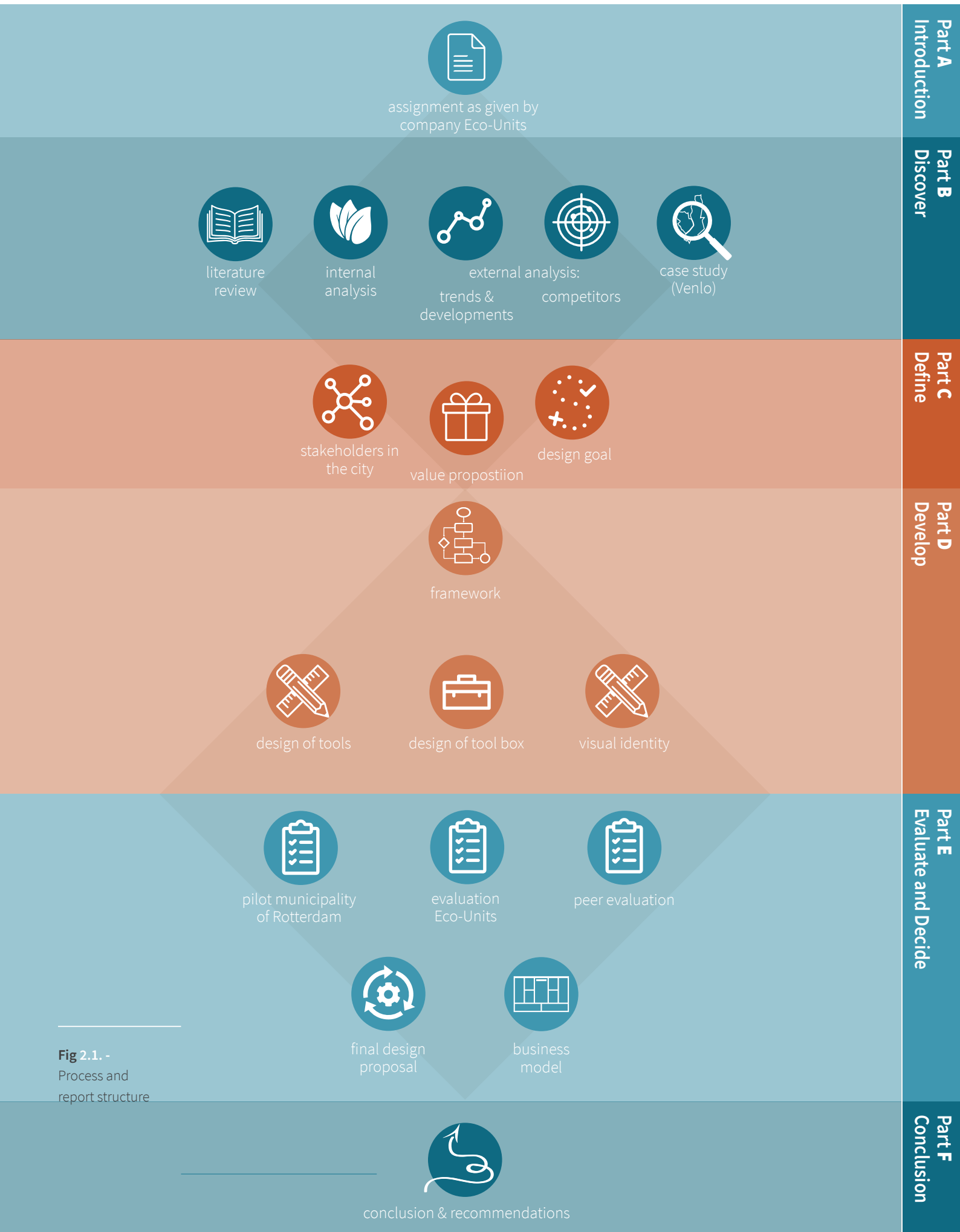


Fig 2.1. -
Process and
report structure



PART B DISCOVER

In the second part of the report the 'Discover' phase is discussed. To see what is already out there, several steps are taken. First of all, a literature review was done, to get familiar with all the relevant topics regarding social cohesion and liveability. Secondly, the company Eco-Units is discussed shortly, and an internal analysis is done. Then a broader view was taken at the external environment, where relevant trends and developments in the city were discovered and the competitors of Eco-Units. In the last chapter, but not less important, the case study of the Buurtbox in Venlo and the relevant stakeholders are described.

3. LITERATURE REVIEW

Municipalities and policy makers are looking for ways to improve social cohesion and liveability in cities due to the participation society. Neighbourhoods where problems accumulate receive more attention. To get familiar with the topics of social cohesion, disadvantaged neighbourhoods and liveability, a literature review has been done, which will be described in this chapter.

3.1. Social cohesion

Social cohesion refers to often a romantic view of how society used to be in the past, like in small villages where everybody knows each other. Municipalities often wrongly assume that more social cohesion automatically means more safety and a higher feeling of safety in neighbourhoods (Steenhuis, 2010; Van Stokkom & Toenders, 2010). Van Stokkom and Toenders (2010) define social cohesion as strengthening the social networks in a neighbourhood. Similarly, Coumans (2016) describes that sufficient social contact is important to create solidarity and social cohesion in a society. Moreover, people that are socially isolated, often feel less happy than others (Coumans, 2016). However, more social cohesion could also lead to the opposite of a participation society, when creating close ethnic networks (Van Stokkom & Toenders, 2010). Therefore, a good understanding and definition of social cohesion is needed.

Social cohesion is an often loosely described concept which has various meanings and which has a long history in literature from different discourses (J. Chan, To & E. Chan, 2006). As opposed to the definition used by Van Stokkom and Toenders (2010), Chan, et al. (2006) define social cohesion as the state of affairs of both vertical (between government and society) and horizontal (among groups and individuals in society) interactions. These interactions are characterized by objective as well as subjective components, like: a sense of trust and

belonging, and willingness to help and participate, and the actual participation of people in society (see figure 3.1.). So, this definition does not only take the social networks into account, but also a person's participation in and involvement with society as a whole. It is important to take into account this broader perspective on social cohesion, because close social networks that do not feel involved with society, can also become isolated from society.

3.2. Disadvantaged neighbourhoods

Isolated neighbourhoods can also be caused by **segregation**, which is "the spatial effect of inequality along different dimensions" (Ponds, van Ham & Marlet, 2015). In the Netherlands there's both ethnical and socio-economic segregation. This segregation can be a consequence of demographic changes in a neighbourhood (one group of people is on average getting more children for example), or selective migration (more people of one group moving in than out an area). The latter is strongly influenced by the regional housing market.

Segregation does have some positive aspects. For example, it could lead to more support for local facilities, more horizontal interactions in society, and less nuisance. However, there are also many disadvantages of segregation, because certain problems can accumulate in one area (like unemployment), which could then lead to a downwards spiral of social unrest, nuisance, and crime. It could also lead to a bad image of the neighbourhood, causing

What is social cohesion?

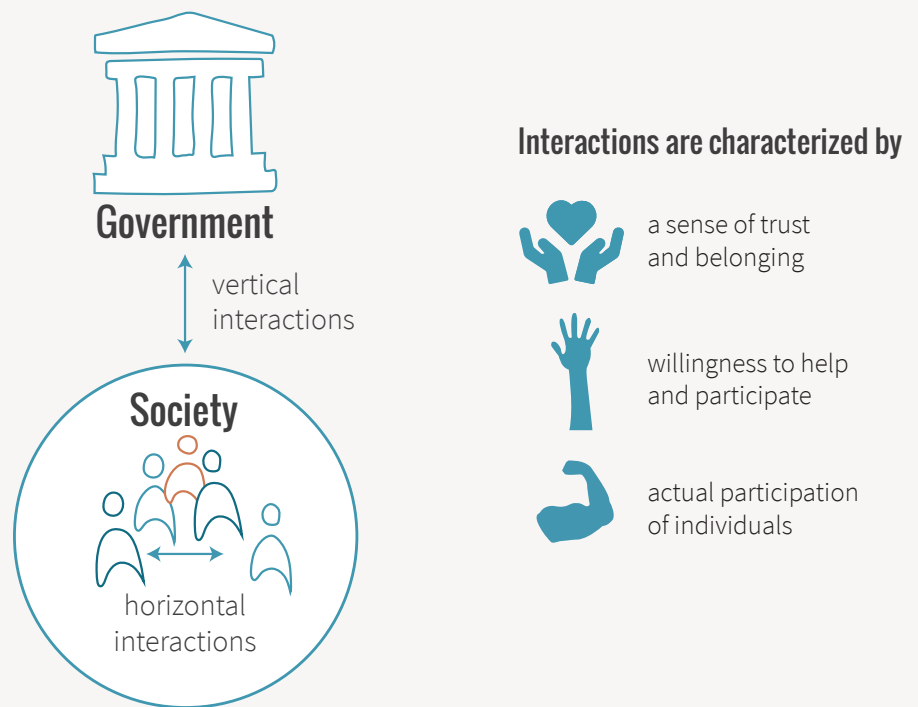


Fig 3.1. -
Definition
social cohesion
according to J.
Chan, To & E.
Chan (2006)

stakeholders not to invest the area anymore (Ponds, van Ham & Marlet, 2015), or in other words, it could lead to a disadvantaged neighbourhood.

Disadvantaged neighbourhoods are difficult to define, because they are all very different from each other. However, they do have some similar characteristics, like a relatively low education level, and high unemployment. Moreover, there is much nuisance and unsafety. The houses are often badly maintained, and the neighbourhood has a negative image. Thirdly, there is a concentration of ethnic minorities. Lastly, there's often a distrust towards the municipality or government (Van Stokkom & Toenders, 2010).

3.3. Liveability in disadvantaged neighbourhoods

The liveability in disadvantaged neighbourhoods is often very low. According to Leidelmeijer, Marlet, Ponds, & van Woerkens (2012) **liveability** can be defined as 'the extent to which the living area fits the requirements and wishes which are imposed thereon by humans.' Examples of factors

that can influence the liveability are safety, the availability of facilities and the design of the public space. The Dutch government, municipalities and housing corporations therefore stress the importance of improving disadvantaged neighbourhoods and creating 'mixed' neighbourhoods (Ponds, van Ham & Marlet, 2015).

The "leefbaarometer" is an online tool that measures the liveability in Dutch municipalities and neighbourhoods. The tool uses five dimensions (consisting of a total of 100 indicators), which are: (availability and type of) homes, residents, facilities, safety and the physical environment (Leidelmeijer, et al. 2012). This tool will be used throughout the project to compare neighbourhoods.

3.4. Citizen participation in disadvantaged neighbourhoods

In disadvantaged neighbourhoods it is often difficult to get citizens to participate. This has two causes: ethnic groups often live relatively isolated or segregated from the Dutch society, and therefore it is more difficult to involve them in

the process (Huijnk, Dagevos, Gijsbers, Andriessen, 2015; Van Stokkom & Toenders, 2010). Secondly, because many professional organisations work on project base, citizens often get frustrated when yet another project is finished and the professional help is gone. Citizens are often not very enthusiastic about another pre-fabricated project that is dropped top-down (Van Stokkom & Toenders, 2010).

Therefore Van Stokkom & Toenders (2010) advocate five strategies to improve the citizen participation:

1. Citizens have to be able to identify themselves with the neighbourhood. Therefore, it is important to create a feeling of proudness. This could be achieved by physical changes in the neighbourhood (for example redesigning the public space), and by giving people a feeling of ownership (for example their playground, or their sport facility).
2. Use existing institutions that are already present in the neighbourhood, like the school, sport association or housing corporation.
3. Create a weekly or monthly meeting structure between citizens and professionals, so that it isn't yet another short project.
4. Select professionals that stimulate citizens to participate in their own neighbourhood. It is important that professionals facilitate initiatives but are not doing all the work.
5. Start with the (small) group that actually wants to participate.

3.5. Conclusion

Social cohesion is seen in a broader perspective in this project, taking into account both the vertical (between society and government) and horizontal interactions (within society). By improving the social cohesion, the liveability in neighbourhoods can be improved. This is a process where citizens, government and organisations have to collaborate closely together. Especially in disadvantaged neighbourhoods, problems regarding the liveability often accumulate. However, citizens participation is often even more difficult to bring about in disadvantaged neighbourhoods. Moreover, it is important to consider that (disadvantaged) neighbourhoods differ a lot, and not one ready-made solution is possible.

When designing a product service system for Eco-Units it is therefore very important to take into account the complexity of all the stakeholders in the neighbourhoods. A solution that is just dropped in the neighbourhood by the municipality or an organisation, will probably not be adapted by the community and therefore not have the desired effect of improving the social cohesion. Moreover, it is very important to consider the diversity and look at opportunities to make the solutions fitting to specific neighbourhoods. Lastly, a long-term approach is needed, starting with citizens that want to participate, creating both physical changes in the neighbourhood and creating a feeling of ownership among citizens.

Related Appendices:

B.1. | Visit social workplace | See page 10

4. INTERNAL ANALYSIS

An internal analysis of the company is done to see what should be taken into account when designing for Eco-Units, regarding the company's values, their brand identity and strengths and weaknesses.

4.1. About Eco-Units

Eco-Units was founded in 2017 by Bianca Pouw. The company consists of 3 people; her husband joined the company, and they have one communication intern (figure 4.1). The company was based on the ideas of Kees Klomp, who published a book called "Handboek betekenisvol ondernemen" (Klomp, Wobben & Kleijer, 2016). In this book they describe how entrepreneurship can be about creating social value. And this is also the mission of Eco-Units: creating a positive social and environmental impact through their products. The company collaborates with other companies and organisations to bring Eco-Units to a next level. One of the partners that is very important to them is Stichting Kan Doen (appendix B1), where they offer jobs to people with a distance to the labour market.



Fig 4.1.

Employees of the company at the start of the project, from left to right: Leon, Bianca and Nicole (picture retrieved from Eco-Units, 2018)

4.2. Strategy and product portfolio

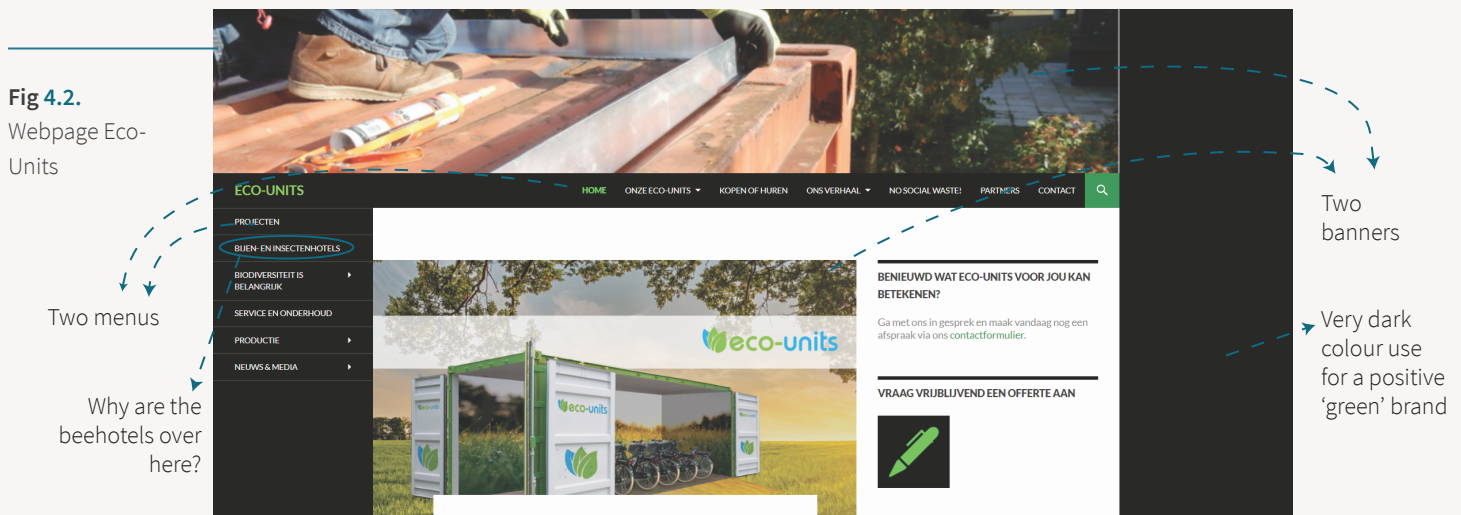
Eco-Units' strategy can be considered reactive. Mostly, a client comes to them with an inquiry, and then they will see if they are able to produce this product. Afterwards the product will be added to the "product portfolio" on their webpage. Or they see existing products and try to improve them a little by adding the green roof and bee hotel.

The current product portfolio on their webpage consists of: Eco-Unit bike storage, Eco-Unit children, Eco-Unit sports, Eco-Unit information point and Eco-Unit mini. The Eco-Units presented here do not yet exist, and therefore it could be quite confusing for clients what they will get. Moreover, some of the pictures used are from other projects, like the Buurtbox, which makes it look like they made the Buurtbox. However, they do have some project proposals in the pipeline: an information point about sustainability in the municipality of Krimpen aan de IJssel, and an e-bike point for the business park of airport Lelystad.

Due to this reactive strategy, the product portfolio is not very coherent, and sometimes also not really in line with the vision of the company. An e-bike storage, for example, does not necessarily improve the outside space. Since the company was founded recently, it is understandable that Eco-Units is still searching for a direction, and therefore different products are tried to trigger possible clients. However, in my personal opinion it is important to always be critical as a social enterprise, if these product directions

Fig 4.2.

Webpage Eco-Units



fit the vision and create a coherent product portfolio. Moreover, since none of the products are produced yet, it still needs to be proven if they are effective. Therefore, I would rather focus on developing one product first, getting feedback from clients and users, improving it and making sure that it has the impact that the company wants to achieve, instead of developing several products on half.

4.3. Brand touchpoints and values

Eco-Units sells its products B2B. However, the products will not only be used by businesses, but mostly by consumers of these businesses and organisations. It will be important for Eco-Units to reflect their mission and values through their product and touchpoints. At the moment, Eco-Units has several touchpoints that they use, as shown in figure 4.3. They attend many networking events to find possible clients. Furthermore, they are promoting their products through their webpage, LinkedIn and several social media channels. However, the number of followers or likes is still very minimal. On the other hand, the founder of Eco-Units does have a big network of her own on LinkedIn, with which she shares her activities every day. Moreover, Eco-Units smartly uses existing platforms, like Brabant DC to find possible clients and partners.

The visual representation of the brand and communication is a bit incoherent. The logo is used consistently, but other than that there is no clear corporate image yet. As can be seen in figure 4.2 and 4.4, different fonts are used each time, and also the colour use is very different. For example, a black or a white background both give a very different feeling.

Furthermore, the communication style is somewhat confusing. Firstly, on the webpage (figure 4.2) there are two different menus and there is an overload of information, which could make possible clients get lost in all the information. Secondly, on social media the style is very sales and promotion driven. Sometimes they try to connect their posts to events or the news (for example 'day of the elderly 2017', fig. 4.4), but instead of using the social media to create interaction and discussion about loneliness, the main message here is 'buy an Eco-Unit'. From a social enterprise a more informed and meaningful communication style could be expected, for example by sharing some opinions about the problem of loneliness among elderly and creating a conversation about this.



Fig 4.4.
Examples of
visual identity



4.4. Conclusion: strengths and weaknesses

The owner of the company has a big network of her own and knows how to make good use of this network. Through networking events Eco-Units tries to sell their products and find possible partners. They collaborate with many parties, which gives them more resources as a small company. Moreover, because they are such a small company, decisions can be made fast and therefore they are able to move fast.

Especially in aligning their products with their core values, improvements can be made. Staying close to your original values can be difficult as a start-up company, but it should be at the core of a social enterprise. Therefore, a more pro-active innovation strategy is advised, by trying to solve actual problems in society. While doing this the end-user and other stakeholders should be taken into account. Moreover, in terms of visual identity and communication many things can be improved, and a clear and consistent corporate style should be developed. Although the visual identity is not the main focus of this project, it is taken into account in the development of the new product service system in chapter 14.

Fig 4.3.
Touchpoints
used by Eco-
Units

Related
Appendices:B.2. | Interview
Aedes | See
page 12

5. TRENDS AND DEVELOPMENTS

To get a better understanding of what is happening in disadvantaged neighbourhoods and how this will possibly change in the coming years, a DEPEST analysis has been done (van Boeijen et al., 2014). The trends were clustered and will be described starting from a mega perspective, and zoom in to a more local perspective and the consequences for Eco-Units.

A trend analysis was done using DEPEST (van Boeijen et al., 2014). First of all, as many relevant trends as possible were listed. Then they were clustered on mega trends (time horizon of 10-30 years), maxi trends (5-10 years) and midi and micro trends (0-5 years). Moreover, they were structured according to the type of trend (demographic, ecological, political, economic, social and technological). The clustering is shown in figure 5.1. The five trends that were most relevant for Eco-Units or the topic social cohesion are described below and highlighted in figure 5.1 by a circle.

