

Behavioural Change Analysis of Meppel Residents: *Interventions for Engaging Citizens in the Circular Craft Centre*

BEENICE

JOHANNA EMILIE TAMMIK

SAMIRA GUNSELMANN

SANDRA GANTNER

JULIAN VAN LEEUWEN

2023

Table of contents

Executive Summary.....	1
Current Persona Canvases.....	2
Current Sofa Lifecycle.....	6
Future persona Canvases.....	7
Future Sofa Lifecycle.....	11
How to Move From a Linear to a Circular Sofa Lifecycle.....	12
Interventions.....	14
References.....	18

Executive Summary

Client: NICE (Noordelijke Innovatielab Circulaire Economy): Berber Schermerhorn, Nienke Laan and contribution from Yigit Ispir

Project team: Windesheim *Global Project and Change Management* student project team HumbleBees

Goal of this project: The aim of the project was to explore the current waste behaviour and needs of Meppel residents with regard to sustainability and circular living, in order to identify patterns and challenges that would prevent people from using the services of the Circulair Ambachtscentrum/ Circular Craft Centre (CCC). These should then be eliminated using specific, suitable interventions.

Context: The Dutch government has the vision of establishing a national network of CCCs in numerous cities by 2030 to improve sustainable structures in communities and accelerate the circular economy. A Circular Craft Center can be envisioned as a hub that promotes circular economy principles in the artisanal and craft sectors. This involves increasing resource efficiency by minimizing waste, promoting recycling and upcycling, and encouraging sustainable production methods. Since 2019, 58 Circular Craft Centers in the Netherlands have already received a subsidy from the Ministry of Infrastructure and Water Management. A CCC aims to bring together existing initiatives in one building in order to facilitate easier access to circular, local offerings. Accordingly, there are five building blocks that are to be combined:

1. Environmental Street
2. Recycling Store (Kringloop)
3. Repair Café
4. Education
5. Social Work

The document is based on research from and about existing CCC's, a co-creation session with one of the NICE lab managers and a trainee, as well as a co-creation session with the social institution MensA in Meppel. Additionally, we created a questionnaire for locals to gain more first-hand insights.

Steps of the challenge

- Identifying problems and weaknesses in the way of proceeding with materials (specifically furniture) in Meppel right now.
- Mapping out an ideal future outlook with a working Circular Crafts Centre that attracts and engages Meppel inhabitants.
- Creating targeted interventions and steps to take to reach the ideal future scenario.

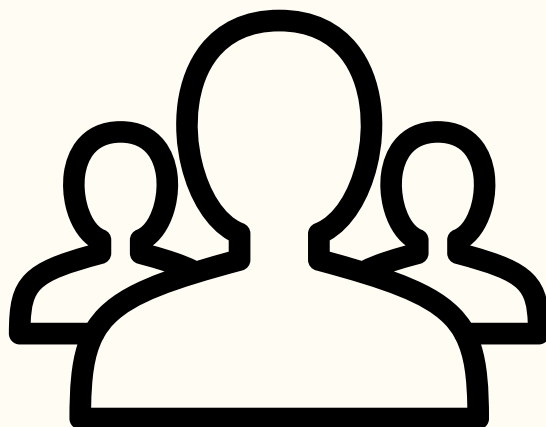
The purpose of this document is to provide external parties and stakeholders with an overview of the CCC's vision and the current situation in Meppel. In addition, the proposals are intended to provide inspiration for an effective structuring of the centre and its services so that they are actually used by the residents.