5.1. Municipalities get more care taking tasks



With a growing world population, the pressure on cities is increasing. Also, the four big cities in the Netherlands (The Hague, Amsterdam, Utrecht and Rotterdam) will keep growing, and will account for one third of the Dutch population in

2030. Moreover, the big municipalities of 100.000 citizens and more, will keep growing (CBS, 2016b).

On the other hand, in the smaller municipalities in Drenthe, North-East of Groningen, Northern Limburg, and Zeeuws-Vlaanderen the urban population will decline. Moreover, cities will keep attracting young people and families, so the

amount of elderly (65+ years old) will decline in cities. In 2030 17% will be elderly in the city as opposed to 26% in smaller municipalities (CBS, 2016a).

This means that municipalities in growing and in shrinking regions will encounter very different problems regarding liveability. At the same time, municipalities get more responsibilities, regarding care for the elderly and the chronically ill, youth care and participation (Rijksoverheid, n.d.). Self-reliance of citizens will become more important, because municipalities don't have the financial resources for these care-taking tasks. This will put more pressure on the weaker neighbourhoods, since problems already accumulate there. However, municipalities often struggle to get citizens to participate more, as was already discussed in chapter 3. On the other hand, there will be more space for initiative of citizens in the new environmental law that will start in 2021. This new law will give citizens more right to participate in policymaking and plans regarding the physical public space (Informatiepunt Omgevingswet, n.d.).

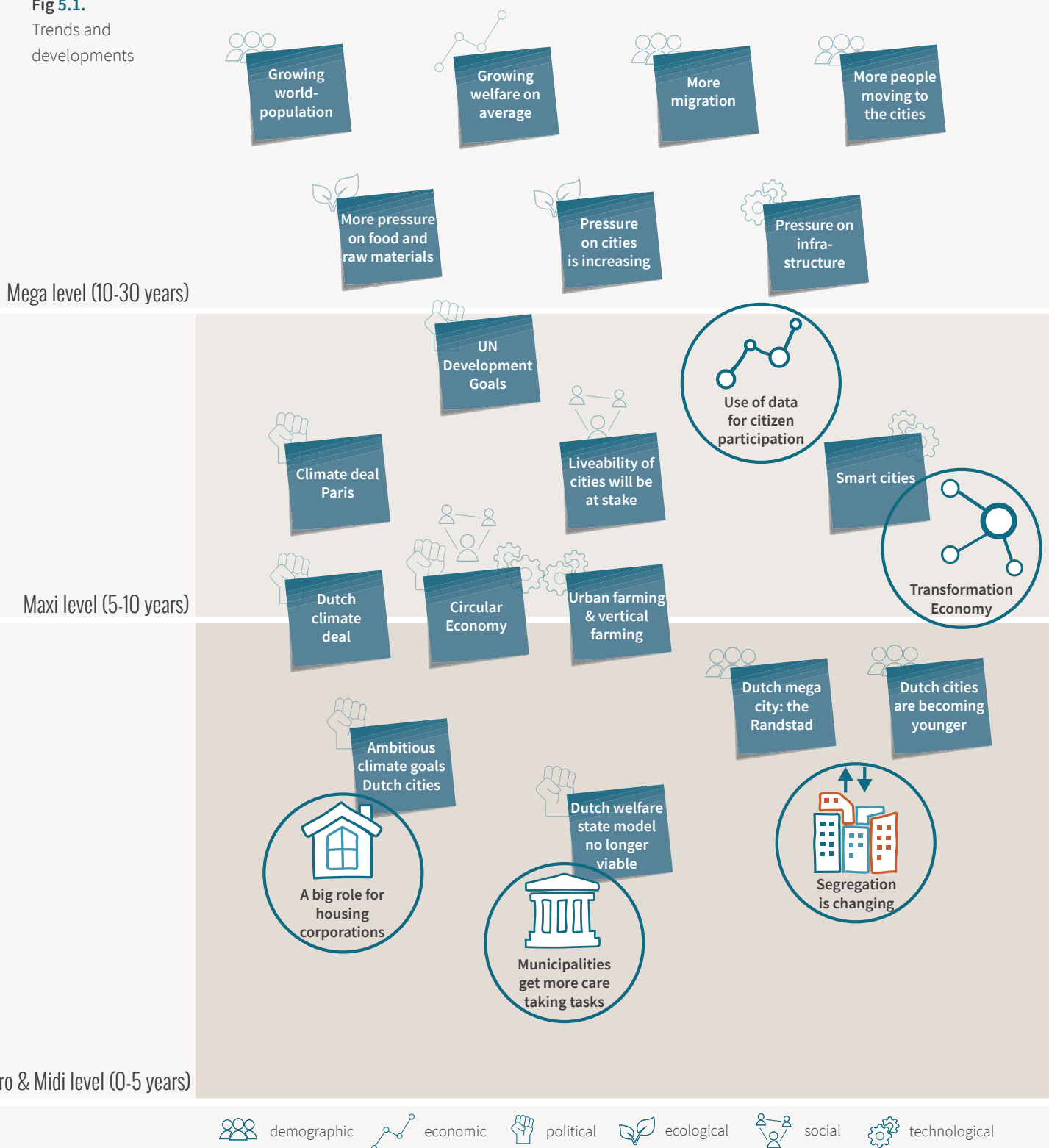
5.2. A big role for housing corporations



In 2015 a reviewed housing law was introduced by Dutch minister Blok (Housing and Governmentservices) (Rijksoverheid, 2015). This was mainly due to a series of incidents that happened

Fig 5.1.

Trends and developments



at the housing corporations, regarding financial abuses (appendix B.2; Rijksoverheid, 2015). Aedes, the association of housing corporations (see interview in appendix B.2.), explained that the purpose of this housing law is that housing corporations have to focus again on their core task, which is building and managing social housing. As discussed in appendix B.2., this means in practice that housing corporations can only build social housing for rent (as opposed to middle-income housing, or houses for sale). For liveability this also means that they are not allowed to do any sponsoring anymore and that the budget that they can spend on liveability is restricted to €126,- per year per housing unit. If, however, municipalities consider certain areas in need of extra attention, housing corporation can spend more on liveability in agreement with the municipality. In practice, however, municipalities are more careful and therefore spent less on liveability the last couple of years. On the other hand, the policy making around liveability is unstable and seems to change every few years (appendix B.2.).

Not only liveability seems to be an important and difficult task for housing corporations, but another big task is coming their way. Housing corporations in the Netherlands possess 2,1 million houses (Aedes, 2017). This offers a huge opportunity for making these more sustainable. Aedes (2017) has set the goal to have all houses energy neutral in 2050. Moreover, in 2021 all housing corporations should have an average energy label B in their housing stock. To achieve this, a close collaboration with the government, provinces and municipalities is needed. For the citizens this will mean that the coming years many rebuilding activities will take place, which can be chaotic and cause nuisance for the residents. On the other hand, in the end citizens will benefit from a lower energy bill.

5.3. Segregation is changing



Ponds, van Ham and Marlet (2015) explain that trends in segregation on a national level are difficult to see, because segregation is strongly influenced by regional differences

in the housing stock and restructuring projects. It is therefore, also more relevant to look at this on a regional or local level. However, in the same research they also show changes in the migration flows in the Netherlands. Traditionally, high-income families with children often left the city for a more suburban environment, but this is changing. Cities are becoming popular again with young and well-educated people. Shrinking regions will therefore age. In the cities on the other hand, this will lead to higher differences in income: both the high and low-income groups are growing (Ponds, van Ham & Marlet, 2015).

At the same time there is an increase in non-Western immigrants leaving the city, especially in the region of Amsterdam. This could be because more immigrants have a middle-class income, which is a sign of integration. On the other hand, it could also be a sign that people have to leave the city, because of the tense housing market, and social housing is more available in neighbouring municipalities (Ponds, van Ham & Marlet, 2015).

Lastly, an increase in refugees, who get priority for social housing, could also lead to a concentration of certain ethnic groups and social or financial problems (Ponds, van Ham & Marlet, 2015).

5.4. Use of data for citizen participation



The growing population in the cities puts more pressure on (natural) resources, infrastructure, land use, basic services, etc. (United Nations, 2014). Therefore, cities will get smarter, for example public transport systems will be developed further, self-

driving vehicles will be introduced, and online platforms will be used to make the city more efficient and effective (NLC, 2016; Rabobank, 2016). Smart cities consist of three elements: generating data, tools that convert data into information that can be used, and organizational structures that will encourage to use the data for collaboration, innovation and solving societal problems (NLC, 2016). This data, sometimes are already available to the public, and can therefore be used for citizen participation (Open4citizens, 2018). But also, municipalities can use this data to more efficiently use the city. Venlo, Groningen, Eindhoven and Heerlen started a collaboration with the Central Bureau of Statistics to use data in their policy making and to involve citizens in this (CBS, 2017). Smart cities will, however, also bring risks, since cloud-based technologies are prone to crime (Rabobank, 2016). And will these new technologies and data be available to everyone? (Brabantkennis, 2018).

closely cooperate with local stakeholders to fill knowledge gaps and create trustworthiness. The “how” and “with whom” of a company will become equally important as the “what” (Brand & Rocchi, 2011).

5.6. Conclusion

To conclude, both municipalities and housing corporations are in a difficult position at the moment, because of new regulations. Several transitions are going on at the same time: cities have to become socially and environmentally more sustainable, migration flows are changing and cities will become smarter. These transitions and challenges are different in every city and neighbourhood. Municipalities and housing corporations are therefore interested in new ways of working. The Eco-Unit that stimulates social cohesion could be an interesting tool or solution for municipalities and housing corporations to work on liveability issues in neighbourhoods.

Moreover, Eco-Units based their company on the idea of ‘meaningful entrepreneurship’, which fits in the trend of the transformation economy. For Eco-Units it will therefore be important to create transparency in their company, and work together with local stakeholders, to create a long-lasting impact.

5.5. Transformation economy



Brand and Rocchi (2011) describe that we will move from a knowledge economy to a transformation economy. This means that businesses will have to deliver value in a different way than they used to. In this transformation economy meaningful and

context-specific value propositions will be more important. Long-lasting business models will be used that are not only profitable, but also ethical and fair. Companies will have to use a systems-thinking approach (“think global, act local”). Therefore, they will have to be very knowledgeable, and

6. COMPETITORS

In this chapter the competitors of Eco-Units are mapped. First of all, other container concepts are shown, which are not direct competitors of Eco-Units, but they could be inspiring and to show what the possibilities are of a container. Then competitors are shown that also try to improve social cohesion. However, the term competitor sometimes doesn't feel right and some 'competitors' can better be seen as partners.

6.1. Inspirational concepts

Figure 6.1. shows several other container concepts that could be an inspiration to Eco-Units. The mobile factory is actually a small factory that makes building blocks (similar to lego) from debris to rebuild houses after an earthquake (Mobile Factory, n.d.). The containerfabriek makes pop-up bars and stores for events (Containerfabriek, 2016). Thirdly, precious plastic is a community who designed a small plastic processing factory to reuse plastic waste (Precious Plastic, n.d.). Lastly, hospitainer has a wide product range on healthcare facilities for disaster areas (Hospitainer, n.d.). What these concepts have in common is that they make good use of the transportability of the container.

6.2. Competitor map

The more direct competitors are shown in figure 6.2. and are divided into four categories: product form, product category, generic and budget competitors. Moreover, a division was made between competitors that are focussed more on the whole neighbourhood (left) as opposed to individuals (right).

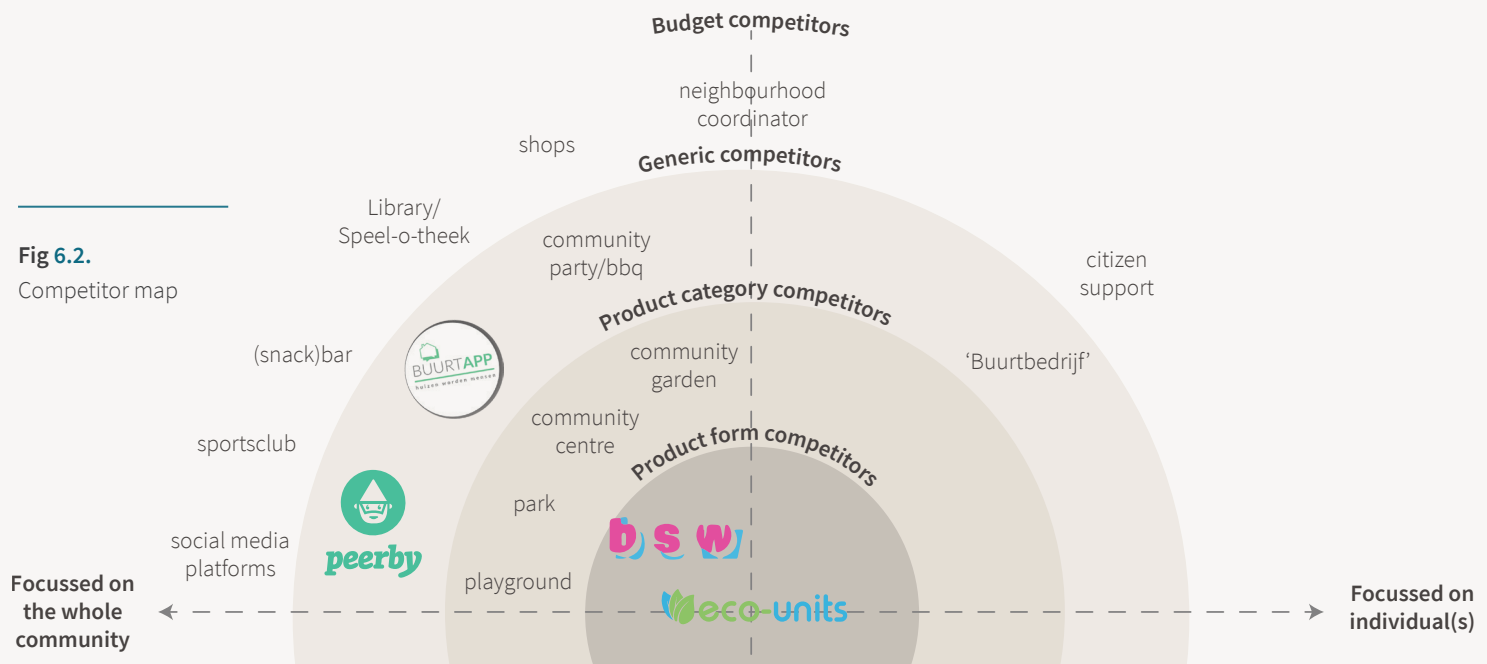
First of all, product form competitors are described, which are companies or products that offer the exact same product, which is a sea container that stimulates social cohesion. The only product form that can be found is BSW in Rotterdam with their concept DuimDrop. This organisation also uses sea containers to lend out toys for children to play with outside. Their goal is to make squares livelier and attract more children to play outside. However,

Fig 6.1. - Other container concepts



Fig 6.2.

Competitor map



they only operate in Rotterdam. It is interesting to see that they use a reward system (duimen) when children help out each other, or do a little task, that they can exchange again to borrow toys.

In the same product category, one could think of products or places that stimulate social cohesion, like for example a playground, neighbourhood garden or community centre.

The generic competitors are competitors that offer the same function, which is stimulating social contact. One could think of events like a neighbourhood barbecue, but also apps like Peerby (Peerby, n.d.) or the Buurtapp (BuurtApp, n.d.). Moreover, Buurtbedrijf (for example Buurtbedrijf Haarlem, 2018) is an initiative that is showing up in many municipalities where citizens can earn some (extra) money by doing jobs for the neighbourhood.

Lastly, the budget competitors are competitors that someone could also spend his or her money or time on. This could for example be a sportsclub for a citizen, or a neighbourhood coordinator for organizations.

they want to reach. A small company can only handle as much work as they can, and therefore it will be important to share information and inspire others to also work on liveability in neighbourhoods. For example, Kromkommer, that promotes buying odd shaped fruits through making soups out of them, was very pleased when Albert Heijn started selling their 'Buitenbeentjes' (oddballs) collection (van Genuchten, Mulder, Schaaf, 2017), because it would mean that less food would be wasted eventually. Similarly, Precious Plastic (Precious Plastic, n.d.) shares all their information open source, so everybody around the world can start its own plastic processing company. Moreover, products are sold on a shared platform. In the end this will create more awareness around plastic waste and generate more jobs than when the founder had to start all these factories himself.

Competitors that are described in this chapter, can therefore also be seen as interesting partners, a source of inspiration and not a direct threat to Eco-Units. Many of the concepts can coexist and maybe even strengthen each other.

6.3. Competitors or partners?

Competitors in social initiatives, however, can often be seen as inspiration and as a movement of change. It can even be part of the scaling strategy to inspire other companies or individuals to do the same, because eventually it will bring the company closer to the goal that

Related Appendices:

B.2. | Interview Aedes | See page **12**

B.3. | Interview alderman | See page **20**

B.4. | Interview housing corporation | See page **28**

7. CASE STUDY - THE BUURTBOX

An inspiration for this project was the Buurtbox in the 'Vastenoavondkamp' in Venlo. This context will be used as a related study for explorative research. A first goal is to see how such a concept could work in practice. Secondly, the case study was used to identify the stakeholders that were involved in the project. The context, the approach and learnings from this case study will be described in this chapter.

7.1. Introduction

The Buurtbox was placed in the neighbourhood by one of the housing corporations in the area: WoonWenz. The Buurtbox was an inspiration for Eco-Units to look into the development of an Eco-Unit that stimulates social cohesion. Eco-Units is personally connected to the neighbourhood, because they donated a bee hotel to attach to the Buurtbox. At the start of the project, a festive opening was organised by Eco-Units and residents in the area and gave me the opportunity to get some first insights into the Buurtbox, the neighbourhood, and the stakeholders involved in the project (see appendix A.1). Moreover, the stakeholders and citizens were happy to participate in this research.

The case study consists of two visits to the Buurtbox and two interviews with stakeholders related to the Buurtbox: the alderman of social affairs and the neighbourhood coordinator of Woonwenz. Moreover, an interview was done with the association of housing corporations Aedes about housing corporations and liveability.

In the next paragraph, the concept of the Buurtbox is described more in detail. Then some information about the neighbourhood and the city Venlo is given. Thirdly, a visit to the Buurtbox is described where the Buurtbox was observed during opening hours. The chapter ends with a description of the most important stakeholders related to the Buurtbox.

7.2. The Buurtbox

The Buurtbox is basically a shipping container, filled with outdoor toys, like karts, bikes, balls, hula hoops, etc. Families in the area often don't have the money and/or the space for these toys. The Buurtbox is being opened a few times a week by enthusiastic volunteers in the area. They open the box and keep an eye on the children. Moreover, they make sure that all the toys are returned at the end of the afternoon. During the time that the children are playing, the volunteers usually chat and drink coffee at one of the park benches placed next to the container. The Buurtbox has become a meeting point in the neighbourhood for children, parents and other citizens of the area.

7.3. Context - The Vastenoavondkamp and Venlo

To better understand the context in which the Buurtbox was placed, a short description of Venlo is given. Venlo is a strongly urbanized city (CBS, 2016a), known as a transportation hub for trucks and container ships to provide the rest of Europe with goods. Some demographics about Venlo are shown in figure 7.1.

To see the current status of the liveability in Venlo, the "Leefbaarometer" was used. Venlo scored very sufficient on liveability on average. However, the Vastenoavondkamp scored 'insufficient' (see figure 7.1.), and zooming in even more, some streets scored 'largely insufficient'. This means that the area scores insufficient on five important

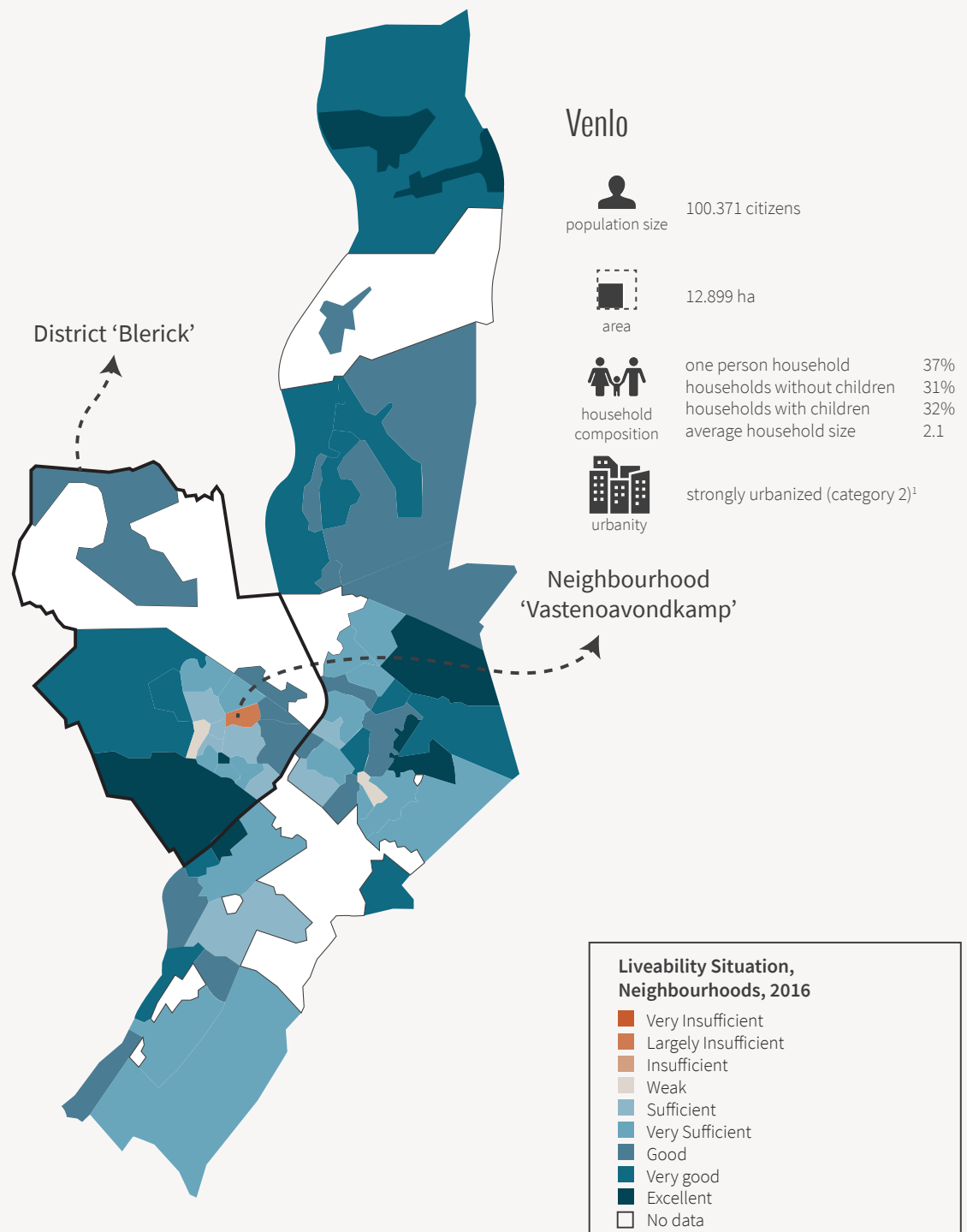


Fig 7.1. - Liveability in Venlo per neighbourhood, adapted from Leefbaarometer (2016) and CBS (2016a)

¹The 'urbanity' is a categorisation made by CBS (2014) that shows the density of addresses for living, working and/or shopping. The categories range from 1. very much urbanized to 5. non-urbanized.

dimensions: houses, residents, facilities, safety and the physical environment (Leidelmeijer, et al. 2012).

The area has known many problems regarding crime, nuisance and traffic (De Limburger, 2017). And the area Blerick was struck by three shootings between August and November 2017 (1Limburg, 2017). Moreover, there is poverty in the area, a low literacy rate, and loneliness (appendix B.4). Housing corporations in the area and the municipality are working together to improve the liveability of the area (De Limburger, 2017).



7.4. Field research: a wednesday afternoon at the buurtbox

Date: 2nd of May 2018

GOAL

The goal of the research was to see how the Buurtbox functions on a regular day. Moreover, I wanted to gain an understanding of the people living in the neighbourhood and what they liked or disliked about the Buurtbox.

METHOD

The method used was observation, combined with asking questions. I joined the group of volunteers and parents for the afternoon, from 15:00 tot 17:00, sitting on the park bench (figure 7.2.). The group of adults varied from 2 to 7 people. During the afternoon they were asked about the neighbourhood, the Buurtbox, and projects that the neighbourhood committee was currently working on. Also some pictures and videos were made.

MAIN INSIGHTS

- The neighbourhood was very happy with the Buurtbox, and the collaboration with WoonWenz. They actually were even kind of proud to live in a WoonWenz building (instead of Antares, the other housing corporation).
- They were a little bit more sceptic towards the municipality, because they sometimes copied ideas instead of adding to already existing structures (for example the weekly meetings). However, they were very happy that the municipality was going to improve the small lake near the buildings into a beach, and give them vegetable gardens.
- One of the people, Jan Vos, is called 'the mayor'. He is the one often taking the lead in projects by the neighbourhood committee.
- It was still a bit chaotic who was opening the Buurtbox on which days. However, they were making plans to create a fixed schedule.
- Everybody, including the children helped to tidy up at the end of the afternoon.
- While watching the children, the parents mainly sit at the benches, chatting and drinking coffee.
- A negative side effect of the Buurtbox that they mentioned was that there were parents that just drop their children, and never participate or volunteer themselves. They thought sometimes it became a free baby sitting service ("veredelde oppasplaats").
- Almost every culture was participating in initiatives in the neighbourhood, but there were still some troubles with the local Turkish Dutch. They lived very seperate, and even if they were participating they would always sit 10-15 meters away from the rest of the group. This annoyed the other citizens sometimes.



Fig 7.2. - The group of volunteers drinking coffee and chatting while the kids are playing

7.5. Stakeholders related to the Buurtbox

Figure 7.3. shows the stakeholders that are directly or more indirectly related to the Buurtbox and the bee hotel. It shows that many people are involved in the neighbourhood. The bottom part of the circle shows the neighbourhood itself, the top part shows all the other stakeholders. The relationships between stakeholders are shown, but also their relation towards the Buurtbox or the neighbourhood. The stakeholders are split in three categories: the municipality of Venlo, organisations or companies that are active in the neighbourhood and individuals that are active in the neighbourhood and linked to either the municipality or the organisations. The highlighted (orange) stakeholders were interviewed. Some of the stakeholders are described more in detail below.

Neighbourhood coordinator Woonwenz

Gé Derks is the eyes and ears in Vastenoavond-kamp for the housing corporation Woonwenz. For this research he was interviewed (appendix B.4). When Woonwenz decided to rebuild the flats in the neighbourhood, he was asked to communicate with the residents about the rebuilding activities. He asked input from all citizens in the surrounding flats. Moreover, he worked on getting all the professionals in the area in agreement with each other. A neighbourhood committee of volunteers was started. The housing corporation also cleared one of the homes, to make a neighbourhood house ('buurtwoning').

Neighbourhood committee 't Zilvermeertje

The neighbourhood committee consists of eight volunteers from the neighbourhood. They open the Buurtbox three times a week, if the weather allows it. Moreover, they meet once a week with some of the professionals to discuss the ongoing business. Besides the Buurtbox the committee takes care of many things in the neighbourhood. For example, they opened a small library, organised several events for the neighbourhood and helped a Syrian refugee to set up a small business. The committee was very positively minded about the neighbourhood. They really felt that something was changing and creatively looked for opportunities in the neighbourhood.

The municipality of Venlo

The alderman of social affairs, Ben Aldewereld was interviewed (appendix B.3.) to gain an understanding how the municipality is dealing with the neighbourhood. The alderman acknowledged that the liveability of the neighbourhood was neglected for a long period of time. With the rebuilding activities of Woonwenz this was changing, and the municipality was very pleased with their efforts. The municipality also tried to invest more in the neighbourhood now. They were planning to transform the lake next to the flats into a sort of small beach, and give a community vegetable garden to the neighbourhood. On the other hand, it was difficult for the alderman to convince the council members of the changes in the neighbourhood, because the efforts of Woonwenz and the neighbourhood can not always be expressed in numbers.

Housing corporation

In the neighbourhood two housing corporations are present: Woonwenz and Antares. This sometimes literally divided the neighbourhood in two. To gain a better understanding of why the approach of two housing corporations can be very different, Aedes was interviewed (appendix B.2.). First of all, housing corporations are very limited in what they can do in the area of liveability. In the past housing corporations could even (co)finance community centers, for example, but that isn't allowed anymore. Some housing corporations are more careful regarding the new housing law than others. Secondly, the mission of housing corporations can be very different. Some housing corporations lean more towards a regular real estate company and see their responsibility as building affordable housing and maintaining this, others regard liveability as an integral part of their organisation, and then there's still everything in between. Therefore vision of the board hugely influences how a housing corporation works (within the boundaries of the housing law). In practice this means that some housing corporations would facilitate projects like a Buurtbox, while others only work on projects that are directly related to the houses being clean, functional and safe (appendix B.2.).

7.6. Conclusion

The Buurtbox is an inspirational example of how a simple product like a container seems to improve the social cohesion and liveability in an area. However, what was even more important to see was how so many stakeholders in the neighbourhood collaborated and were working to improve the neighbourhood. Not everything was going perfect from the start, but everybody did see it as a learning curve. Trust grew between the stakeholders and citizens and the citizens also got more confidence in themselves when seeing what

they are capable of. The Buurtbox was a binding factor, because there are many children living in the area. Most importantly, the citizens were involved in the project from the beginning and feel that the Buurtbox is theirs and they want to take good care of it.

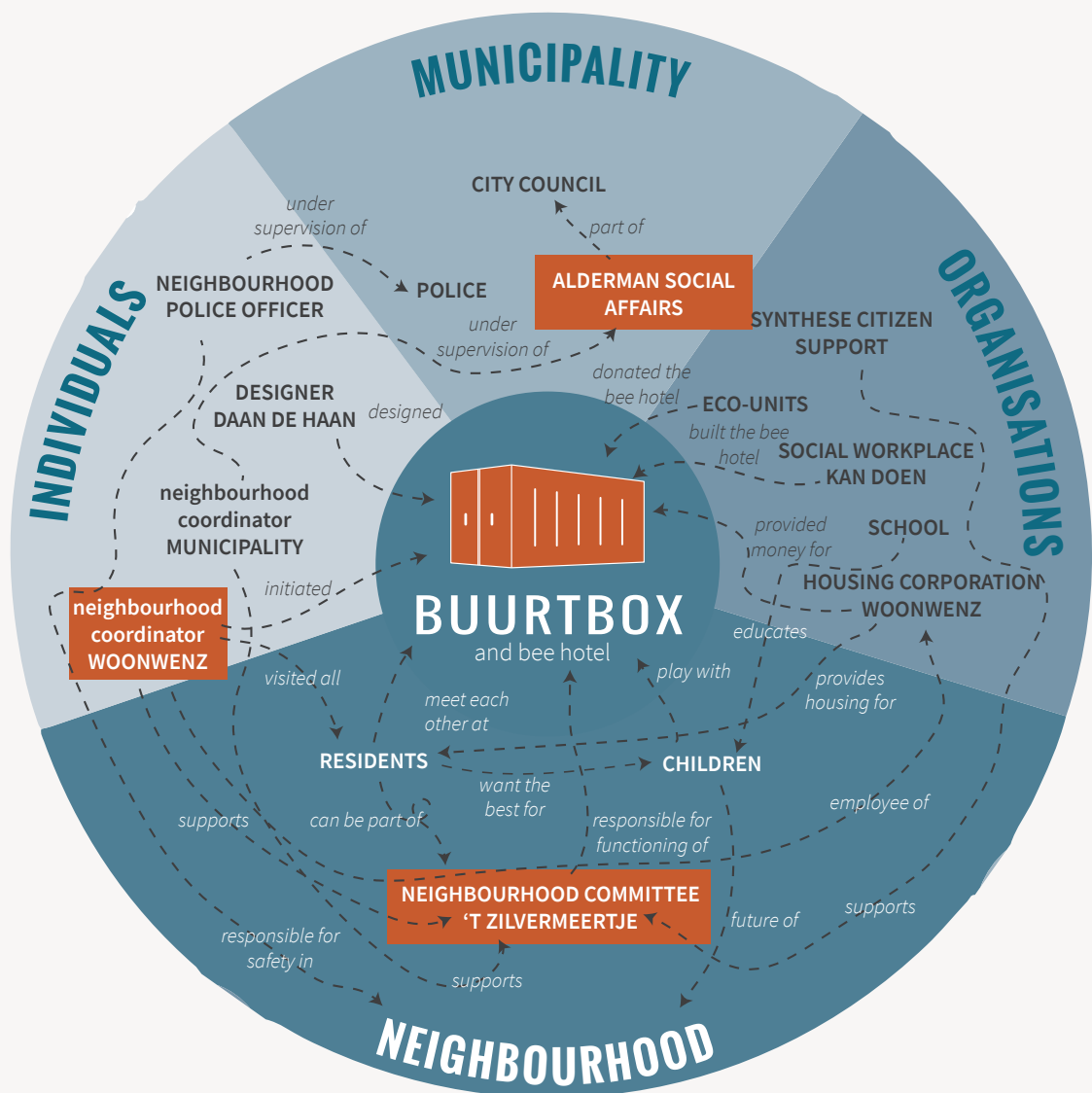


Fig 7.3. - Stakeholders involved (in)directly with the Buurtbox in Venlo.

Building
together

Needs in
kaart brengen

Co-creat
session
Unit



Connect
enthusiastic
citizens →
involve them
in the project

"neighbourhood
committee"

Set up meeting
structure

Should be
very eas
facilitat

PART C DEFINE

The phase 'Define' will be described in the next part of the report. Insights from the Discover phase will be used to create an overview of the stakeholders in the city and their needs. Moreover, the design goal will be formulated and some design guidelines and requirements will be formulated. Lastly, a value proposition will be written. This will be the basis for the next phase where a concept for Eco-Units will be developed.

Related Appendices:

B.2. | Interview
Aedes | See
page **12**

B.3. | Interview
alderman | See
page **20**

B.4. | Interview
housing
corporation |
See page **28**

8. STAKEHOLDERS IN THE CITY

During the case study several important stakeholders were found, as is described in this chapter. A short description of the stakeholders, their problems and difficulties and their needs will be given, which also summarizes and defines the insights from the previous part.

8.1. Stakeholder map

The stakeholdermap shown in figure 7.3. was used to derive the stakeholders that are usually present in every neighbourhood in every city. This more general stakeholdermap is shown in figure 8.1 to show what stakeholders to take into account when designing for neighbourhoods. The map is going from a national (top) to a local level (bottom): the neighbourhood. The four main categories of stakeholders that are involved with a neighbourhood, are the citizens of the neighbourhood itself, businesses, the government, and organisations. Their relationships are indicated by arrows. The policy of municipalities influences liveability in neighbourhoods a lot, and also influences what housing corporations, local entrepreneurs, schools, and other parties are able to do in a neighbourhood. These local policies are, of course, also influenced by national politics.

The four most important stakeholders are visualised in figure 8.2, which are: the residents in the neighbourhood, the municipality, the housing corporation and the professional ambassador. These four were selected, because they are usually most influential in or most important for the liveability neighbourhood. Their responsibilities, difficulties and needs will shortly be described below.

8.2. Citizens

Responsibilities

A citizen is to some extent responsible for its own living environment. At least they are responsible for their own house. However, a resident who bought his own house could feel more responsible for his home, than someone who is renting at a social housing corporation. Apartment complexes have the advantage that there is often already a group of representatives present. This could make it easier to set up bigger (renovating) projects. This group of representatives or a neighbourhood committee could be formed to facilitate initiatives in the neighbourhood. This is also an easy point of contact for municipalities or housing corporation.

Difficulties

Some of the problems that can accumulate in a disadvantaged neighbourhood are: poverty, low-literacy and loneliness (appendix B.4). Moreover, when problems arise citizens sometimes don't know that they can receive help from the municipality and how to get this help. Shame also plays a role sometimes, because people generally don't like to talk about their problems (appendix B4). An accumulation of problems in a neighbourhood can also lead to a bad image of the neighbourhood, vandalism and crime (Ponds, van Ham & Marlet, 2015).

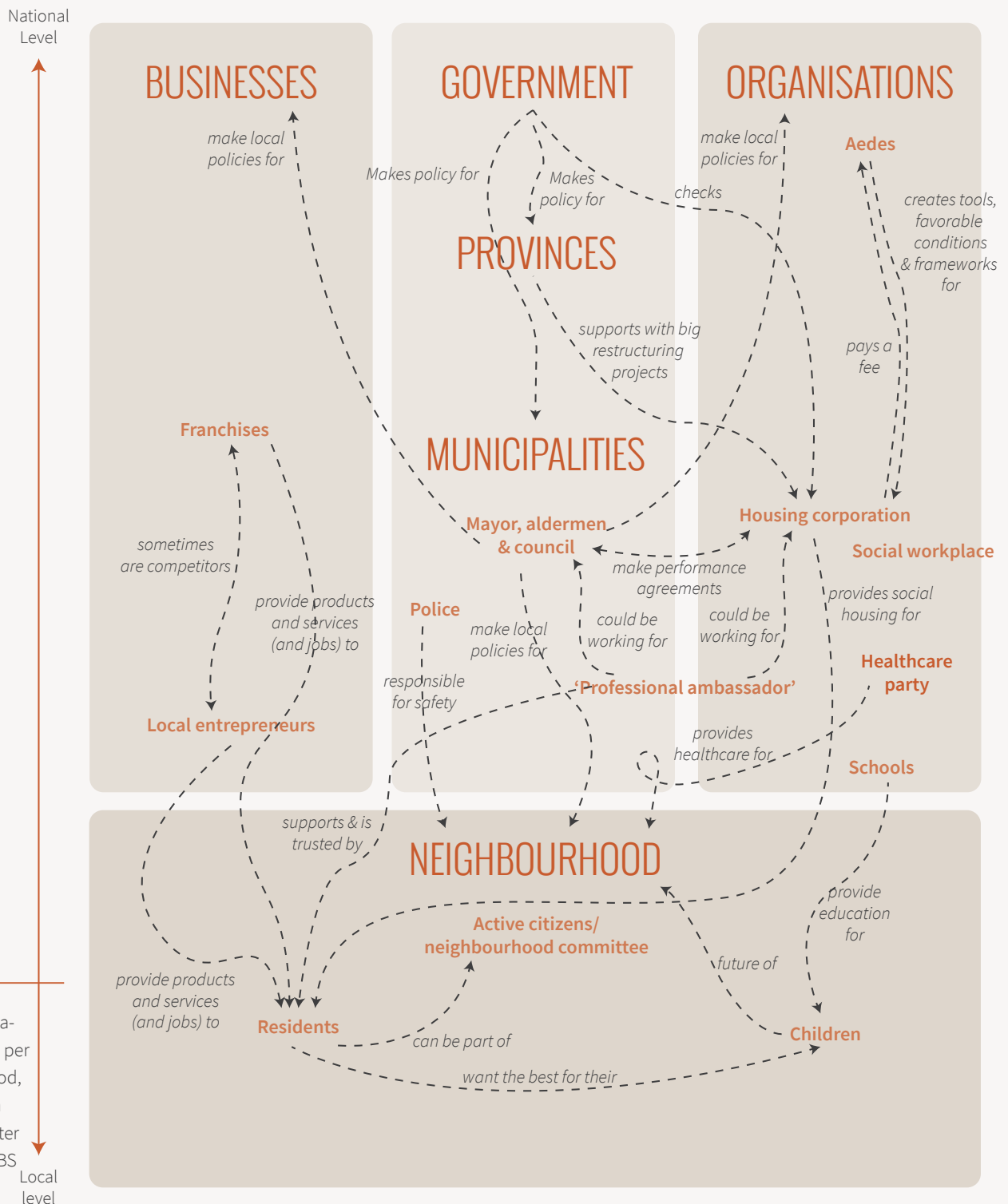


Fig 8.1. - Liveability in Venlo per neighbourhood, adapted from Leefbaarometer (2016) and CBS (2016a)

Fig 8.2. -

Problems and needs of four stakeholders in the city



Needs

To conclude, needs of citizens are a safe home and safe and liveable neighbourhood to live in. What liveability means, can differ per citizen, but aspects of liveability are: the (type of) houses they live in, the other residents in the neighbourhood, facilities in the area, safety and the physical living environment (Leidelmeijer, et al. 2012). Moreover, they need to know where they can find help when they need it, for example for financial or social problems.

8.3. The municipality

Responsibilities

The municipality is responsible for making and executing local policies and executing many national policies. Since 2014 municipalities have more responsibilities in the areas of youth care, employment and income (participation law), and care for chronically sick and the elderly (Rijksoverheid, n.d.). This puts more pressure on municipalities, and oftentimes they are therefore also expecting more of their citizens. In many cities bottom-up initiatives are lauded and projects that improve social cohesion have a high priority.

Difficulties

In more problematic neighbourhoods, oftentimes problems regarding youth care, employment and care for elderly accumulate. This could also lead to more vandalism and higher crime rates in these neighbourhoods. Municipalities often do encounter problems here when trying to improve these areas. Citizens are more distrustful regarding the municipality and other official authorities (Van Stokkom & Toenders, 2010). Moreover, social cohesion and liveability are often difficult to quantify and projects need time before they show results. Therefore, it is difficult for the municipality to make this work quantifiable and communicate progress (appendix B.3).

Needs

In the first place, the municipality works for their citizens. Therefore, municipalities want to create liveable neighbourhoods for their citizens. However, some municipalities give their citizens more responsibility in this than others. Therefore they need an (improved) relationship with citizens, where citizens trust the municipality and authorities and have the ability to participate if they want. Lastly, they have a need for projects that improve the liveability, but that are also directly visible in the

neighbourhood, and therefore (feel) more quantifiable.