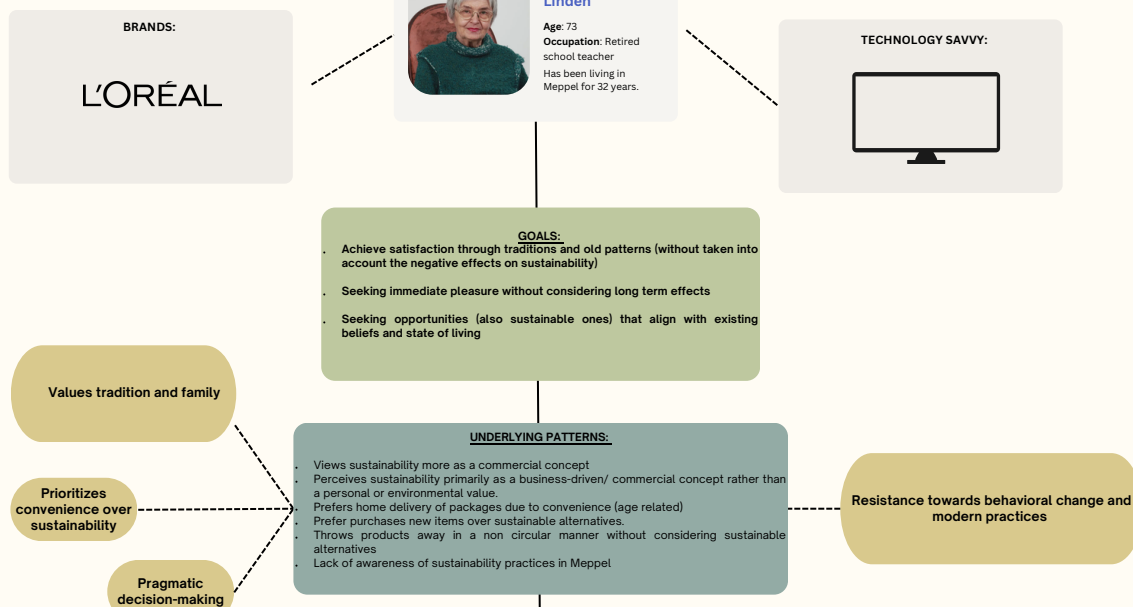
User Persona Canvases

Current User Persona Canvases

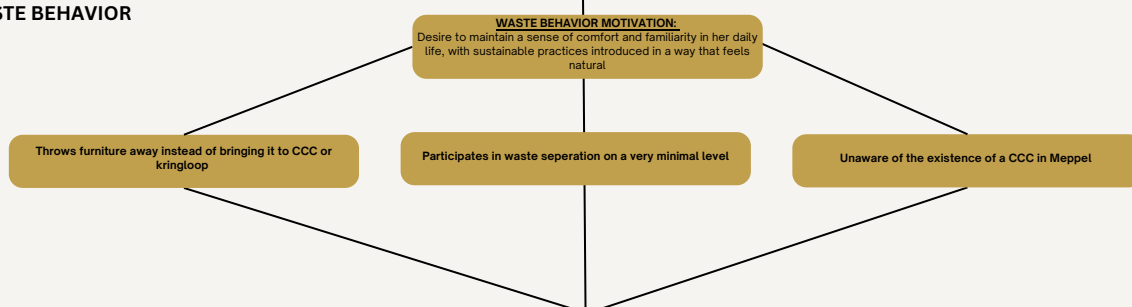
In this section, there is an examination provided on the current three user personas utilizing data from a Meppel survey and co-creation sessions. In order to find interventions for changing Meppelers' behavior towards a more circular approach, we have constructed persona canvases for the present and the future. In those we investigate Meppelers' attitudes, demographics, waste habits, and frustrations in relation to the CCC. This data helped to identify the precise interventions needed for a smooth shift to a more sustainable and circular way of thinking and living.

The canvas presents itself in a meaningful order, reflecting a progress that aligns with the user's path. We begin by providing demographic data in order to establish the foundation for identifying underlying patterns. An examination of waste behavior arises from these patterns. Frustrations naturally line up in response to these behaviors. This is when we address the frustrations that have been discovered to examine the corresponding needs. Afterwards, the interventions are designed based on these needs, creating a logical and user-centered outline. This intentional structure guides a systematic investigation, reflecting the complex relationship that exists between a person's experiences and mentality.