8.4. The housing corporation

Responsibilities

A housing corporation is responsible for building affordable housing. Moreover, they are to some extent responsible for the liveability of an area. The quality of the houses is one thing that they can directly influence. Moreover, many housing corporations see it as their responsibility to work on liveability in a broader sense as well.

Difficulties

However, since the housing law in 2015, housing corporations have to focus more on their primary task, which is building social housing. This law was made, due to a series of incidents at housing corporations (appendix B.2; Rijksoverheid, 2015). So, they are restricted in what they can do and it is important for them to collaborate with other parties that are active in the neighbourhood, like the municipality, (health) care facilities, schools, etc. Moreover, they usually have a neighbourhood coordinator or community manager on the ground, that is very knowledgeable about the neighbourhood and who acts as the eyes and ears of the housing corporation. The different roles that housing corporations can take in their liveability policy is to connect the right people, facilitate activities, and signalling when something goes wrong in the neighbourhood (appendix B2). Besides the social responsibility that many housing corporations feel, they also benefit from a better liveability, because they will get less complaints from residents, there will be less vandalism, and less mutations (people moving out).

Needs

So, housing corporations need residents who love their homes, and take good care of it. This will be achieved by improving the neighbourhood physically (improving or rebuilding homes), or by investing in social projects that improve the social cohesion or image of the neighbourhood.

8.5. The official ambassador

Responsibilities

As mentioned in the previous paragraph, many housing corporations or municipalities work with neighbourhood coordinators who are their eyes and ears. When one wants to improve the social cohesion in the neighbourhood, it is important to have such a person active in the neighbourhood. It does not really matter if this person is related to the municipality, school, housing corporation or another party in the neighbourhood. However, it is important that (s)he is rooted in the neighbourhood, because (s)he is originally from the area or is already working in the area for a very long time. Moreover, it is important that (s)he has a positive view of the neighbourhood and sees opportunities for improvement. In this report this person will be called an official ambassador, because (s)he has a heart for the neighbourhood, but (s)he also has the official means to achieve something in the neighbourhood, because (s)he is working for an official authority. (S)he can pull strings and knows where to find money or other resources when initiatives from citizens arise.

Difficulties

Difficulties that the official ambassador can encounter is to win the trust of the neighbourhood, because official authorities are often mistrusted. Moreover, an official ambassador has an important function in the neighbourhood, but his or her work is not always directly visible for their superior. Therefore, they sometimes could have trouble to convince their superior of the personal and time-intensive approach to the neighbourhood.

Needs

The needs of the ambassador are therefore to win the trust of citizens with a personal approach on the one hand and win the trust of their superior on the other hand by showing clear and quantifiable results.

9. DESIGN GOAL

In the previous chapter the important stakeholders were already described. From these four different perspectives, it became clear that there are some boundary conditions that should be met before an Eco-Unit can be placed somewhere. Therefore, the initial assignment will be reviewed and specified more into a design goal and several design guidelines, which gives a direction for the next phases.

9.1. Initial assignment

The initial assignment was formulated in the introduction (chapter 1) as: “Eco-Units sees a big opportunity in extending their product portfolio with an Eco-Unit that supports social cohesion in disadvantaged neighbourhoods in cities. A central meeting point, where people and children come outside to meet, play and connect with each other. The Eco-Unit should add to the socially and environmentally sustainable city.” This initial assignment will be reviewed and redefined in coming paragraphs.

9.2. Boundary conditions

During the ‘Discover’ phase it became clear that to improve liveability a broader network of stakeholders should be taken into account. The needs of these stakeholders are described in the previous chapter. Moreover, this network should collaborate on a long-term approach. Just placing an Eco-Unit without this long-term cooperation will not have the expected impact in the end. Therefore, before placing an Eco-Unit, several conditions should be met, which will be described below.

Official ambassador

There should be an ambassador from an official authority, for example a neighbourhood coordinator. This is a person that is very involved with the neighbourhood and that wants to improve the liveability, but he or she is still a professional, from either the municipality, a care

organisation or the housing corporation. This person will be the recognisable face in the area and creates trust between the authorities and citizens. He or she shouldn’t be the one doing everything in the neighbourhood, but (s)he could have a signalling role, when something is happening in the neighbourhood; a connecting role in finding the right professionals or volunteers for a certain task; or a facilitating role when (helping in) finding budget or resources for certain initiatives.

A feeling of ownership

The neighbourhood should feel responsible for the Eco-Unit once it is placed. It shouldn’t feel like an idea dropped down by the municipality, because citizens then don’t have the feeling that they were involved in this decisions, and nobody would feel responsible for the Unit. Therefore, it will be necessary to create the feeling that the Eco-Units is theirs and to involve them in the design of the Eco-Unit, through a co-creation session, for example.

A long-term collaboration

The Eco-Unit should not be a stand-alone project and be part of a long-term approach of the neighbourhood. It could even be the start of this long-term approach. This collaboration should take place between a group of enthusiastic citizens, the group ambassador and other professionals. In the end, the Eco-Unit should lead to the fact that especially the small group of volunteers will be proud of the neighbourhood and see the changes that are possible. If they will have a more positive image of the

neighbourhood and its future, this will also reflect on other citizens in the neighbourhood. The liveability and social cohesion will be improved by the increased trust between professionals and citizens, the improved image of the neighbourhood, and the fact that a long-term collaboration is created.

9.3. Formulation of design goal

Some of the conditions described above, can already be present in one neighbourhood, but not in the other. So, it is important for Eco-Units to be aware of this. Just placing an Eco-Unit without creating the necessary boundary conditions will not have the long-term effect on the liveability in a neighbourhood that Eco-Units would want it to have. It could even lead to misuse or vandalism of the product. Therefore, it is not possible to design one solution (Eco-Unit) that fits all neighbourhoods, as was suggested in

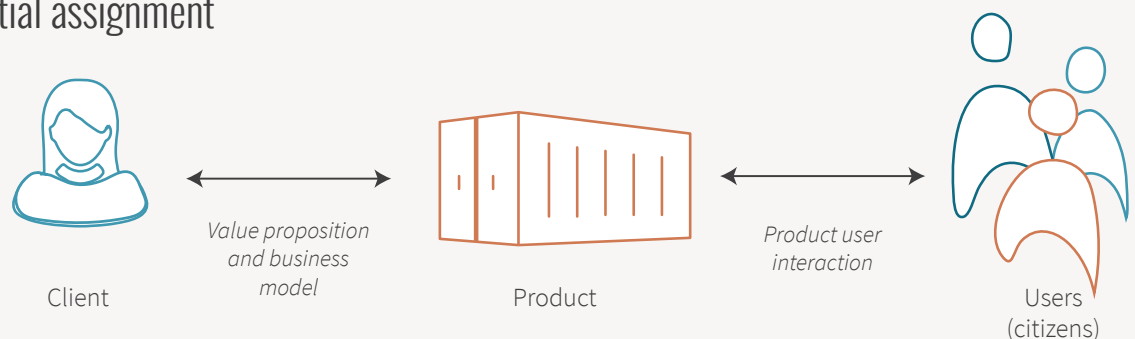
the initial assignment.

So, the Eco-Unit is just a means to improve the liveability in the neighbourhood, and only a starting point. It should be accompanied by a development toolkit that Eco-Units can use to develop the product with the stakeholders and citizens. This way, a feeling of ownership and responsibility for the Eco-Unit can be created among the citizens.

Hence, the design is formulated as:

To design a development tool kit for Eco-Units to be able to develop a Unit that stimulates social cohesion in disadvantaged neighbourhoods in co-creation with stakeholders and citizens.

Initial assignment



Design goal

Fig 9.1. - Shift from initial assignment to design goal

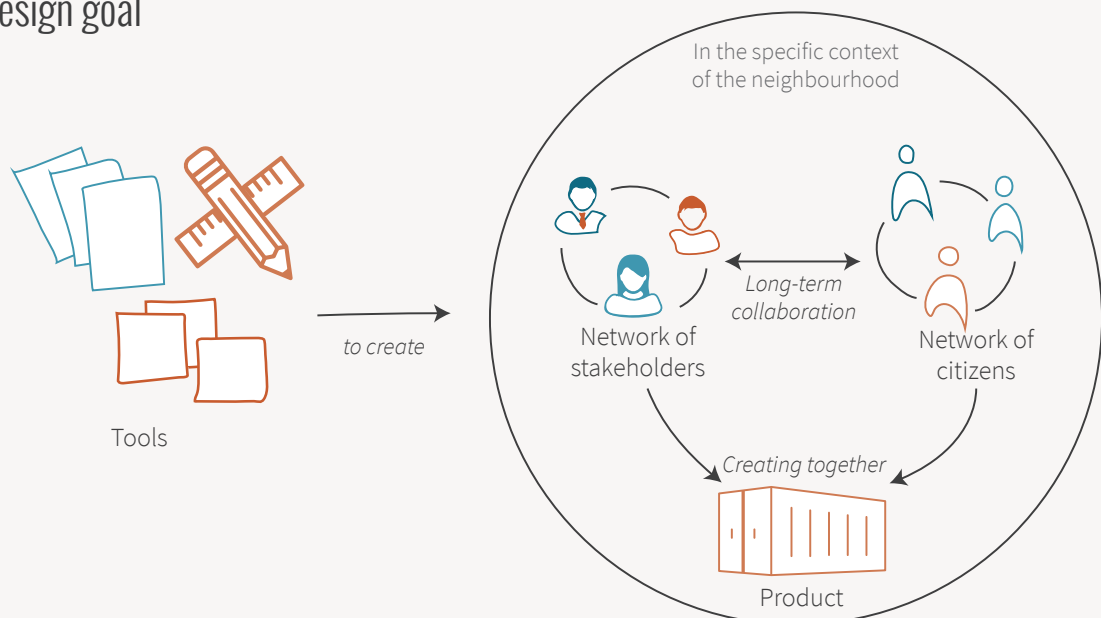


Figure 9.1. visualises the shift from the initial assignment to this design goal. Initially, the assignment was to design the container, look at the product interactions and how to sell it to possible clients. Now, the goal is to design tools that establish a long-term collaboration between the stakeholders and citizens in a specific context. Together with Eco-Units they will design an Eco-Unit that fits their specific needs.

Looking back at the definition of social cohesion, as described in chapter 3, this means that the toolkit will enhance both the vertical and horizontal interaction. However, the vertical interactions do not necessarily have to be between the municipality and citizens, but can also be between a housing corporation and citizens (or other stakeholders). It could maybe even improve the relationship between the different stakeholders.

The toolkit and social cohesion

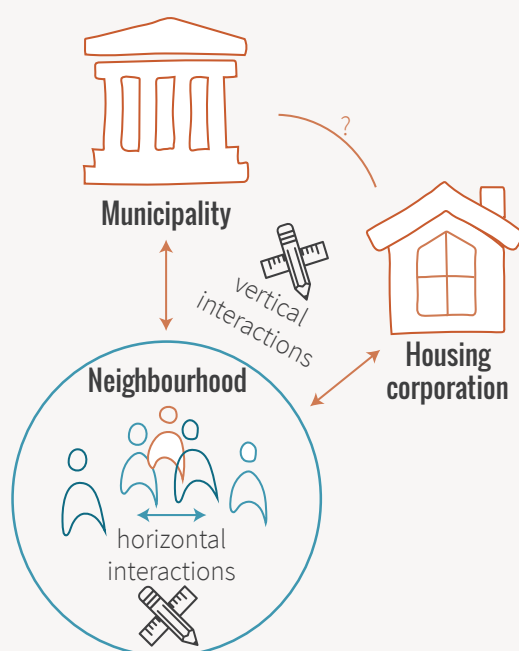


Fig 9.2. - Role of the toolkit in relationship to social cohesion

9.4. Design guidelines

A list of requirements or design guidelines was formulated. This will be used to validate the concept throughout the process.

1. The tool kit should lead to the design of an Eco-Unit.
2. The tool kit should include all stakeholders in the process.
3. The tool kit should connect active citizens and make them aware of each other.
4. The tool kit should give citizens who want to participate a feeling of responsibility for their neighbourhood.
5. The tool kit and Eco-Unit should not replace but enhance existing initiatives.
6. The tool kit should be easy to use and easy to understand by non-designers.
7. The tool kit should create a sense of trust between professionals, between professionals and citizens, and between citizens.
8. Citizens should feel empowered by the tool kit to participate.
9. The tool kit should fit the brand Eco-Units.
10. The tool kit should help to build a more positive (future) image of the neighbourhood for both citizens and professionals.

10. VALUE PROPOSITION

The design goal in chapter 9 explains what will be the goal of the graduation project. This does not explain yet what the added value is for clients of Eco-Units. To clarify this, a value proposition was developed. Moreover, this was compared to competitors in a positioning statement.

10.1. Value proposition

Based on the design goal stated in the previous chapter, and the current vision and mission of Eco-Units, a value proposition was created for the product service system, including the Eco-Unit and toolkit. Osterwalder & Pigneur (2010) describe that a value proposition is the combination of products and services that a company offers to a (segment) of customers. The value proposition should therefore describe the problems or needs of the customers that are solved and the added value that is created with the PSS (Osterwalder & Pigneur, 2010). For Eco-Units the customer (client) are municipalities or organisations, and

the PSS helps to create long-term citizens participation and a sense of trust for citizens. Eco-Units will do this by offering a co-creation approach to improving the outdoor public space. Therefore the value proposition is described as follows:

The liveability in neighbourhoods can be improved by creating long-term citizen participation and a sense of trust for citizens. Eco-Units offers municipalities and organisations a product service system to help them improve the outdoor public space in co-creation with local citizens and stakeholders.

10.2. Positioning

Compared to the initial assignment, Eco-Units shifts from a company that passively supports social cohesion in communities to a company that is more actively involved (figure 10.1). This means that Eco-Units will be working more in the field of citizen support, Buurtbedrijf or a neighbourhood coordinator as opposed to being a public facility. These don't necessarily have to be competitors and can also be considered as possible partners.

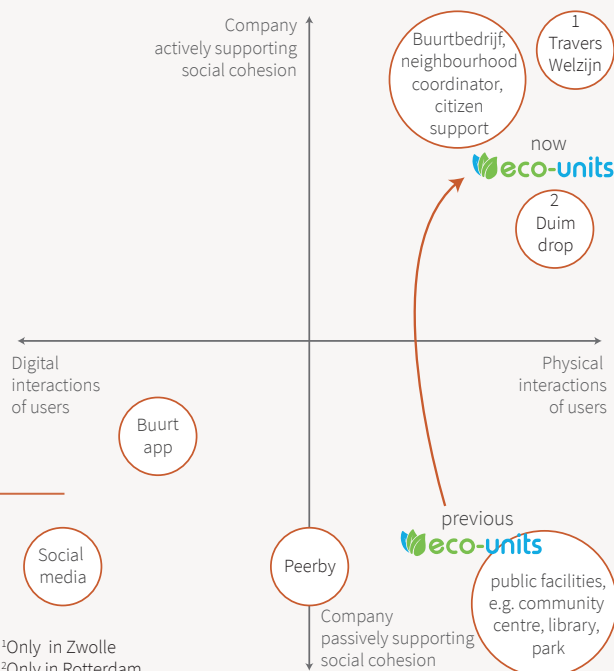
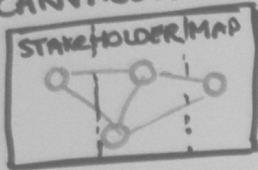


Fig 10.1.
Positioning

EXPANDABLE
CANVASSES



DESIGN
YOUR
ECO-UNIT

BOOKLET

Design Tool
Lay-out Ideas
3.



LEGO® BUILD
YOUR OWN
ECO-UNIT

ROADMAP

BLABLA

BLABLA

KEEP THE CONVERSATION
GOING

KEEP OFFERING
SUPPORT WHERE NEEDED

MENU

Visual Title

METHOD

011

021

WEBPAGE

  **SOCIAL MEDIA**
Facebook/Whalsa
Groups
use existing ones or
start one

INVITE
PEOPLE
PERSON 1.

 **FIXED MEETING
SCHEDULE**

 coffee
hour

PAINT

PART D DEVELOP

The design goal and value proposition will be developed into ideas and concepts in this part. In the first chapter the design process is explained. Then a framework is proposed which shows all the steps that are necessary for the co-design of an Eco-Unit. For every step a tool or guideline is developed in chapter 13. The ideation and prototyping of the tools are described here. Lastly, all these tools and the toolbox have to represent the company, Eco-Units. Therefore, a visual identity will be designed to let the tools, toolbox and Eco-Units have a coherent style.

11. DESIGN PROCESS

In part D and E a Product Service System is created for Eco-Units. The design of this PSS is described in the coming chapters. However, such a design process is always a bit fuzzy. Before diving into this process, the structure of the process and the report structure for the coming chapters is described first in this chapter.

11.1. Two processes

Two different processes can be distinguished: the process of designing the tools (figure 11.1, leftside) and the design of a visual identity (figure 11.1, rightside). In the end, the results of these two processes were combined into a final design proposal (chapter 18). The visual shows the process in the middle, and a small preview per step with the related chapter numbers on both sides.

11.2. Design of tools

The design goal was to create a development toolkit for an Eco-Unit. In this first process this toolkit is designed. It starts with the development of a framework which shows the steps that are necessary to develop an Eco-Unit in co-creation with all stakeholders. This framework is based on insights from the previous phases and is described in chapter 12. Thereafter, an ideation was done by me on each of the steps in the framework. From this ideation the best ideas or combination of ideas were further developed and a prototype was made for each step (chapter 13). Then the toolkit was evaluated in three ways, as will be explained in part E of the report (chapter 15 - 17). First of all, a pilot with the municipality of Rotterdam was done on the second tool. Secondly, an evaluation with Eco-Units was done on the complete toolkit. Lastly, the fifth tool was evaluated with fellow students.

11.3. Design of a visual identity

From the internal analysis in chapter 4, it became clear that a defined corporate identity was not yet existing. Although this was not the main focus of the project, it seemed necessary to create a more coherent style, to be able to create a coherent final design proposal in the end. In this process (chapter 14), first the brand values were defined further, based on insights from the previous parts and the mission of the company. From these brand values, a fitting communication and design language was developed. This design language is visualised in a collage and a webpage example.

11.4. Final design proposal

These two processes were then combined into a final proposal. The insights of the evaluations were used to make small iterations to the framework and the toolkit, and the visual identity was applied to the tools. This final design proposal is shown in chapter 18.

Design process
and report
structure
explained



Related
Appendices:

D.1. | Insights
used for
framework |
See page 40

12. FRAMEWORK

A framework was developed which shows the steps that are needed for the development of an Eco-Unit. In this chapter the framework is described, following the steps that are proposed. The focus in this chapter lies on why these steps are necessary. In the next chapter, the how and what of the steps will be explained more in detail when describing the design of the tools.

12.1. The development of a framework

The design goal was formulated as to design a tool-kit for the development of an Eco-Unit together with all stakeholders involved. A first step in designing this tool-kit was to define which steps are needed and thus need tools. These steps together form a framework that is the basis for the development of the tools in the next chapter.

The framework was developed with the insights of the first phase. Figure 12.1. shows which insights led to the four main phases of the framework: a process of creating trust.

Because Eco-Units will need a client to facilitate and pay for the process, it was decided to start the framework from the perspective of the client. This client could be a municipality, housing corporation, or a different organisation. Then the other stakeholders will gradually be involved in the process. In the first phase it will be important to create trust between several partners and professionals that are involved in the project and get them to see eye to eye. Secondly, trust should be created between the professionals and citizens, since there is often a distrust of authorities with citizens. The long-term approach should be emphasized here towards the citizens. In the last phase it will be important

A process of creating trust

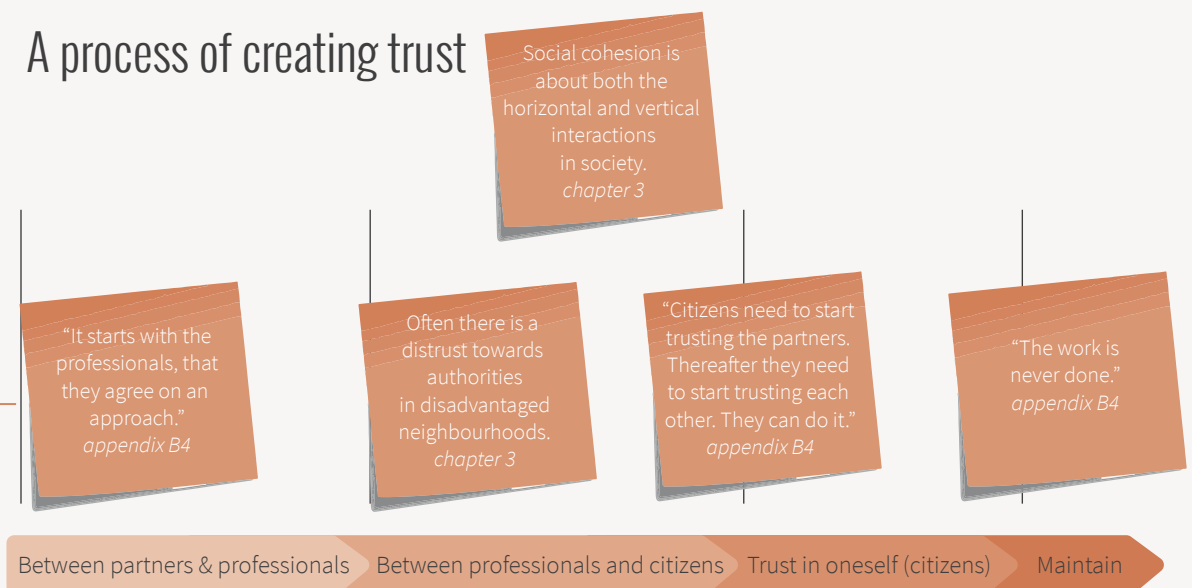


Fig 12.1.
Insights that
were used for the
main phases of
the framework

for citizens to have trust in oneself, and show them what they are capable of. Lastly, it will be important to maintain the relationships that were built. The work does not end after placing an Eco-Unit; it will actually be the beginning.

After that, the four phases were further divided in eight steps. Appendix D.1 summarizes the insights that led to these eight steps and shows some iterations of the framework. For each step a tool or description will be developed that Eco-Units can use with citizens and/or partners. Why these steps are necessary is described in paragraph 12.3. The (development of the) tools are described in the next chapter.

12.2. The framework

The four main phases were further divided in more practical steps. The framework is shown in figure 12.2. and shows the four phases and the eight steps. The process starts with finding the right partners (stakeholders) with the client. These stakeholders could be a municipality, housing corporation, district police officer, schools, etc. A municipality or housing corporation is most likely to be the client. The role of these different stakeholders will differ per step. For example, the role and involvement of Eco-Units will be very large in the beginning, but will decrease towards the end. For citizens the involvement will grow during the process. The involvement of Eco-Units, the client, the official ambassador, the citizens and other stakeholders is visualized in the framework.

12.3. The steps explained

1. Find the partners and define the scope

In the first step of the framework Eco-Units will be approached by a party that is interested in improving the liveability in an area, or Eco-Units will actively find possible clients themselves. For both Eco-Units and the client, it will be important to consider which stakeholders are active in that specific neighbourhood, and if they need to be involved in the project. So, in this step Eco-Units will help the client to select partners that they want to include in the project. Moreover, it is a good opportunity to define the scope of the project. For example: is there a certain street or a couple of streets that deserve extra attention or which

are more important for the neighbourhood? Start small and then let it spread through the rest of the neighbourhood.

2. Create a vision for the neighbourhood

Secondly, when the partners are approached a session will be organised. In this session a vision for the neighbourhood will be created, to get everybody that is involved in the project on the same page. In this step, it will be important to see what each stakeholder wants to add to the neighbourhood, but also what they can do. For example, housing corporations are limited in their budget by the new housing law, and maybe cannot afford to invest too much money. On the other hand, they might have specific knowledge on the neighbourhood, or a neighbourhood coordinator who is already active in the field. Therefore, it should be made clear what everybody can and wants to contribute to the project and the neighbourhood, and what the goal will be for the project. The goal for this step is to have an overview of the responsibilities for each stakeholder. Citizens can already be included in this step, but it could also be difficult for organisations when budgets are discussed for example.

3. Involve active citizens

When the partners and professionals see eye to eye, it is time to involve active citizens in the process. It is necessary to involve citizens early on in the process to create a feeling of ownership for the Eco-Unit that will be designed. In some cases, active citizens might already be known, because there might already be existing structures like a neighbourhood committee or social media groups. If this is not the case, organisations might know people personally. When trying to involve them, a personal approach seems to work best. Moreover, there will also be citizens that are not active yet in the neighbourhood, but when asked might want to be active as well. Therefore, in this step all both citizens should be approached.

4. Identify local needs

In the next step the citizens get around the table and define the needs for the neighbourhood. This way the Eco-Unit will fit the actual needs of the neighbourhood. It would be helpful if (some of) the stakeholders can be present as well, to really listen to the views of citizens. Are there any problems in the neighbourhood? What should be the

main target group? How would they envision their own neighbourhood? Are there any existing initiatives that could use support? These needs will be identified and together with citizens and the stakeholders a focus will be chosen. However, it could also be possible that the client has approached Eco-Units, because there is already an obvious need which is addressed by citizens. If this is the case, this step could be more about verifying and specifying this need with citizens.

5. Build together

When the needs are identified, the partners, citizens and Eco-Units will think of a solution together. This will create an Eco-Unit that is supported by the neighbourhood. It will create a feeling of ownership, because they have created the solution themselves. Moreover, it will create trust between the partners and citizens. Eco-Units will lead this creative session. It will be important to be honest and realistic towards the citizens that maybe not everything is possible (manage expectations), but at the same time to be open to ideas of citizens and see what can be done within the budget.

A co-designing approach for Eco-Units towards more social cohesion



A process of creating trust

Between partners & professionals

Between professionals and citizens

Steps to take

1. Find the partners and define the scope



2. Create vision for the neighbourhood



3. Involve active citizens



4. Identify local needs



5. Building together



The role of different stakeholders during the process

Involvement in process

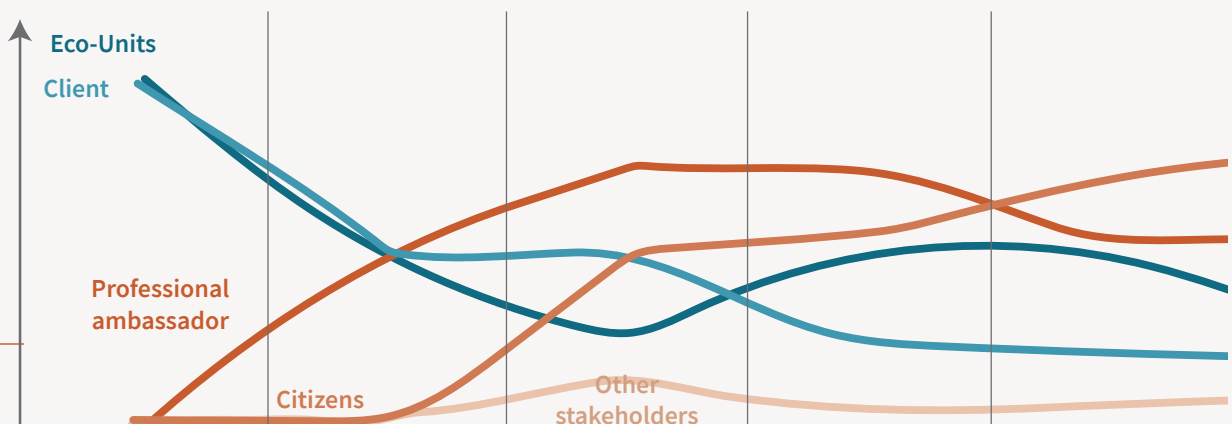


Fig 12.2.
Framework for
developing an
Eco-Unit

6. Give responsibility

When all the stakeholders have decided on the design of the Eco-Unit, it is time to start the development of the actual unit. Eco-Units will have to order the unit, add the features and transport it to the location, which will take about 4 - 6 weeks. In the meantime, the responsibilities can already be decided upon. Who will have the keys of the unit? When will it be open? Who will maintain the unit? These are all questions that can already be answered. Both the municipality and housing corporation are not in the position to be responsible for this. Therefore, the citizens will bear the greatest responsibility. When the previous steps are done right, citizens should feel really excited now and willing to participate in this. It is possible to give them already some responsibility, for example by giving them budget to buy the interior of the unit, letting them organise

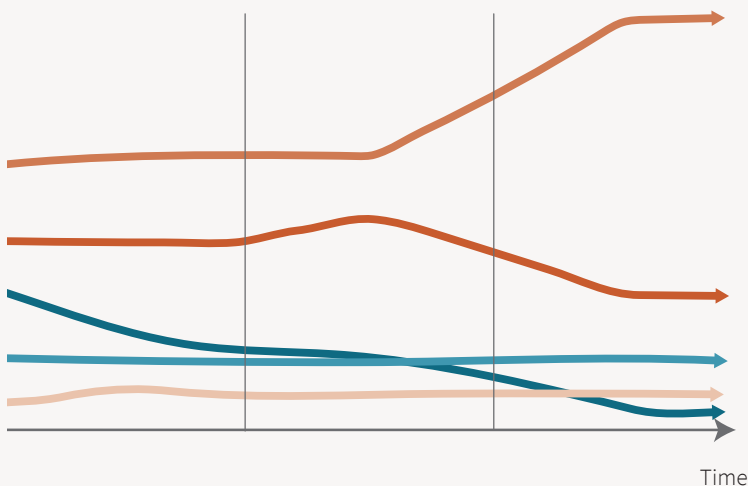
the opening of the unit, or letting them help to build the unit, when there are enthusiastic handymen among the volunteers.

7. Achievement: placing the Eco-Unit

This step is really about showing what the citizens can and have achieved with a little help. The Eco-Unit will be placed and afterwards opened by the citizens. It should be a festive moment, involving the whole neighbourhood. Volunteers can be placed in the spotlight on this day.

8. Maintain relationships

After the festive opening of an Eco-Unit, the work is not done yet. Especially for the partners it will be important to consider that this is just a starting point for a new way of working. They have created a bond of trust between themselves and citizens, and should maintain this by meeting citizens on a regular basis and keep supporting them when needed.



Related
Appendices:D.2. | Ideation
toolkit | See
page 42D.3. |
Prototypes
tools | See
page 49

13. DEVELOPMENT OF TOOLS

Based on the proposed framework, tools can be developed. First of all, the design process is described. Thereafter, a prototype is made per step, which is shown in this chapter as well. The prototypes will be used for the evaluation in the final part of the report: evaluate and decide.

13.1. Design process

Based on the framework that was proposed in the previous chapter, an ideation was done. For each step a 'How could I...' was formulated and ideas were developed by me. These ideas were sometimes based on existing tools, but the tools were then made more specific to use for the development of an Eco-Unit. The complete ideation can be found in appendix D.1. and an impression of the ideation is shown in figure 13.1. Afterwards for each step the best tool or a combination of tools was chosen, based on the fit within the total framework and the usability for Eco-Units, stakeholders and citizens. The tools were developed further in prototypes, and each tool is described shortly in the next paragraph. A larger version of the prototypes of the tools can be found in appendix D.2. These prototypes are used for the evaluation of the tools in the final part of the report: evaluate and decide. This evaluation is taken along in a final design proposal (chapter 18).

13.2. Ideation and prototyping per step

For some steps just a list of recommendations is needed, for others a real tool is developed. Every step has a card that explains the goal of the step, the 'ingredients', which stakeholders are involved, and an instruction for Eco-Units on how to use the tool or approach the step. The tools will be described below.

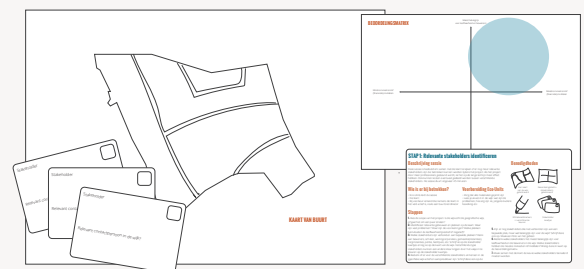
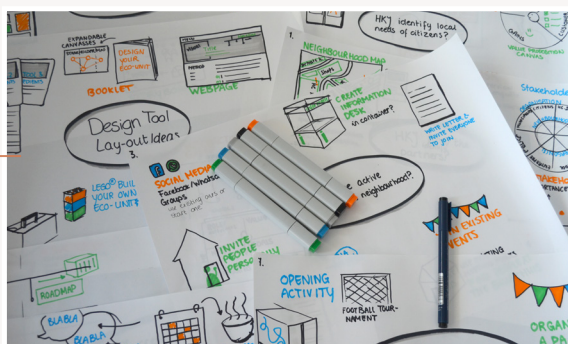


Fig 13.2. - Tools for step 1

Step 1: Find the partners and define the scope

The first tool (figure 13.2.) consists of a plastized map of the neighbourhood, small stakeholder cards and an assessment matrix. First the relevant stakeholders will be mapped on a map of the neighbourhood with the stakeholder cards. Do they have places in the neighbourhood that they are linked to? In this step it is important to include community managers and neighbourhood coordinators of different organisation

Fig 13.1.
Impression of
the ideation for
the toolkit.



as well. Is a person who could act as official ambassador already present? Moreover, the scope of the project is defined: where to start in the neighbourhood. When all stakeholders are found the stakeholders will be mapped on the assessment matrix. On the vertical axis the relevance of the stakeholder for the neighbourhood is mapped. On the horizontal axis the influence or amount of resources that the stakeholder has, are mapped.

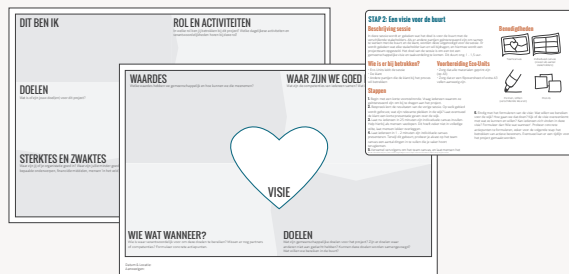


Fig 13.3. - Tools for step 2

Step 2: Create a vision for the neighbourhood

In the second step (figure 13.3) a team vision for the neighbourhood is created with the stakeholders that are involved in the project. The goal is to find mutual goals and values, and also see what stakeholders are able to contribute. Therefore, an individual canvas is made for each individual stakeholder and a vision canvas to combine the individual insights and goals. The vision canvas is inspired by team canvas (Team Canvas, 2015), but made more specific to the stakeholders who will be using it.



Fig 13.4. - Instructions for step 3

Step 3: Involve active citizens

In the third step (figure 13.4.) active citizens are involved into the process. Eco-Units will guide the client in doing this and some tips and ideas on how to do this are therefore

collected on the sheet for step 3. For this step no separate tool was designed, because the 'ingredients' that are needed are just an enthusiastic person or a few people to spread the word, some time and maybe some posters or leaflets.

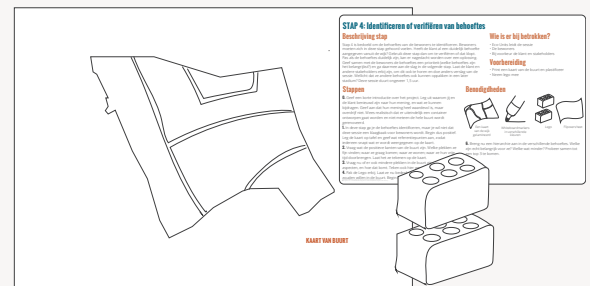


Fig 13.5. - Tools for step 4

Step 4: Identify local needs

In the fourth step (figure 13.5) the needs of citizens are identified. This session is organised with the citizens and preferably the client and other stakeholders. Eco-Units will lead the session, preferably with the help of the official ambassador. The tools that are needed are a printed and plastized map of the neighbourhood, some markers, some lego or building blocks and an empty flip-over sheet. The goal of the session is to identify positive and negative aspects of the neighbourhood and involving the citizens for the first time. This is done by drawing positive and negative places on the map. Secondly, citizens are asked what they would change in their neighbourhood and build this on the map with the building blocks. At the end of the session a top 3 of needs should be defined, which will then be the input for the fifth step.



Fig 13.6. - Tools for step 5



Fig 13.7. - 3D model for step 5

Step 5: Building together

The fifth step (figure 13.6) is done with a group of citizens again, preferably some of them are the same as in the previous step. The client and other stakeholder can be present as an observant. Eco-Units leads the session with the help of the official ambassador. The goal of this step is to actually develop an Eco-Unit with all stakeholders.

This step was most difficult to develop, since there needs to be a balance between giving citizens creative freedom to look for solutions, but also giving them incentives and inspiration to do so. Moreover, not every solution will be possible and the client will be limited to a certain budget. But citizens need to feel like they are involved in the design and be able to make relevant choices. A more elaborate explanation on the iterations in the ideation can be found in appendix D.1. In the end, it was chosen to use a 3D model (figure 13.7) for this step, because it gives citizens a feeling that they are actually building something. This will hopefully also make it a more constructive meeting and not an hour for citizens to complain. Moreover, it will give

citizens a lot of options to choose from, but it also leaves space for own creativity. The building blocks are all plain, and therefore do not have a function yet. Therefore, citizens can still imagine other possibilities than the ones that are already given. There are also different choices for the sides and roof of the container (for example for windows, doors or a green facade).

Moreover, small cards are part of the tool (figure 13.6), which show possibilities for different components of the design. Each card shows a drawing of the component, a name, function, price, size and possibly other components that are needed to build this one (for example for a sink, a connection to the waternet is needed). The size is shown in a number of building blocks and the price is shown in points (from 1 to 5). This way the client and Eco-Unit can discuss a budget (for example 30 points) for which the citizens can build a container, and the citizens won't know the actual prices of the different components. The cards have three categories: exterior, interior and technical features (for example connection to the waternet).

The prototype of the 3D model consists of pieces of foamboard with printed textures on it. The model was to be put together with pins.

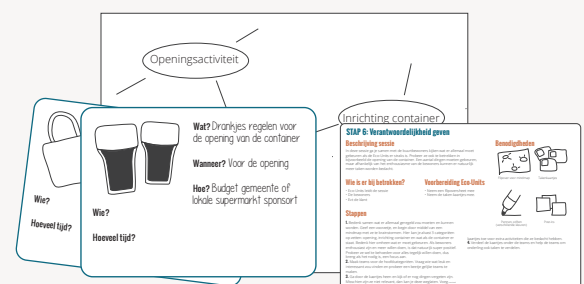


Fig 13.8. - Tools for step 6

Step 6: Give responsibility

In this session (figure 13.8) the responsibilities will be defined for when the Eco-Unit is installed. This is also an opportunity to involve them in the opening of the Eco-Unit. Some things definitely need to happen, for example some people need to be responsible for the opening and closing of the container. Depending on the enthusiasm of citizens, it is possible to define more tasks. Small task cards are included, with empty ones as well, so tasks can be divided

give more responsibility to citizens and decrease the work that they are doing there, but this does not mean that the work is finished.

13.3. The design of a toolkit

A complete overview of all the prototypes of the tools can be seen in figure 13.11. To create a presentable and coherent whole, these tools can also be combined into a 'toolkit'. An ideation for this toolkit is shown in figure 13.12. It also shows the advantages and disadvantages of every idea.

The function of the toolkit would be twofold. Firstly, the function is to create an understandable and complete stepwise approach for Eco-Units that they can implement easily. Secondly, the toolkit will be a good opportunity to present Eco-Units' way of working to possible clients.

It was chosen to combine several ideas. First of all, a webpage that shows the tools will be necessary to create transparency in the way of working and at the same time it creates an online presence. Moreover, it can be integrated easily with the brand identity. Secondly, a booklet is used to create a coherent overview for Eco-Units, but also as physical item to bring to client meetings.

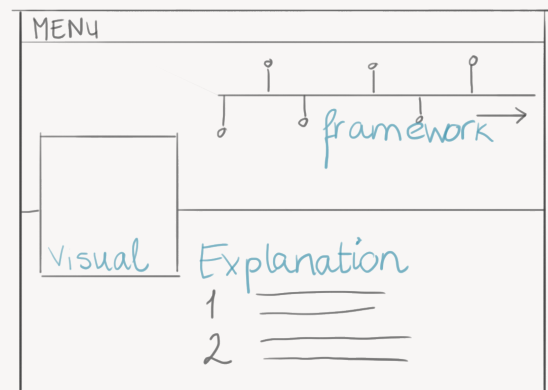
This means that there is still no direct place for the 3D tool, but this can be brought as a separate item to the session in step 5. Pictures of the physical tool will be included in the webpage and in the booklet.

The final design proposal in chapter 18 will further elaborate on this toolkit. In the next chapter a visual identity will be created to use in this final design proposal.



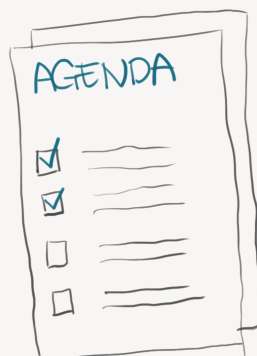
Card set

- + easy presentable to clients
- + easy to take to client meetings
- not much space per tool
- 3D tool and canvasses do not fit in the format



Webpage

- + could be easily integrated with visual/brand identity
- + shows transparency of the company
- + can be adjusted easily
- + can be combined with example projects
- 3D tool does not fit in the webpage

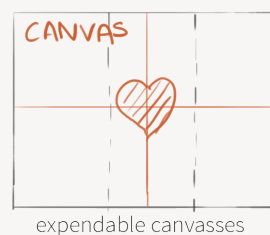


Meeting agenda's

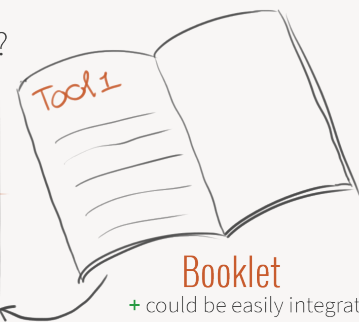
- + easy to take to client meetings
- not much space per tool
- visually less attractive
- 3D tool and canvasses do not fit in the format

Ideation toolkit

How can the tools be combined?