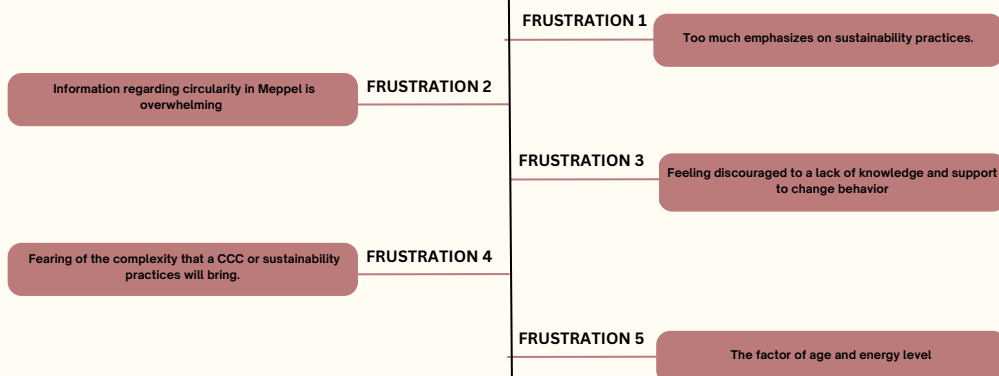




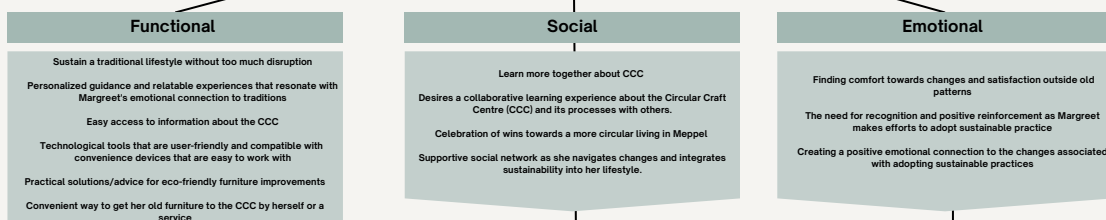
02. WASTE BEHAVIOR



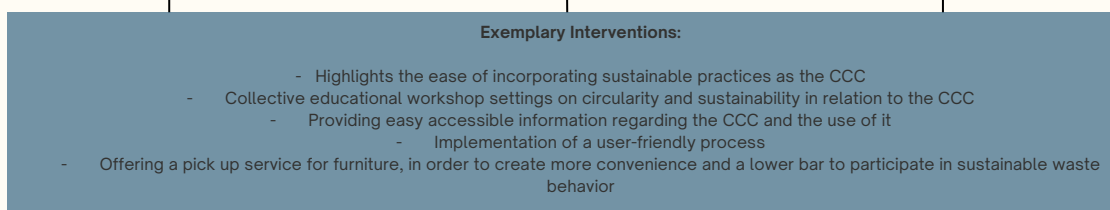
03. FRUSTATIONS



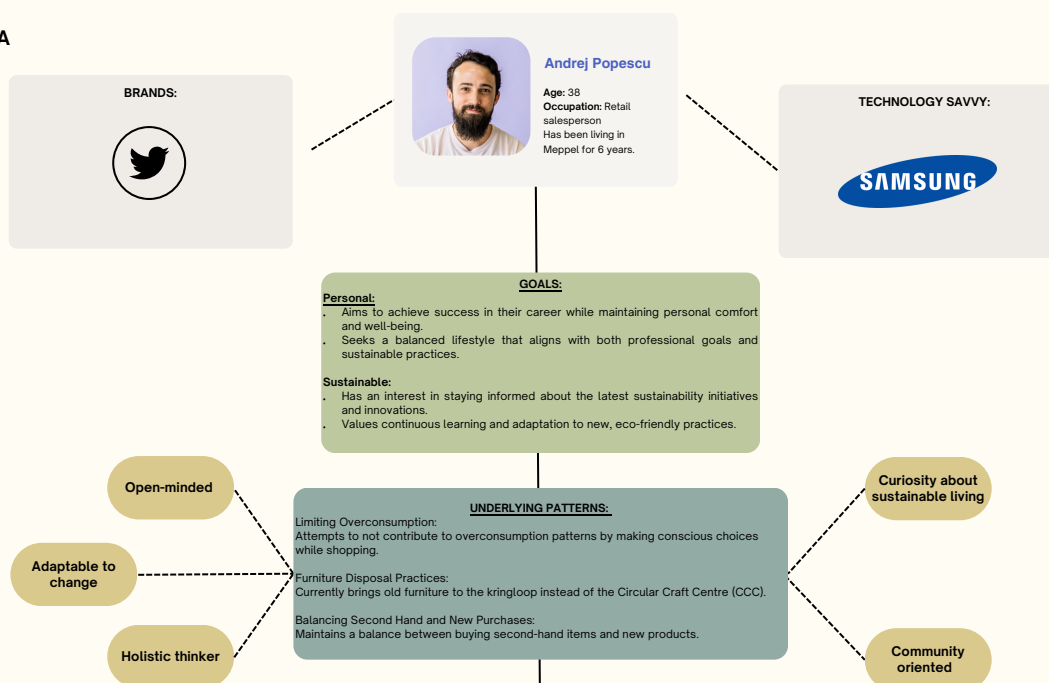
04. NEEDS



05. INTERVENTIONS



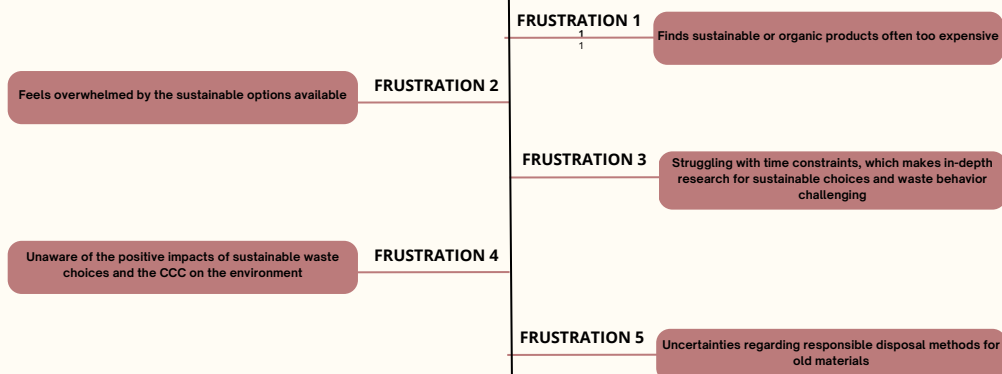
01. PERSONA



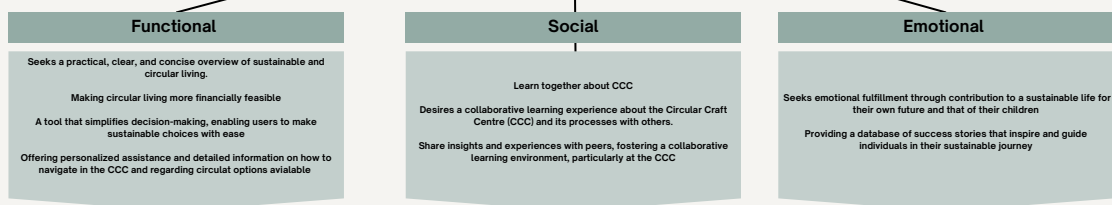
02. WASTE BEHAVIOR



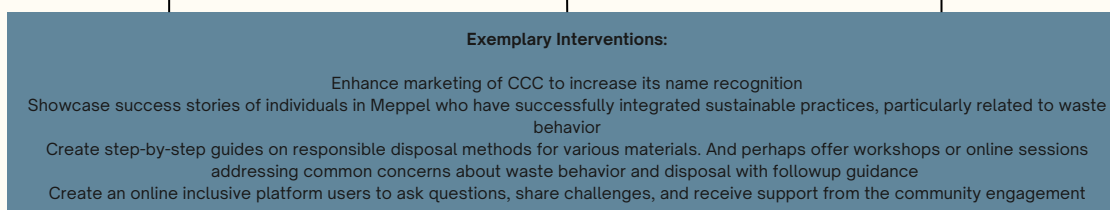
03. FRUSTATIONS

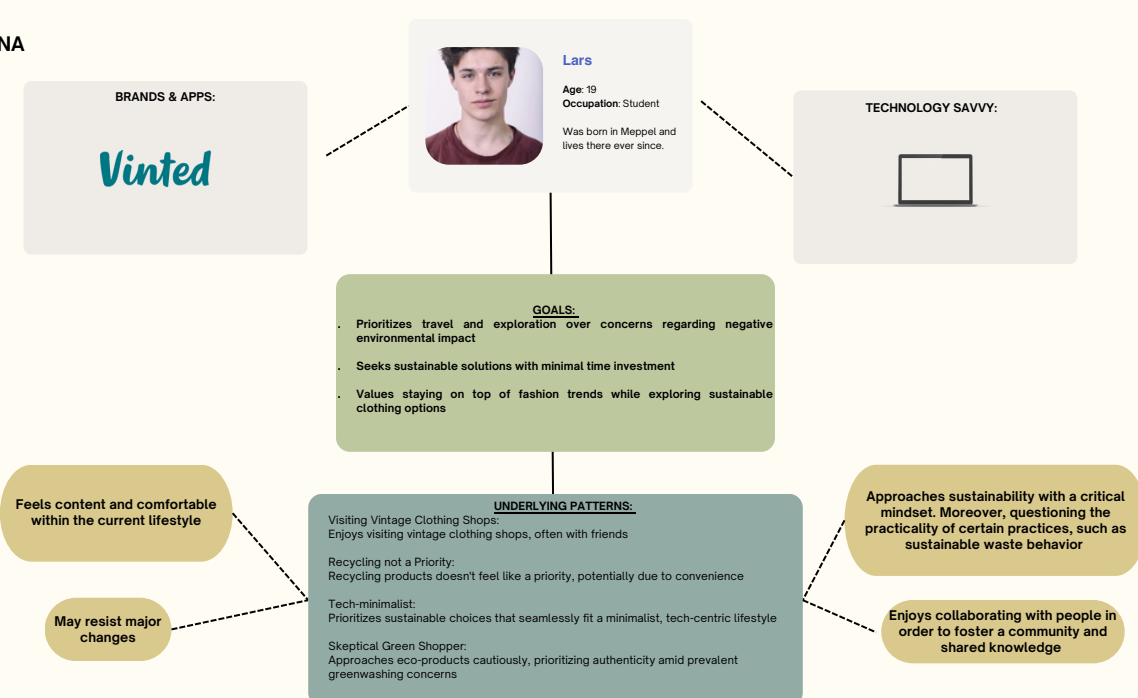


04. NEEDS



05. INTERVENTIONS

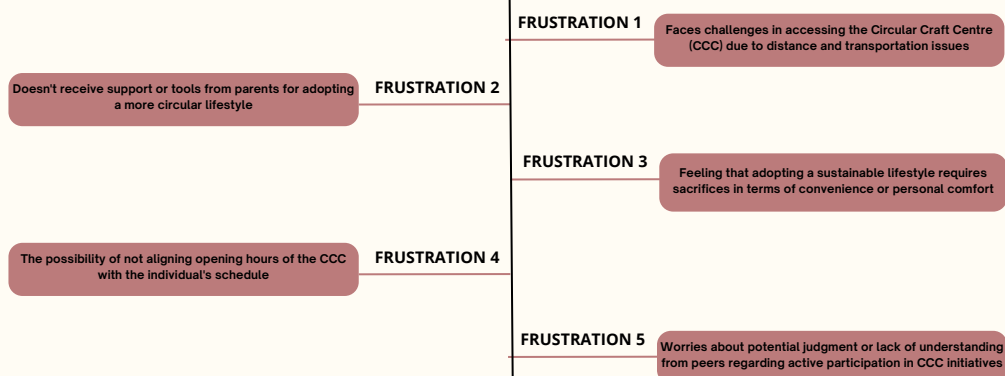




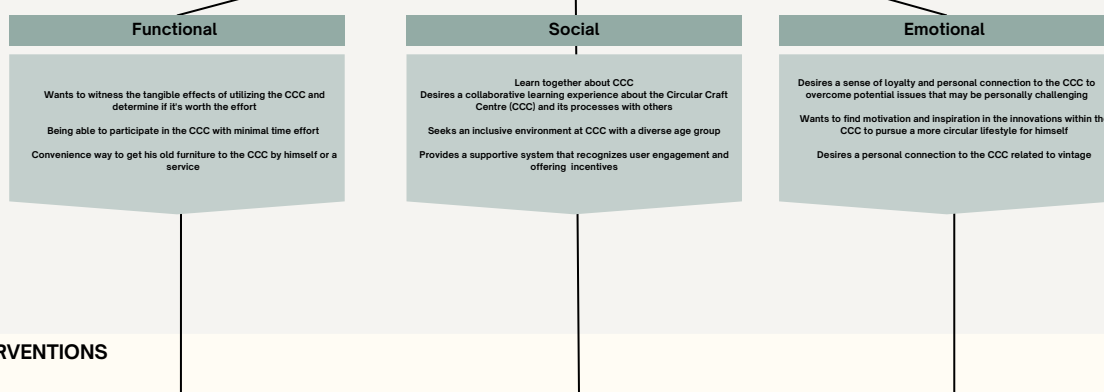
02. WASTE BEHAVIOR



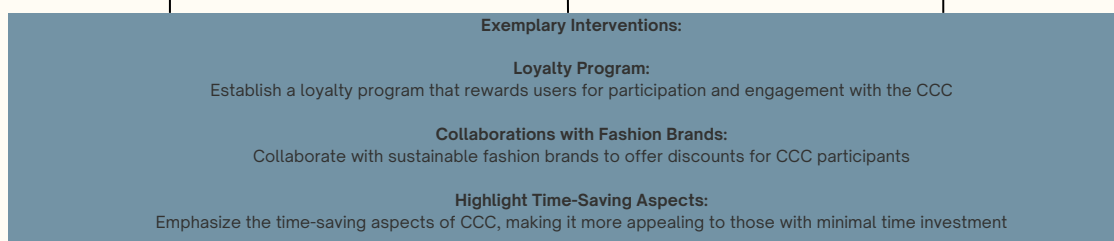
03. FRUSTATIONS



04. NEEDS



05. INTERVENTIONS



Sofa Lifecycles

The current, linear lifecycle of a sofa in Meppel



The goal of the CCC is to drive the change from a linear to a circular economy in Meppel. A key feature of this transition is the way Meppelers deal with their old products and where they get their new ones. In this case, we looked at the example of a sofa.

The sofa lifecycle shown above is that of most sofas these days: it is linear, with the sofa being made from new resources that are usually processed into materials in an environmentally unfriendly, polluting manner. The materials are then assembled into a sofa which through a purchase finds its way into someone's home. Once it breaks, is worn-off, too big, too small or just not fashionable anymore, many people will just dispose of it at the Milieustraat or put it to waste. Then, it will be burned or taken apart and cannot be reused anymore.