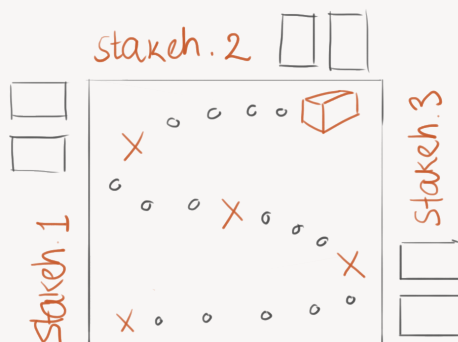


expendable canvasses



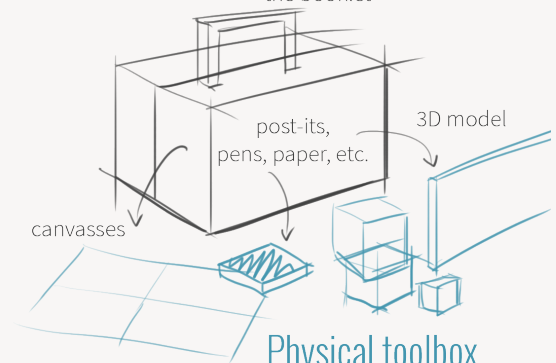
Booklet

- + could be easily integrated with visual/brand identity
- + easy to bring to client meetings
- + format visually attractive & presentable
- 3D tool does not fit in the booklet



Interactive board game

- + adds a fun factor to all the tools
- + really integrates all the steps of the framework
- not all the steps can be 'played' in one game
- more difficult to present at client meetings



Physical toolbox

- + all tools fit in a physical toolbox
- quite a lot to take to every client meeting

Fig 13.12.
Ideation design
toolkit

Related Appendices:

D.4. | Ideation
visual identity
| See page **58**

D.5. |
Webpage
design | See
page **62**

14. VISUAL IDENTITY

It was discussed in chapter 4 that the current communication style of Eco-Units was not very coherent and did not fit the values of the company. Therefore, a first step has been made in this chapter in defining the visual identity and communication language of Eco-Units more clearly. Moreover, a name for the toolkit was developed and some examples of this new identity are shown.

Although it was not the main focus of this project to create a visual identity, it was something that was missing at the moment at Eco-Units. To create a coherent final design proposal at the end of the report, a first step towards a more clearly defined communication style will be made in this chapter. It should not be seen as a finished and polished brand identity yet, but as a first step in better defining what the brand Eco-Units is. Nor, am I a graphic or visual designer. Therefore, it could be used as inspiration or discussion material to better define the corporate identity. In collaboration with a graphic / web design agency this could be elaborated further.

14.1. From mission to communication style

Some insights from the previous parts helped to define the company values and communication style as visualised in figure 14.1. Brands are expected more and more to be ethical and fair and therefore a company should be transparent about its business. Moreover, the communication style should fit the identity of a social enterprise. It is also quite difficult to understand the framework without context or explanation. This communication style could help Eco-Units tell their story. Lastly, the name Eco-Units does not cover the proposed Product Service System anymore, as it implies that it only sells Eco-Units. Therefore a new name is proposed in paragraph 14.2.

The company's mission was changed to meet the value

proposition. So, instead of improving just the outdoor public space, the mission was changed to: "improving the outdoor public space in co-creation with local citizens and stakeholders", as shown in figure 14.2.

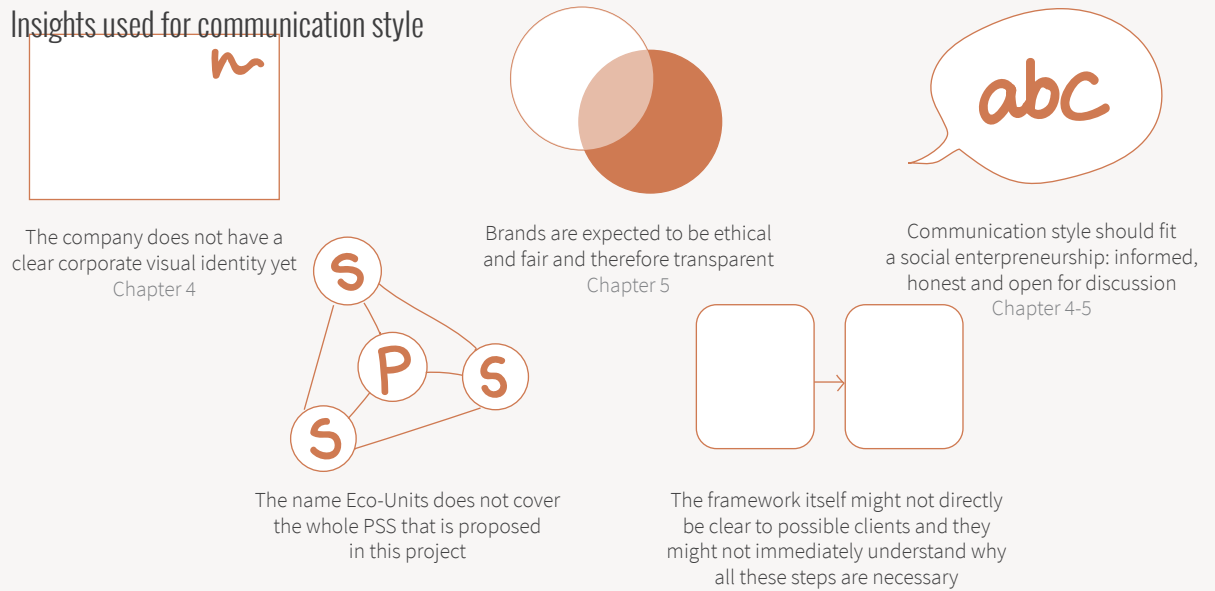
From this mission and insights from the previous parts four company values were formulated:

- **Tailored quality:** for a social enterprise it should be important to create quality, long-lasting products. This also refers to the long-lasting impact that the PSS should create. Moreover, the quality is tailored to the specific needs of the neighbourhood and client.
- **Inspiration through transparency:** companies being transparent is increasingly important for the consumer. This could be done through sharing yearly reports, showing production facilities etc. However, it could also be an inspiration for other companies. The tools that were designed for Eco-Units could for example be shared online, to not only be transparent about the way of working, but also to inspire other companies or organisations to involve citizens in their (design) process.
- **Empower through co-creation:** by working in a co-creative way, citizens are empowered to think along, to create better outdoor living environment for themselves in their own neighbourhood.
- **Responsible design and production:** this was already one of the main company values and feels like an obvious one, especially for a social enterprise.

Insights used for communication style

Fig 14.1.

Insights used for communication style



Company values and communication style

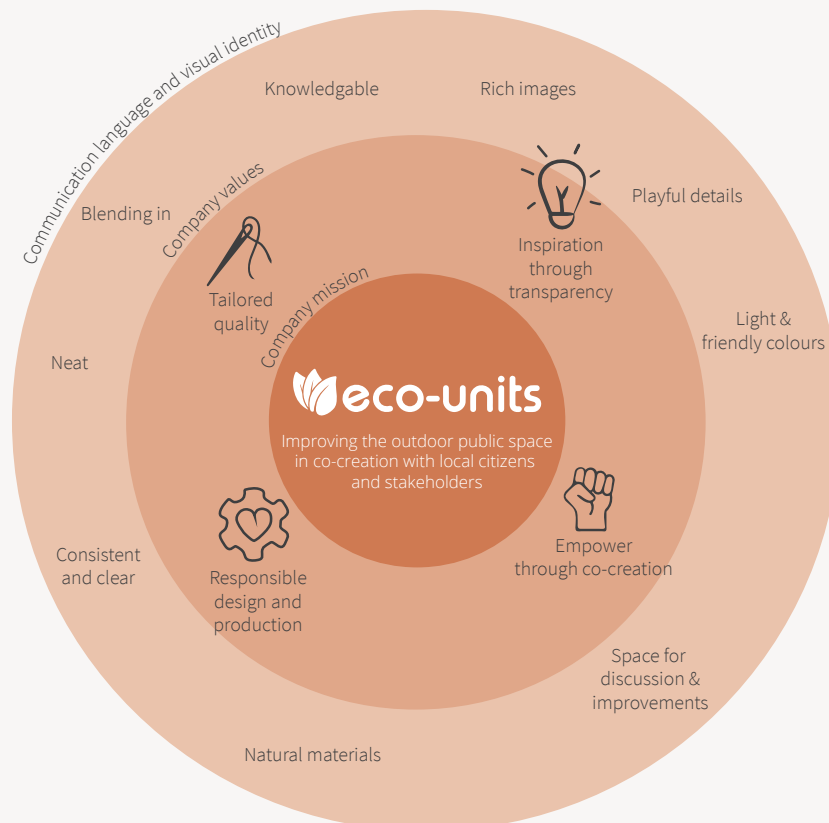
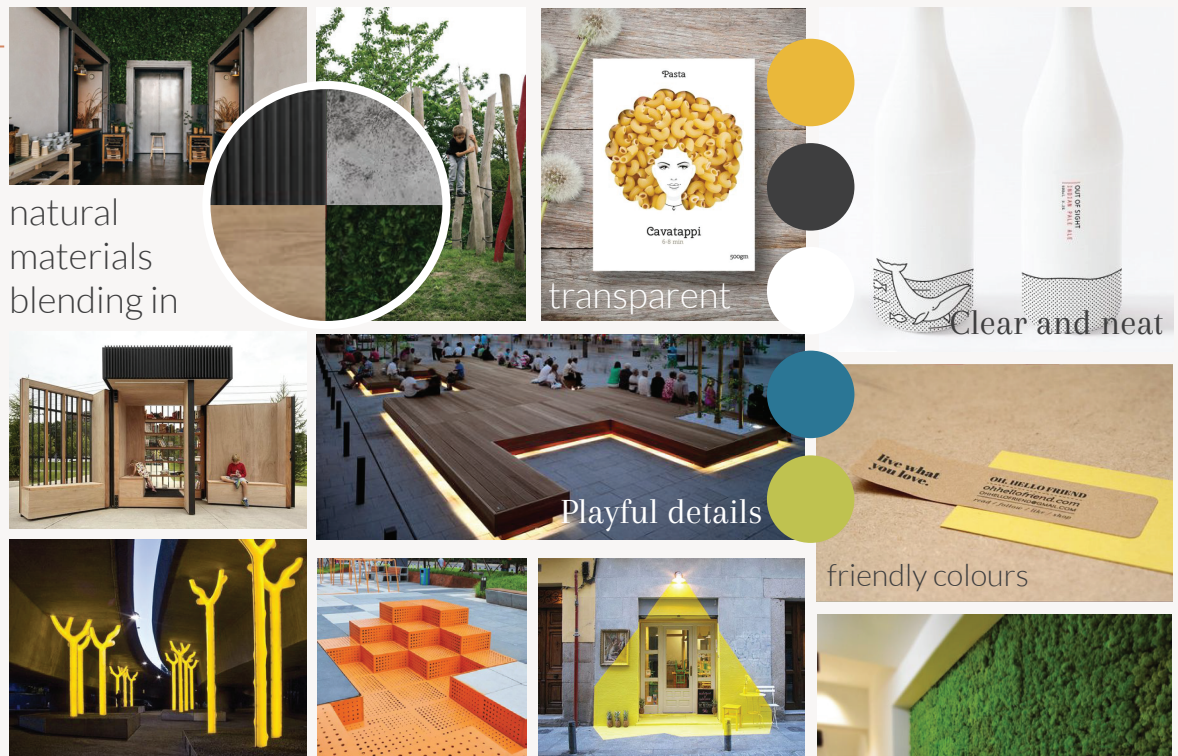


Fig 14.2.

Company values and communication style

Fig 14.3.
Collage of visual
identity



These brand values were then translated into a visual and verbal communication style, as shown in the outer circle of figure 14.2. Moreover, a visual impression of what these words is shown in figure 14.3. For example, the brand value 'inspiration through transparency' can be translated into light and friendly colours, playful details and rich (self-made) images of projects that were done by Eco-Units.

14.2. Name of Product Service System

At the start of the project the goal was to design a product: the Eco-Unit. However, this has changed during the project, because in the end a tool kit has been designed. Therefore, it seemed that this tool kit and the whole framework behind it, could need a separate name. An ideation has been done on the name, as can be seen in appendix D.4. Because the tool kit and framework make stakeholders combine their strengths, collaborate and in the end co-create with citizens, the name that was chosen was CO. COmbine, COoperate and CO-create (figure 14.4). A small logo study has been done as can be seen in figure 14.5 (a more elaborate version is shown in appendix D.4.). The new name

is to describe the whole PSS. This means that the Eco-Unit is a part of this PSS and therefore a part of CO.

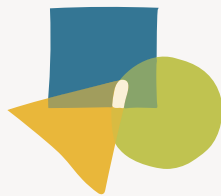
14.3. Communication example

The last step in creating a visual identity was to design an example, based on the collage. Therefore, a webpage has been designed, as shown in figure 14.6. The webpage is a scrollable one-pager.¹ The opening screen shows a slideshow of a few images of projects of CO. These should be images that show actual people that CO. collaborated with (so no stock photos). The menu has four tabs: What we do, our tools, about us and contact. When scrolling down it would be good to show a video of how CO. works. Then the three CO's are further explained as visualised in figure 14.4. Then the tools are shown. The webpage ends with a blog, which helps CO. to create a knowledgeable brand and create conversation with possible clients or users of the Eco-Unit. Posts could, for example, be about sessions that were organised, about the social workplace that they collaborate with or sharing thoughts about topics like social cohesion.

¹Some ideation on the design can be found in appendix D.4. The complete one-pager as described in paragraph 14.3. can be found in appendix D.5.

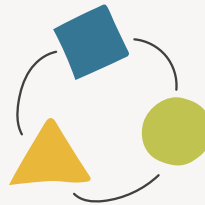
Fig 14.4.

Combine,
collaborate and
co-create



Combine

Because we look for multiple partners in each project, we are able to combine strenghts and resources. This way, we create liveable neighbourhoods together.



Collaborate

We bring together different parties and help to create a common vision. This could be the start of a long-term collaboration.



Co-create

Together with local stakeholders and citizens we build a meeting space for the community with our 3D tool.

Fig 14.5.

Logo ideation
(the last one is
the logo that was
chosen)



Combine
Collaborate
Co-design



Combine
Collaborate
Co-design



Combine
Collaborate
Co-design



Combine
Collaborate
Co-design



Combine
Collaborate
Co-design

Fig 14.6.

Impression of
the webpage
design²



²An interactive prototype of (parts of) the webpage can be opened with the following link: <https://xd.adobe.com/view/25e287dd-0eb8-4986-771f-b5eccef85a63-53d3/?hints=off>.

WAARDES

Welke waarden hebben we gemeenschappelijk. Hoe kunnen we die meenemen?

co-create

leren

ruimte
zandbak

Samen

aanpakken
A. Kuntze

De toekomst
leuk
maken
PLEZIER

Circulair
leefbaarheid
data
duurzaamheid

koppeling
fysiek &
sociaal
domein

Sim Belar
Rijkswaterstaat

VISIE

WIE WAT WANNEER?

Wie is waar verantwoordelijk voor om deze doelen te bereiken? Missen er nog partners of competenties?

Datum & Locatie:
Aanwezigen:

DOELEN

Wat zijn gemeenschappelijke doelen die anderen niet aan gedacht hebben? Wat willen we bereiken in

PART E EVALUATE & DECIDE

In the last phase the concepts of the previous part are evaluated. This will be done in three ways. First of all, a stakeholder session with the municipality of Rotterdam was organised to evaluate the first two steps of the framework in practice. Secondly, the toolkit was tested with the end-user: Eco-Units. Lastly, an expert evaluation has been done with a designer of the municipality of Rotterdam to evaluate the other steps of the framework. These evaluations will lead to a final design proposal along with a business model and recommendations for implementation.

Related Appendices:

E.1. | Partners
for case study |
See page **64**

E.2. |
Conversation
municipality
of Rotterdam |
See page **66**

E.3. |
Evaluation
forms | See
page **67**

E.4. |
Visualisation of
results for the
municipality |
See page **70**

15. PILOT MUNICIPALITY ROTTERDAM

To test the design toolkit a pilot session was organised with the municipality of Rotterdam. In this chapter the goal and set-up of this pilot are described. Furthermore, the session itself is described and the results and insights of this session. These insights will be used to make recommendations for the design of the toolkit, which will be taken into account in the final design proposal (chapter 18).

15.1. Goal of the pilot

To see how the designed toolkit would work in practice possible future clients were contacted for an evaluation. The municipality of Delft and Rotterdam were contacted and several housing corporations in these cities (appendix E.1.). The municipality of Rotterdam was very enthusiastic about the project (appendix E.2.) and wanted to collaborate in the form of a pilot. Since it was not possible to test the whole process and toolkit, due to the time span of the project, it was decided to focus on one of the steps from the framework. The goal of this pilot will be twofold:

- First of all, one of the tools are tested with the target group. This gives insights into if and how this specific tool will work in practice, and possible improvements to the tool that can be made.
- A second goal is to see what they think of the process and Eco-Unit in general. By explaining the steps that would follow-up the session, and how these steps could lead to an Eco-Unit, insights can be gained on the complete process.

is interesting to them, because it will be the first one to go completely gasless in Rotterdam. Moreover, the neighbourhood should become an example of what Rotterdam could look like in the future and how multiple urban management projects can be tackled at once, while at the same time improving the liveability. (Gemeente Rotterdam, 2018). A team consisting of different clusters within the municipality is working on making this neighbourhood energy neutral.

Which tool was tested?

The municipality already mapped stakeholders (within and outside of the organisation) themselves, therefore it was chosen to start at step 2. A second reason was that the steps including citizens were difficult to establish for the municipality, because citizens might then actually expect from the municipality that an Eco-Unit will be placed in their neighbourhood. Because they didn't want to create false expectations, it was decided to focus on step 2.

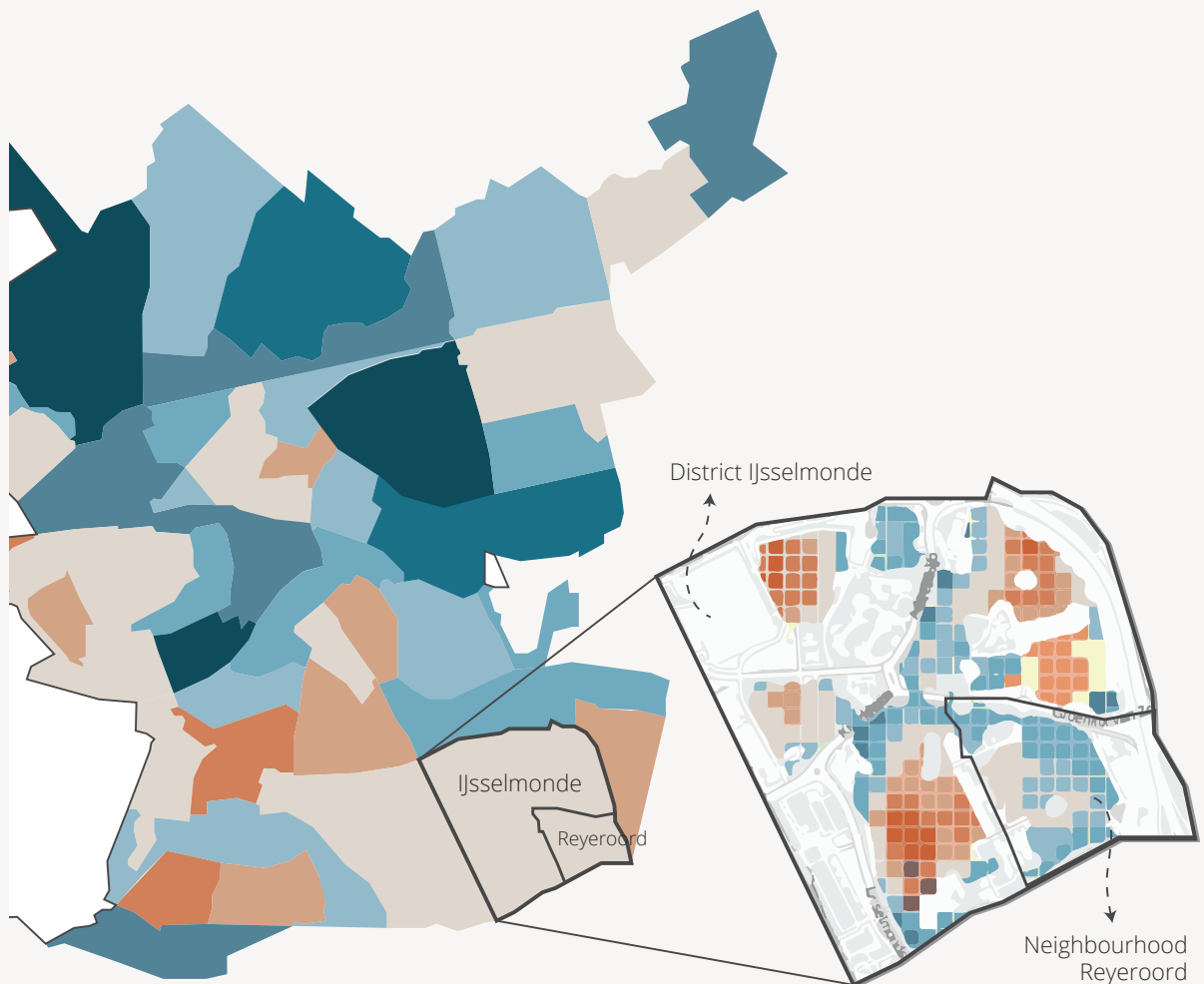
15.2. Set-up

Which neighbourhood was focussed on?