User Persona Canvases

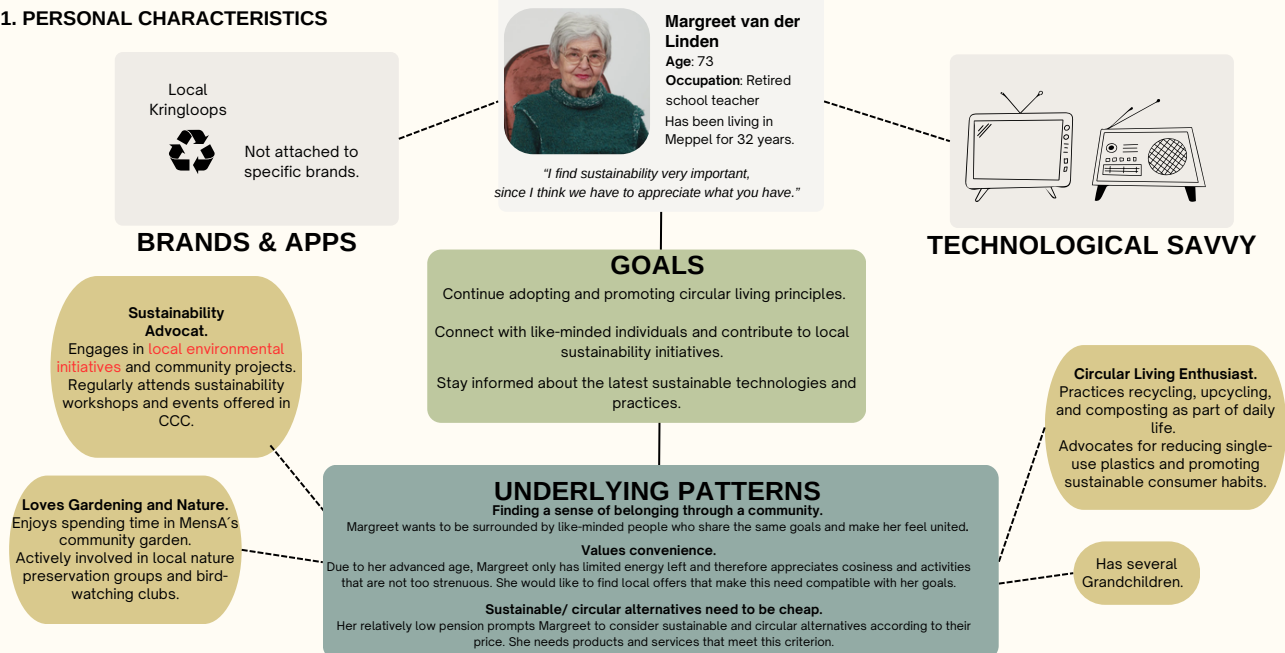
Future User Persona Canvases

In this section, there is an examination provided on the future three user personas utilizing data from Meppel surveys and co-creation sessions. In order to find interventions for changing Meppelers' behavior toward a more circular approach, we have constructed persona canvases for the present and the future. We investigate Meppelers' attitudes, demographics, waste habits, and frustrations towards sustainable waste behavior in relation to the CCC. This data helped to identify the precise interventions needed for a smooth shift to a more sustainable and circular way of thinking and living.

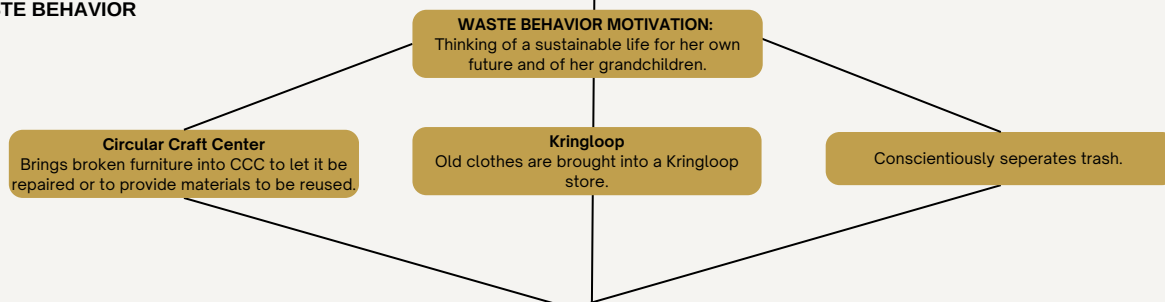
The canvas presents itself in a meaningful order, reflecting a progress that aligns with the user's path. We begin by providing demographic data in order to establish the foundation for identifying underlying patterns. An examination of waste behavior arises from these patterns. Frustrations naturally line up in response to these behaviors. This is when we address the frustrations that have been discovered to examine the corresponding needs. Afterwards, the interventions are designed based on these needs, creating a logical and user-centered outline. This intentional structure guides a systematic investigation, reflecting the complex relationship that exists between a person's experiences and mentality.



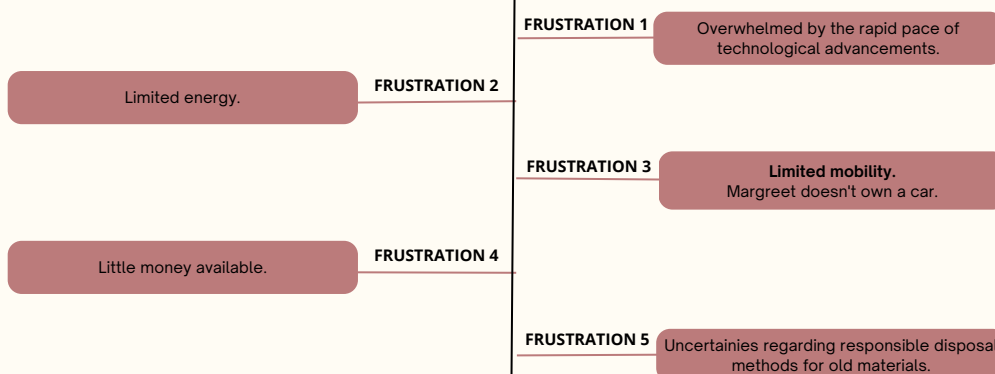
01. PERSONAL CHARACTERISTICS



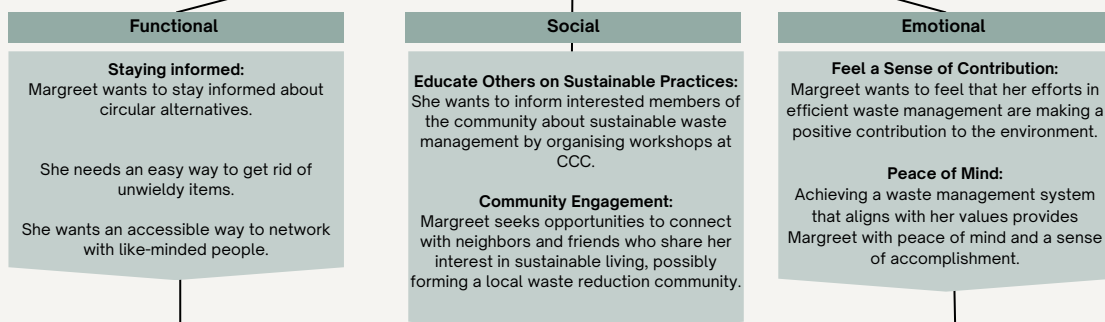
02. WASTE BEHAVIOR



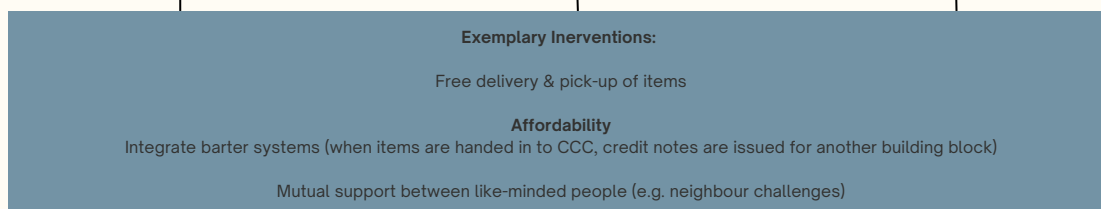
03. FRUSTATIONS



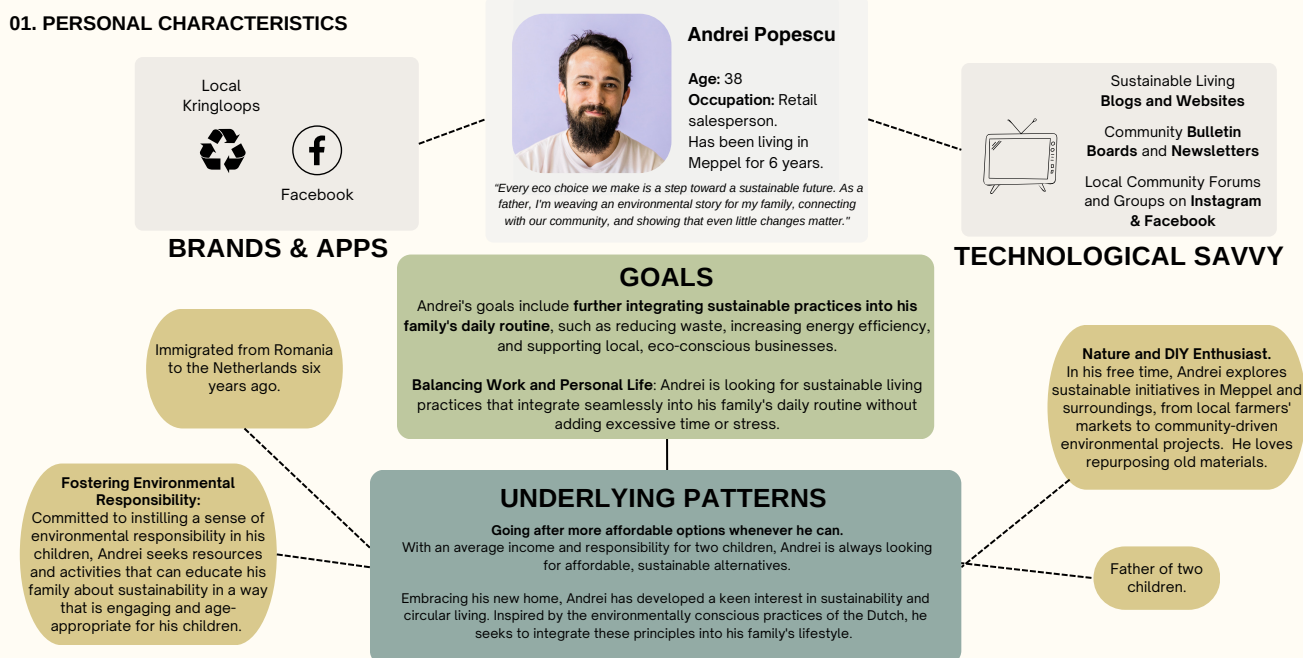
04. NEEDS



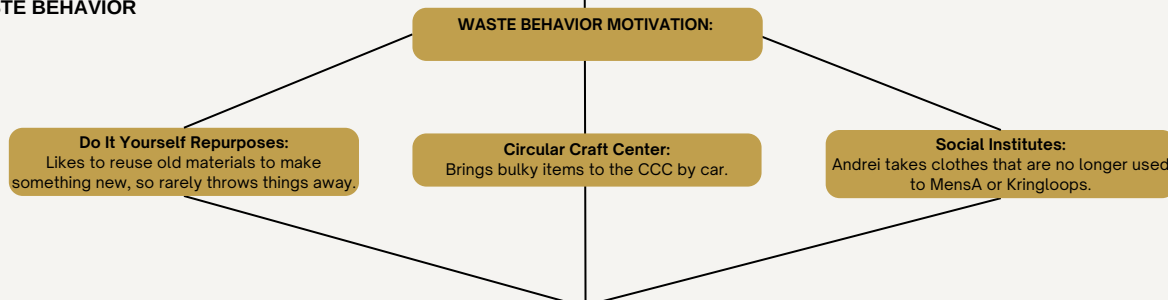
05. INTERVENTIONS



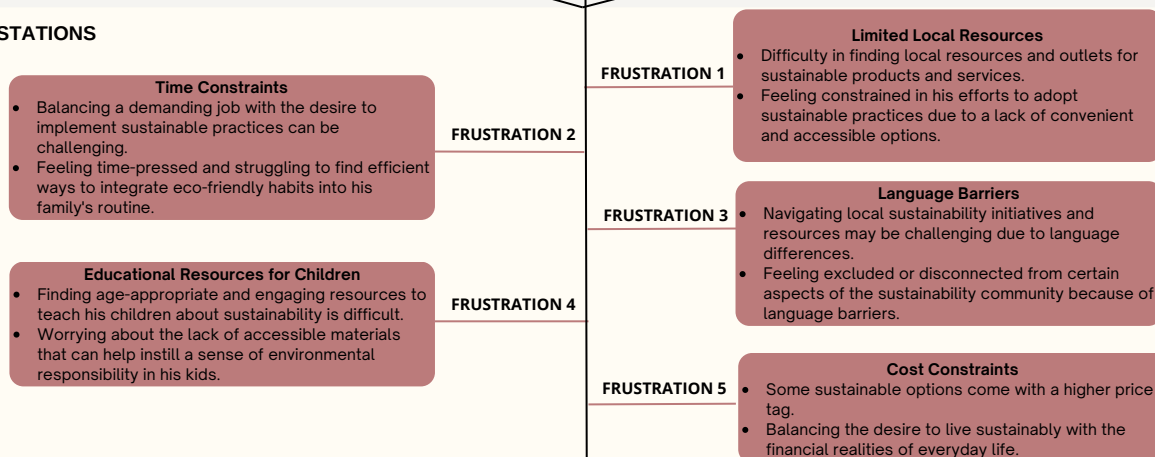
01. PERSONAL CHARACTERISTICS



02. WASTE BEHAVIOR



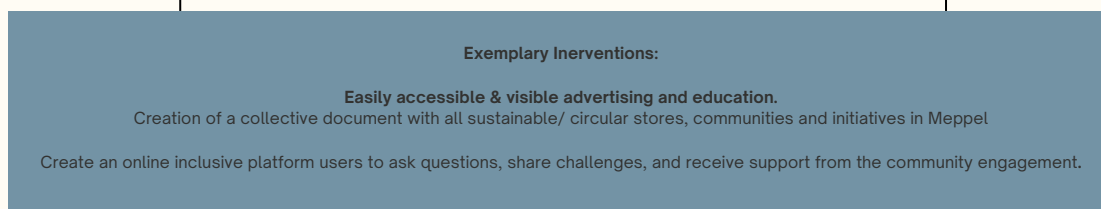
03. FRUSTRATIONS



04. NEEDS



05. INTERVENTIONS



01. PERSONAL CHARACTERISTICS



BRANDS & APPS



Lars Jansen

Age: 19

Occupation: Student

Was born in Meppel and lives there ever since.

"Embracing sustainability isn't just a lifestyle; it's a daily commitment to nurture our planet. Let's turn our passion into action, making every choice count for a greener, more circular future."

Highly proficient in using technology, uses various apps, and online tools

Embraces technology as a **means to promote and implement sustainable practices.**

Follows podcasts and YouTube channels dedicated to eco-friendly living, **seeking inspiration and practical tips for incorporating sustainable practices** into his daily routine

TECHNOLOGICAL SAVVY

GOALS

Influence positive change in his community.

Raising awareness about sustainable living.

Finding a community of like-minded individuals in his home town.

Participates in a student-led sustainability hub on campus.

Attends climate marches, interested in activism.

Outdoor Enthusiast
Enjoys hiking, biking, and camping, fostering a strong connection with nature.

Participates in local environmental clean-up events.

UNDERLYING PATTERNS

Wants to combine environmental consciousness and a young lifestyle.

Wants to save money where he can.

Values fun and time-efficient activities.

Would love contribute to circular living while expanding his professional network and future career opportunities.

Fighting for climate justice to secure the future for himself and following generations.

02. WASTE BEHAVIOR

WASTE BEHAVIOR MOTIVATION:

Marktplaats:

Puts stuff he wants to get rid of but that is still in good condition on Marktplaats.

Clothing Swap Events:

Participates in and organises clothing swap events with his friends.

Donations to Social Institutes:

Donates the rest to MensA or local Kringloops.

03. FRUSTATIONS

Peer Misunderstanding:

Experiences frustration when his peers or others around him fail to understand the urgency of environmental issues. This lack of shared concern can make it difficult for him to foster a sense of collective responsibility within his social circles.

FRUSTRATION 2

FRUSTRATION 1

Information Overload:

Lars often feels overwhelmed by the abundance of information available on sustainability. Sorting through various sources to find reliable and actionable guidance can be time-consuming and confusing, leading to frustration.

Limited Accessibility to Sustainable Products:

Lars encounters challenges in finding affordable and easily accessible eco-friendly products. Limited availability of such products hinder his efforts to make sustainable choices consistently.

FRUSTRATION 4

FRUSTRATION 3

Balancing Academic and Personal Commitments:

The demands of his academic studies and involvement in sustainability initiatives sometimes create a challenging balancing act. Finding time for both can be stressful, causing occasional feelings of exhaustion.

04. NEEDS

Functional

Staying informed and educated:

Needs an easy accessible and reliable stream of information regarding sustainable/ circular events and alternatives in his communities.

Balancing academic and personal commitments:

Desires time-efficient and fun activities to pursue his interest in circular living.

Sourcing sustainable products:

Would like to have an overview of sustainable/ circular options in his hometown.

Expressing creativity through DIY projects:

Wishes for inspiration and the appropriate materials to be able to live out the principle of repurposing creatively.

Building a Sustainable Future Career:

Explore academic and professional pathways that align with environmental science and sustainability, such as internships, courses, and networking opportunities.

Social & Emotional

Advocating for change:

Lars wishes to experience fulfillment and purpose by influencing others in his community positively towards sustainable practices and contributing to a larger societal change.

Contributing to Environmental Initiatives:

He wants to feel a strong sense of purpose and community connection by actively participating in local environmental initiatives and projects.

05. INTERVENTIONS

Exemplary Interventions:

Networking and Mentorship Programs

Facilitate mentorship programs connecting experienced individuals in sustainable practices with young mentees.