A pilot session of 1,5 hours was organised, which was focussed on the area Reyerwaard in Rotterdam. The municipality calls it 'a very regular neighbourhood in Rotterdam', which is also confirmed by the Leefbaarometer, as shown in figure 15.1. However, this neighbourhood


What was step 2 again?


In the second step a team vision for the neighbourhood will be created with the stakeholders that are involved in the project. The goal is to find mutual goals and values, and also see what stakeholders are able to contribute. It consists of an individual canvas and a vision (team) canvas, to combine insights and goals.




ROTTERDAM

 population size 629.606 citizens

 area 32.416 ha

 household composition
 one person household 48%
 households without children 23%
 households with children 30%
 average household size 2

 urbanity
 very strongly urbanized (category 1)¹

Liveability Situation, Neighbourhoods, 2016

 Very Insufficient
 Largely Insufficient
 Insufficient
 Weak
 Sufficient
 Very Sufficient
 Good
 Very good
 Excellent
 No data

Fig 15.1. -

Liveability in Rotterdam per neighbourhood, adapted from Leefbaarometer (2016) and CBS (2016a)

¹The 'urbanity' is a categorisation made by CBS (2014) that shows the density of addresses for living, working and/or shopping. The categories range from 1. very much urbanized to 5. non-urbanized.

Time planning session

The session was planned to look like this:

- I gave a short introduction to the topic and the session (5 min).
- Secondly, one of the team members was asked to give a short introduction about the neighbourhood (5 min).
- Then the individual (stakeholder) canvas was filled in (15 min).
- Afterwards we moved to the vision canvas (45 min).
- A short summary of the session was given and the tool was placed into the context of the research that was done and the framework to also get feedback on this (10 min).
- Evaluation forms were handed out to fill in by the participants (10 min).

People joining the session

Although all team members that joined the session, are employees of the municipality Rotterdam, they are still from different clusters and departments and therefore

have different opinions. The session was facilitated by me. Pictures and video materials were made in between.

15.3. Description of the pilot session

Eleven participants joined the session on the 16h of July 2018. It started with a short introduction of everybody and then a short presentation of me, explaining the tools. A short introduction of Reyerwaard was given by the 'Transition Manager'. The individual canvasses were handed out and filled in by the participants (figure 15.2). There were post-its on the table, but nobody used them at this stage. Filling in the individual canvas didn't seem very difficult, as most of the participants wrote a lot. Then everybody was asked if they wanted to share something about their individual canvasses. After a short round, we moved to the vision canvas that was printed out on A1 and put on the wall. Everybody was handed some post-its. For some participants it wasn't clear at this stage, why we were going to define a vision, because they thought they had already



Fig 15.2. - Participants are filling in the individual (stakeholder) canvasses

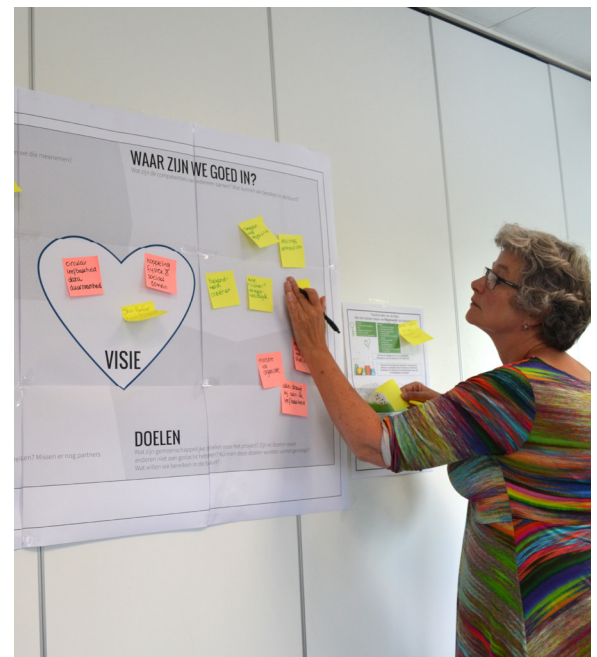


Fig 15.3. - Team canvas is filled in

done that a few times. Filling in the vision canvas started with repeating some things that were said when filling in the individual canvasses. The Transition Manager joined me with putting post-its on the vision canvas and for a big part she took charge from then on (figure 15.3). Some others of the group then started to add to the discussion as well, and started writing on post-its. A lively discussion started (figure 15.4), although still not everybody joined the discussion. In the end, there was too little time to come to a final conclusion for the vision, but the canvas was filled well with post-its (figure 15.5). Lastly, I gave a short presentation about the framework and asked for feedback on this, while the participants filled in the evaluation form (appendix E.3). After the session the canvas was elaborated and made more visual and send to the municipality to summarize the session. This was accompanied by some recommendations to continue the process with Eco-Units (both can be found in appendix E.4). The municipality liked that the session was made more visual. These visuals are now discussed internally and the possibility of buying an Eco-Unit.

15.4. Results & main insights

The results and main insights are described below per topic. The results of the evaluation form can be found in figure 15.6.

Individual canvass

The individual canvasses were filled in easily, although some participants found it difficult to fill in their own needs and/or values. The individual canvas did help to make participants think about the questions for themselves, before the group discussion started.

Vision canvas

The questions on the vision canvas were good enough to trigger a good discussion. However, took a while before the discussion really started. In the end, we were therefore short in time to really form a vision and conclusion of the session. The order of the different parts of the canvas wasn't clear, because they started in the middle immediately.

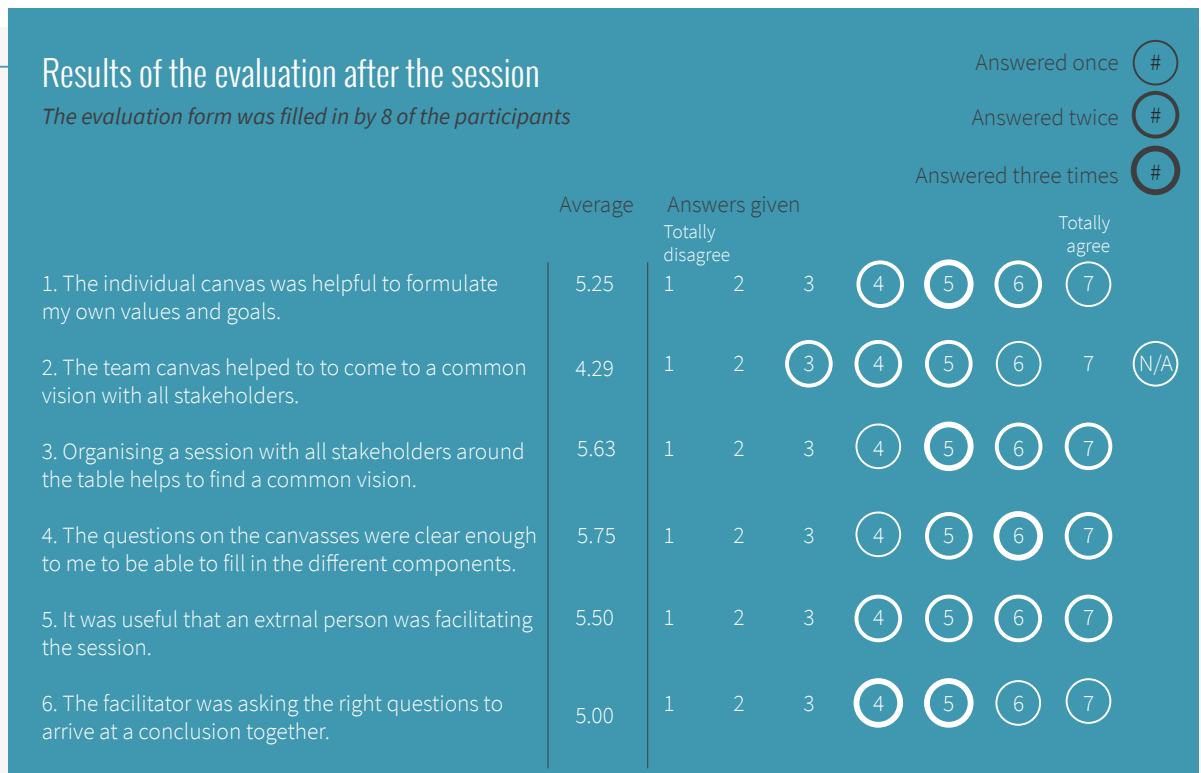


Fig 15.4. - Discussion on the team canvas



Fig 15.5. - Result of the session

Fig 15.6. -
Results of the
evaluation of the
session



Lastly, the “What, Where, How” (left bottom corner of the canvas), was a bit out of place in this session, because there wasn’t time to form concrete action points. However, it was used for thinking about external stakeholders that could be incorporated (more) into the process.

The session in general

The session could have a bit longer, or a follow up session could have been organised. Some participants thought the discussion was just starting when we had to stop, but others thought it shouldn’t have been much longer (appendix A.3). Secondly, halfway the session it was not clear to all participants what the goal of the session was exactly, and some of them did not like it to not have a clear end goal, while others had a more ‘go with the flow’ mentality and were curious to see where it would end. Moreover, people did find it useful to have such a session facilitated by an external person.

The framework

The responses to the framework were very mixed. Some were doubting if it was really possible to give citizens the responsibility of an Eco-Unit. Others did see a lot of possibilities, but emphasized the role of a (professional) community manager or neighbourhood coordinator in this process.

Secondly, the participants thought that not all steps were necessary in every process, and the process could also start

from a more direct demand from the citizens.

Lastly, for the municipality, the benefits of an Eco-Unit were really to have a place to come in contact with citizens, to involve and inform them about the changes that were going to happen. However, they were not sure why an Eco-Unit was the best solution then and why it was not possible to use a community center, for example. The possibility of making coffee seemed very important to them if you wanted to attract citizens.

15.5. Discussion of results

For me it was the first time to facilitate a session like this, which could have influenced the session a little. Especially, losing participants in the beginning was a bit difficult. However, compliments were also given in the end, so the overall session went well.

Furthermore, in this session the tool wasn’t tested with stakeholders from different organisations. Therefore, the group of participants was already more familiar with each other and it might be that they spoke more easily than they would do if they didn’t know each other at all.

15.6. Conclusion and recommendations for the design

Below the conclusion per topic is described and recommendations for the design are given.

The tools

Both the canvasses seemed to work well to trigger discussion and get to know the different values and goals of different stakeholders. However, a few things could be improved. First of all, the order of the questions on the canvas could be made clearer. Secondly, a bit of inspiration could be given for the individual canvases, for example with cards showing possible values, or needs. This could help to make every participant feel comfortable to join the overall discussion in the second part of the session.

The session in general

The goal of the session should be explained very clearly. This could be done by giving an example of previous sessions and show what could be the result. Moreover, it has to be taken into account that the session will take about two hours, instead of 1.5. Finally, before starting with the vision canvas it could be good to have some tool or game to loosen people up a little for 5 tot 10 minutes, to start the discussion earlier on.

The framework

The framework could be designed more flexible, so the different steps can also be used in a different order, and some steps might even be skipped. A step before the framework would be good to define the process with the client.

Secondly, for the municipality, the goal of an Eco-Unit was not directly to improve social cohesion or liveability. They particularly saw opportunities to showcase and communicate about (sustainability related) changes in the neighbourhood.

Related
Appendices:

E.5. | Results
evaluation
Eco-Units | See
page **72**

16. EVALUATION ECO-UNITS

An evaluation of the toolkit was organised with the company Eco-Units, to get feedback from them on the tools. In this chapter the goal and set-up of the evaluation are discussed and the insights that were gained are described. When possible, these insights will be used in the final design proposal.

16.1. Goal of the evaluation

The goal of this evaluation is to understand if the toolkit and tools are understood by Eco-Units. Which steps does the company understand and which steps are not clear yet? Moreover, would Eco-Units feel comfortable to facilitate sessions like this? Lastly, would they need extra support in (some of) the steps? What improvements could be made to make the toolkit work for the company?

16.2. Set-up of the evaluation

During the evaluation the tools were explained step-by-step by the researcher to the owner of the company Eco-Units (figure 16.1. and 16.2). The company was asked to think-out-loud and mention anything that stood out. Afterwards some questions were asked by the researcher about the toolkit. The evaluation session was recorded.

16.3. Insights of the evaluation

Appendix E.5. gives a summary of the questions asked after the evaluation. The most important insights are described in this paragraph.

A first remark of the company was that she still had some questions about which stakeholders were involved in each step, and would like to see more clearly what the role is of the neighbourhood ambassador.

Secondly, the company saw the process as something very flexible, and wondered if all steps are needed for every client. She thought that more often than not there would already be a clear question or need from the neighbourhood, which would mean that some of the steps are not necessary. Therefore, she considered it necessary to include a “step zero” where will be defined which steps are necessary in the process. Something like a visualisation or animation of the process could help her with convincing her client which steps are needed and why.

About the use of the tools the owner of the company was clear that she would feel comfortable using them and facilitating these kind of sessions. However, for the more creative sessions, she might want to hire someone to bring some energy into the session beforehand with some humor. Since she would also be the executive party, she didn't feel comfortable doing that.

The last insight was that it will be a very different approach for Eco-Units to do business, from a traditional sales business model, it moves towards a more project-based way of doing business, where consulting hours are the main business model. She did see it co-existing with a more traditional way of selling the Eco-Unit, and believed that some clients would need a whole process before they could spend such a big amount of money on an Eco-Unit.

16.4. Conclusion

For the final design proposal a closer look should be taken at the flexibility of the process. Moreover, it could be useful to include a “step zero” or kick-off, where the company can discuss with the client what the process will look like. To convince the client of this process, a more visual approach could be used. Lastly, the business model could be described more in detail.



Fig 16.1.- 16.2.
Evaluation with
the owner of
Eco-Units

17. PEER EVALUATION

A final evaluation was organised with fellow students from Industrial Design Engineering and Urbanism and recent graduates. The goal of this evaluation was to test the tool for step 5. In this chapter the goal, the set-up and insights of the evaluation are described. Moreover, conclusions and recommendations are given for the final design proposal.

17.1. Goal of the evaluation

The goal of the evaluation was to gain a better understanding of how the fifth tool could work in practice. This step was chosen for two reasons. First of all, it is a very crucial step in the process, because this is the step that will lead to the actual design of an Eco-Unit and the step where everything should coincide. Secondly, it is the only 3D tool in the process, and therefore it is more difficult to predict how this tool will work in practice.

17.2. Set-up

For the evaluation a prototype of the tool was build from foam board and printed textures. A one hour session was organised on the 7th of August with five fellow students and recent graduates.

What was step 5 again?

In the fifth step of the process the Eco-Unit is co-designed with citizens and the client, to create an Eco-Unit that is supported by the neighbourhood. It will create a feeling of ownership, because they have designed the solution themselves. A balance needs to be found in this step between giving citizens (creative) freedom to come up with solutions themselves, while at the same time supporting them with examples, making sure that the Eco-Unit can be produced and fits within in the budget.

During the evaluation a fictive case study was chosen in a neighbourhood in Delft (figure 17.1), because all participants were familiar with Delft. Images of the neighbourhood were printed out and a location for the Eco-Unit was chosen. Normally, a session would be held before this session where the needs of the neighbourhood are defined. Due to time constraints, it was chosen to focus this session on the problem that there was a lot of nuisance caused by adolescents.

The participants were asked to each take a different role, to create discussion. The different roles were: an elderly man, a mother, a Syrian refugee, an adolescent and a student. Although it is not very likely that all these different citizens will be around the table in one session, it did help to get the participants empathize with a different person, and to create discussions during the session.

Fig 17.1. -

Images to show where the Eco-Unit would be placed and what the neighbourhood looked like



Fig 17.2. -
Participants
building with the
tool



Then the actual session started, where the participants were asked to use the tools on the table. A short explanation of the different aspects of the tool was given: the outside of the unit, the building blocks for the interior and the cards for the different component. Each component was given a price in the form of points (1 to 5 points) and the participant were given 45 points to design with.

The session was facilitated by me. During the session pictures and video materials were made. Afterwards questions were asked about the session to the participants.

17.3. Insights session

Overall, the participants really liked the session and thought that actually building something in 3D was really helpful. They said that they also started thinking in 3D, and for example added shelves above other items (figure 17.2 - 17.4). They weren't sure if they would do that if it was in 2D. Moreover, they liked the idea of the points as a way to measure the costs and said it therefore almost felt like a game. A good balance was found between keeping the tool somewhat abstract, so participants could come up with ideas themselves and at the same time offering concrete

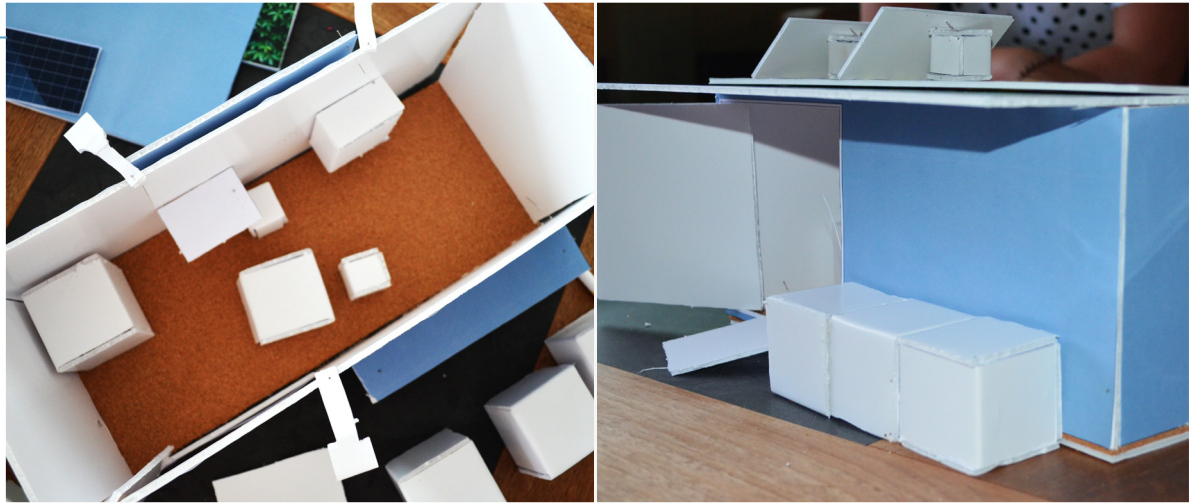
building blocks.

The participants were a bit hesitant to start building in the beginning, because they felt there was no clear goal yet for the container, except for the problem that there was nuisance of adolescents. They felt that they needed to think about the main function of the container first, before they could start building.

The participants considered the group size as exactly the right size. Otherwise there would be too many opinions to actually build something.

During the session most of the component cards were not filled in yet, to see what participants would come up with themselves. They came up with many possibilities (figure 17.5), but nothing very different from the ideas that were already described in appendix D2. Therefore, they thought it would be better to have more fixed choices and leave just a few cards blank.

Fig 17.3. & 17.4.
Design proposed
by participants



17.4. Conclusions and recommendations for the design

To better link step 4 and 5 it could be recommended to make this one big session of an afternoon with a break in between. In step 4 a clear goal or function for the unit should be already be defined. In this way there will be a more clear goal to start building with in step 5. If this is not possible and there are different participants in both sessions, this goal should get extra attention at the start of step 5.

Moreover, it could help to let the participants first think for themselves about what they would want in the Eco-Unit, as a warming up exercise. This could be done with the cards on the table by letting everybody pick one or two favourite cards.

Thirdly, the prototype was made from foam board and needed to be put together with pins. For design students this was no problem, but it would be better to have more practical solution that is easier to assemble and disassemble. Moreover, they weren't really familiar with the size of a container. A scale figure could be good, to better clarify this.

Lastly, the group size was good, but the participants were not sure if this could represent a whole community. They suggested to make a few groups of four to five people, and let the different groups present solutions to each other. The groups could even switch in between. In the end, the best aspect of each group, could be incorporated into one design, or the groups could vote for the design that they like the most.

Fig 17.5. -
Participant
drawing new
components for
the Eco-Unit



18. FINAL DESIGN PROPOSAL

Insights from the evaluations described in chapter 15 and 17 were used to create a final design proposal. This chapter summarizes the main insights from the evaluations and the changes that were made for the final design proposal.

18.1. Main insights evaluation

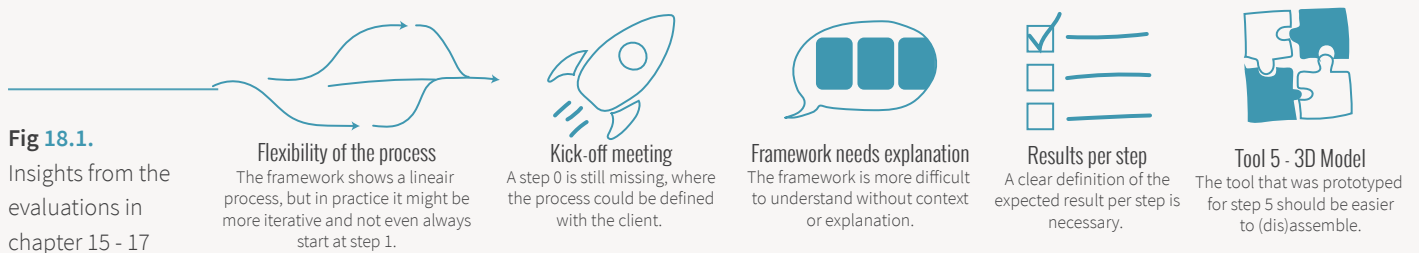
A first insight from the evaluations (figure 18.1) is that the process could be designed more flexible. For example, if there is already a clear need for the neighbourhood or there is a demand from citizens for the Eco-Unit, the process could start in step 4 already or steps could be switched. In line with this, it would be good to include a kick-off meeting with the client, to better define this process before starting. Thirdly, the framework still needs quite some explanation and context before it is understood well. Moreover, the expected results per step could be defined better. This could also make the framework more understandable. Lastly, the 3D model in tool 5 should be easier to (dis)assemble and could look more professional than the prototype used for the peer evaluation.

18.2. Changes made to the PSS for final design proposal

The final design proposal is visualised on page 86 and 87. It shows the elaborated framework, the 3D tool and the proposed visual identity (booklet and web-page).

The framework

A kick-off meeting is added to the process. During this kick-off meeting, the process is defined for the specific client. Therefore, the framework should not be seen as a linear process, but more as the building blocks of this process. If there is already a collaboration between different stakeholders and a clear vision for the neighbourhood, step 1 and 2 could be skipped for example. Moreover, some iterations were added at step 2 and 5, because it could be that not everybody agrees during those meetings and some settling time is needed. Then a new iteration can be made. Lastly, the framework is extended with the tools, results and expected time frame per step.



A co-designing approach for Eco-Units towards more social cohesion

Framework



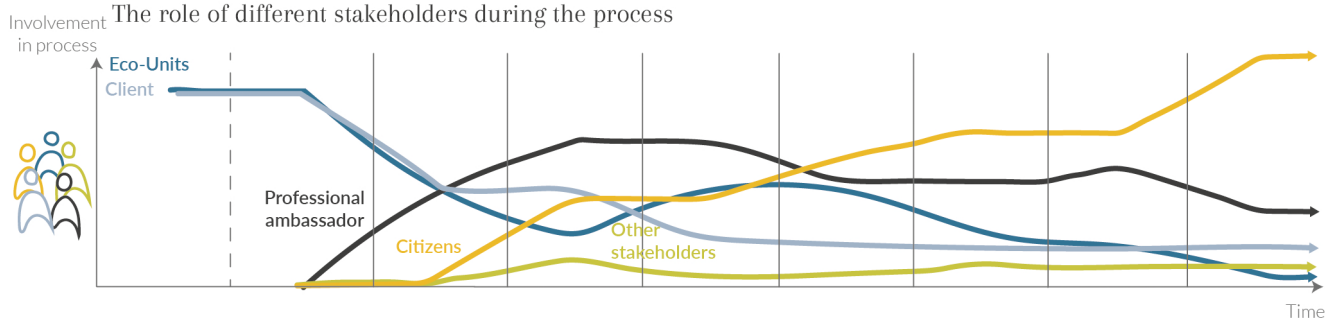
A process of creating trust

Between partners & professionals → Between professionals and citizens → Trust in oneself (citizens) → Maintain

Steps to take



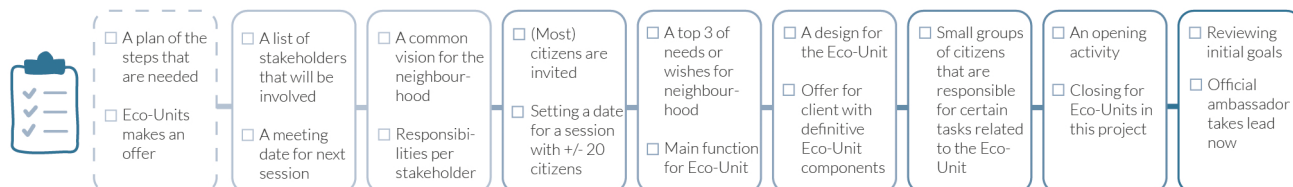
The role of different stakeholders during the process



Tools to use



Result per step



Timeline





¹An interactive prototype of the webpage can be opened with the following link: <https://xd.adobe.com/view/25e287dd-0eb8-4986-771f-b5eccef85a63-53d3/?hints=off>

Booklet

To define the process a lay-out was designed for a booklet. This booklet should contain all the steps of the process and could be used to discuss the process with the client. Moreover, it is a good handhold for Eco-Units to keep an overview of the steps. Every step starts with stating the goal clearly. On the left page there is an image of what the step looks like and some quick facts about the step (the amount of time and participants needed for example. It also shows how the visual identity can be applied to other communication materials. The style of the booklet could even be used to create an offer for the client: a personalized booklet with his own steps from the framework and a timeline for the process. All the information for the booklet can be found in the instruction sheets that were proposed in chapter 13 (and appendix D3). At the back of the booklet there could be space to store canvasses and loose cards.

3D model

The 3D model tool used in step 5 was developed further. Because the design of the tool should be flexible and it should be easy to produce new parts when new components for the Eco-Unit become available a rapid prototyping method was used. 3D printing and laser cutting were both considered, but because the shapes can be designed in 2D, it was chosen to use laser cutting. The wood material also seemed to fit the visual identity of CO. better.

The material that was chosen, is 9 mm poplar plywood, which is the thickest wooden plate that can (usually) be laser cut (Laserbeest, 2018). The thickness will create a sturdy model that can be used many times in creative sessions. The laser cut parts can be easily (dis)assembled now. Moreover, it is easy to create extra materials, because the drawings can be used as many times as needed.

The scale of the model is 1:16, which was also the scale used in the peer evaluation. This seemed a good scale for about 4 to 5 people. The bigger blocks are made from 6 laser cutted parts, glued together. The smaller blocks can be bought at a DIY or model store. Elements like grass (for a sedum) roof can be easily added with maquette materials, or be printed on top.

19. BUSINESS MODEL

The last thing that needs to be discussed is how the framework and tool kit will generate revenue for Eco-Units to become a financially sustainable business. To explain this, the business model canvas is used. Moreover, it is shortly discussed what this new business model means for Eco-Units as a company.

19.1. Business model canvas

The business model canvas is a tool to define and develop the business model of the company. Because Eco-Units is a social enterprise, a 'triple bottom line' canvas was used. Triple bottom line enterprises strive 'to minimize negative social and environmental impacts and maximize the positive impacts' (Osterwalder & Pigneur, 2010, p. 264). In other words, this is a way to show the social and environmental added value of a company, but also a way to think critically about possible negative impacts that could be caused by the business model. The business model is shown in figure 19.1 (next page). Current aspects of the business model are highlighted in orange and new aspects of the business model are highlighted in blue.

The main change is that Eco-Unit will now be offering not only a product, but a complete product service system. This will hopefully lead to a positive long-lasting impact on the social cohesion in the neighbourhood. The new web-page will be a very important communication channel towards possible clients. Also facilitating the (creative) sessions could be a good way to attract new clients (a partner in one neighbourhood, could be a client in another). To create demand with citizens Eco-Units could try to present themselves through platforms like 'Nudge' and 'Voor de wereld van morgen'.

Moving to the left side of the canvas, an important change is the key activities. Selling a product will become a much

smaller part of the company than it is now, while facilitating sessions will become a bigger part. For the costs and revenues structure this also means that money will be earned through offering these consulting hours.

The bottom of the canvas shows the social and environmental added value. This is creating the long-term collaboration that will hopefully lead to an improved social cohesion. Moreover, the Eco-Unit itself leads to an increased biodiversity. The specific function of the Eco-Unit could also have other benefits, like citizens being outside more, children playing more or adults moving more. But this dependent on the function that is given to the Eco-Unit. On the other hand, it is also important to consider possible downside of the business model. For example, a person who does not want to be involved in the process, could become a stakeholder if the container is placed right in front of his or her house. Lastly, the question could be raised if reusing a sea container in this way, is the most efficient and effective way to do so.

19.2. Implementation

A business model also has implications for the organisation of the company in the following five areas: strategy, structure, processes, rewards and people. These five should be aligned within the organisation around the business model (Osterwalder & Pigneur, 2010, p. 270). Some might be more relevant than others for a small company, but they will shortly be discussed.

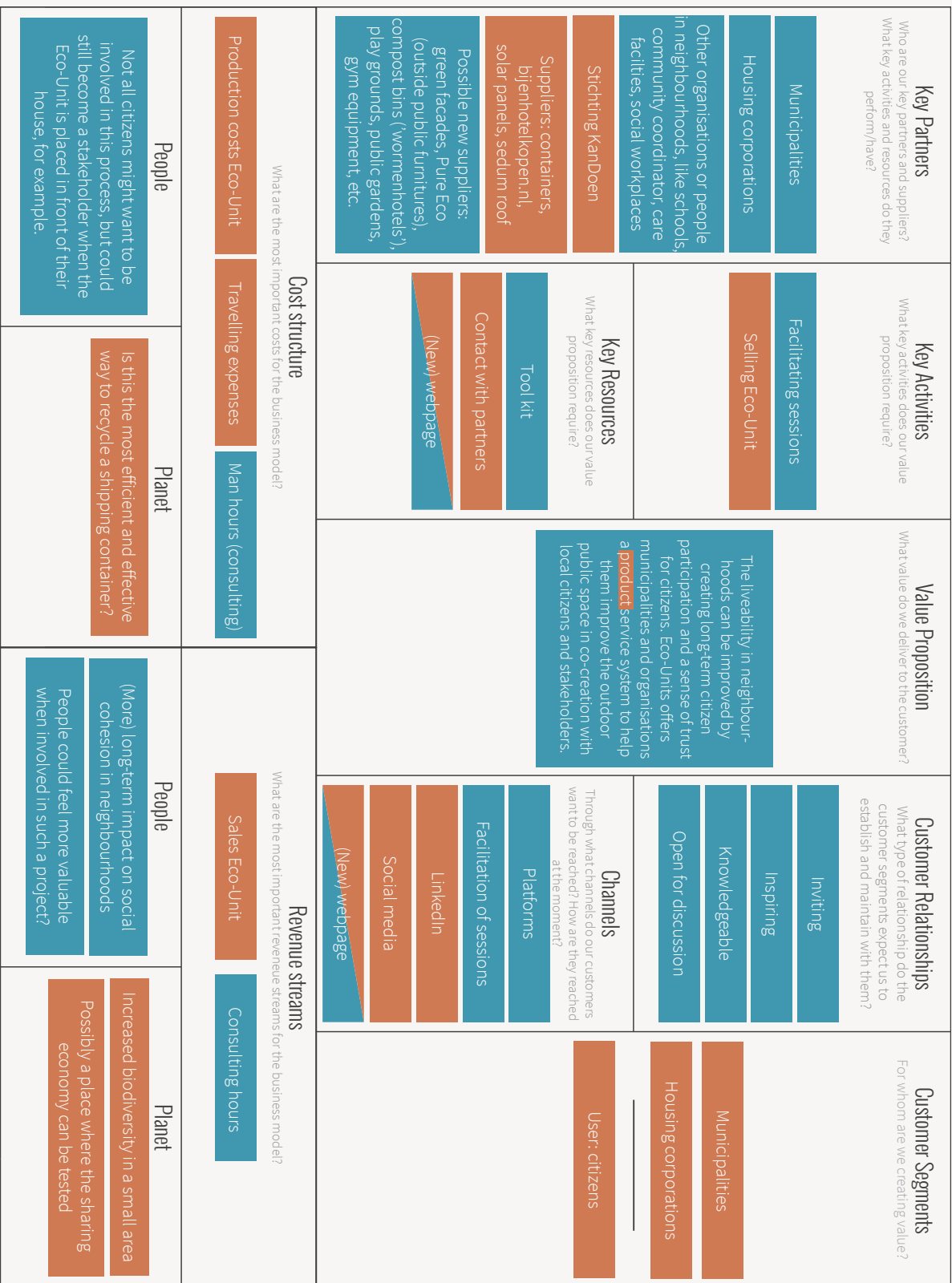


Fig 19.1.
Triple bottom
line business
model canvas

Strategy

The strategy of the company will change from being a sales company towards offering a complete service to improving the social cohesion in the neighbourhood. Since the Eco-Unit is just a part of this business model, it could be considered to see the value proposition in a broader sense. 'Improving the outdoor public space' could be done in many more ways than placing an Eco-Unit. The services could be extended with partnerships with suppliers of sustainable outside furniture (benches, tables that are placed in the public space)¹, landscape designers, sustainable playground suppliers, etc.. The same framework and tools can still be applied, but it would make the value proposition even stronger

Structure & Processes & Rewards

The structure of the company will not change anytime soon probably, because the financial resources are not present (yet) to grow as a company. However, by collaborating with more partners, the company can grow with little financial resources. This also fits in the trend of the transformation economy as described in chapter 5. The processes and work-flow of the company will not change, since it is still a two-person company. A rewards system isn't necessary either when being a two-person company.

People

The last aspect is very relevant again. Both employees at the company do not have experience yet with facilitating sessions in this way. Although the owner of the company said she would be comfortable to facilitate session like this, it could be helpful to have someone that could loose the participants at the start of a session a little. Moreover, working out the sessions visually (like in appendix E4) asks for (graphic) design skills. It can also be worked out without the visuals, but the visual aspect increases the value of the documents. Working together with freelance social and/or graphic designers could therefore be very helpful.

¹For example Pure Eco (NL Greenlabel, 2018).

PART F CONCLUSION & RECOMMENDATIONS

In the final part of the report the project is concluded. Moreover the results are discussed and improvements are proposed. Recommendations are given to implement the results and for further development.

20. CONCLUSION

In this chapter the report is concluded. It shows if and how the design goal, that was stated in chapter 9, is met.

Eco-Units wants to improve the social cohesion in disadvantaged neighbourhoods by offering a meeting place for citizens in neighbourhoods in recycled shipping containers. The design goal of the project was:

“to create a development tool kit for Eco-Units to be able to develop an Eco-Unit that stimulates social cohesion in disadvantaged neighbourhoods in co-creation with stakeholders and citizens.”

The proposed solution consists of a framework that describes the steps that are needed to develop an Eco-Unit (figure 20.1). Secondly, a tool kit is developed where the steps of this framework were translated into tools that can be used to design the Eco-Unit (figure 20.2.). The framework and tool kit start by creating trust between partners in the project. Then trust is created between the partners and citizens. Lastly, trust is created between citizens. This means that the framework looks at both the horizontal and vertical interactions that define social cohesion. Therefore, the proposed solution does offer the tools to stimulate social cohesion while co-creating an Eco-Unit with all stakeholders and citizens involved.

Fig 20.1.
The framework

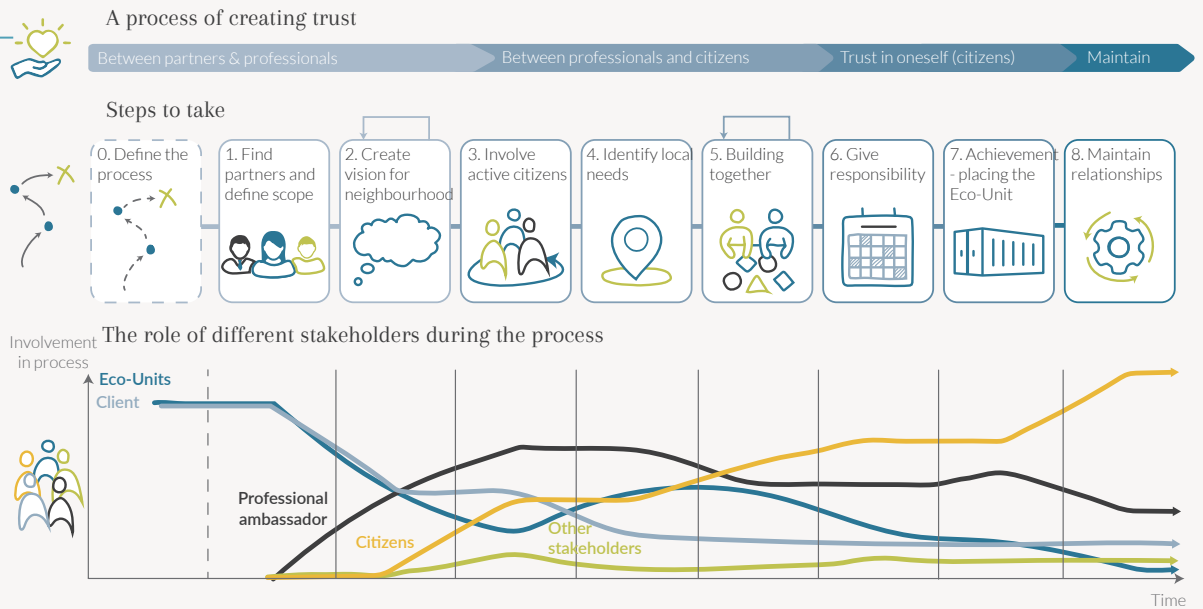


Fig 20.2.
An impression of
the tool kit and
visual identity



21. DISCUSSION & RECOMMENDATIONS

In this chapter the project and design process are reviewed. Secondly, recommendations are done for Eco-Units regarding the further development of CO. Lastly, recommendations are given for further research on this topic.

21.1. Review design process

Due to the limited amount of time for the project, it was not possible to test all the steps and tools that were developed. This would still deserve some more attention when further developing the toolkit. The iterative approach, where tools are prepared and then tested with clients or citizens could be used again in this process.

The design guidelines that were stated in chapter 9 were all addressed during the project. However, most of the guidelines are qualitative and are therefore difficult to measure. For some guidelines the tools also need to be tested further in practice to see if they were met, like the guideline that the tool kit helps to build a more positive (future) image of the neighbourhood for both citizens and professionals. This is something where time will tell if the tool kit actually worked out this way. These aspects were also difficult to measure, because the tools were not tested with any citizens yet.

However, the complete process and design proposal should give Eco-Units a lot of hand holds to further improve their company.

21.2. Recommendations for implementation

Some recommendations for the implementation of the business model were already mentioned in chapter 19. However, some aspects of the design need to be

developed further to implement the tool kit. For example, the components and prices per component that Eco-Units can offer should be detailed more before using step 5 with citizens. Secondly, the visual identity could be elaborated further and a webpage demonstrating the tools should be build. Moreover, partnerships with a social and/or graphic designer could be necessary.

Finally, the housing corporation and municipality are looking for quantifiable results in the end. This could be developed more. For example a measurement tool could be implemented in the process, or even in the Eco-Unit.

21.3. Recommendations for further research

The proposed framework is currently specified to the company Eco-Units. However, the general approach of creating trust between the different parties in a stepwise approach could be useful in other projects where municipalities want to collaborate with citizens as well. More research could be done into these vertical interactions between municipality and citizens, but also into how citizens that have confidence in themselves can improve the social cohesion in the neighbourhood.

The separate tools could also be useful in interactions between stakeholders who want to improve the social cohesion in an area. These tools could be researched further and improved.

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Images

[p70] Images used in collage (all retrieved on 23rd of June 2018):

- https://www.architectmagazine.com/project-gallery/story-pod_o
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[p86] Image lego: retrieved from http://www.sunburntconsulting.com.au/wp-content/uploads/2013/03/dreamstime_m_7072519_buildingblocks.jpg on 10th of August 2018.

[p86] Image Eco-Unit: retrieved from <http://eco-units.nl/eco-units-zeecontainer/> on 10th of August 2018.