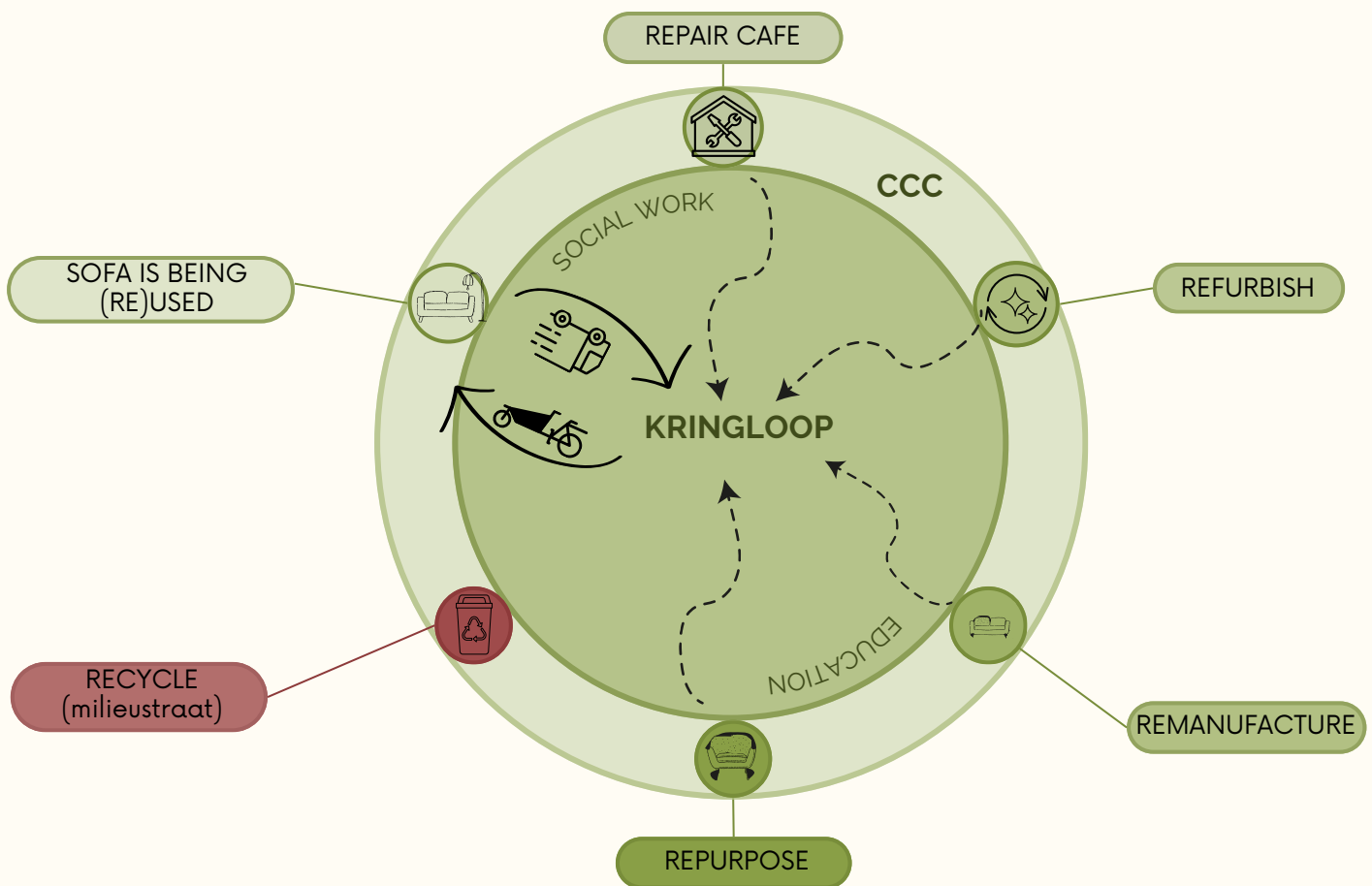
Art and Creativity Initiatives

Organize art competitions or exhibitions that focus on sustainability and circularity

Collaborative Art Installations

Create public art installations made from recycled materials

The future, circular lifecycle of a sofa in Meppel



Contrary to the linear lifecycle presented on page 6 is the lifecycle here, which is the desired norm of the future: a circular one. In this case, after it has been used, the sofa is brought to the CCC, where the social workers decide how it can be used in the most sustainable way possible.

The first choice would be to just resell it at the CCC Kringloop. If needed, it is repaired before that. If those options cannot be taken anymore, the sofa or its components will either be refurbished, remanufactured or repurposed before they find their way back into the circle through the Kringloop as (part of) a 'new' product. The last but worst option is to make sure to recycle the sofa and its components in the most sustainable way possible.

What makes this lifecycle circular is that Meppelers will stop buying products/sofas made from new resources. Instead, they purchase products/sofas that are as good as new from the CCC Kringloop, making it unnecessary to derive new resources.

Since the linear (page 6) and circular (page 11) sofa lifecycles are quite different from one another, this poses the question how this transition can be achieved. And more than anything, this requires a behavioural (and even better mindset) change from Meppelers. Therefore, the third graphic on page 12 shows an overview of how this can be achieved.

We looked at what challenges might stop Meppelers from making use of the CCC and engaging in the circular economy. They are diverse, reaching from practical barriers such as not having a car to more ‘intangible’ ones, such as a lack of knowledge about circular living or information about the CCC. The most important ones can be found in red outside of the circle. For more detailed information about the challenges and needs, please refer to the table on page 15-17.

In order to make the CCC work, those challenges need to be overcome and the needs met. This is where specific interventions come in, which can be found on the blue lines leading into the circle. For instance, a person who does not have a car of their own, could make use of a free pick-up service with a cargo bike, instead of having to pay for someone picking up the old sofa with a truck and bringing it to the milieustraat. Or a person who simply does not know how to live circularly or about the services offered at the CCC, could join workshops given there or be informed via social media or post. For more detail, again, please refer to the table on page 15-17.

Those interventions/incentives are targeted specifically at the Meppelers’ challenges and needs, make it easier and more attractive for them to make use of the CCC and engage in the circular economy. If implemented effectively, this will not only change the Meppelers’ waste behaviour but ideally their whole mindset around the topic, making it the norm to consume and dispose circularly.

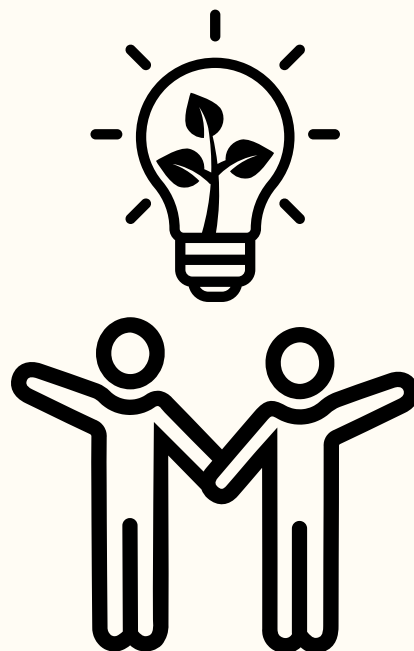
Interventions

The aim of the project was to explore the current behaviour and needs of the residents of Meppel with regard to sustainability and circular living, in order to identify patterns and challenges that would prevent people from using the services of the Circular Craft Centre. These should then be eliminated using specific, suitable interventions. To this end, we conducted market research in the form of a co-creation session at the MensA social centre in Meppel and an online survey to gain authentic first-hand insights. The results were then digitised and analysed to identify commonalities and key components. The results of the research are categorised in the table below.

Challenges: These issues of citizens were identified.

Needs: This column represents the emerging needs of the residents in relation to the CCC.

Interventions: This column presents the respective incentives, solutions and strategies that can be used to eliminate the problem.



CHALLENGES	NEEDS	INTERVENTIONS
Limited mobility, transportation opportunities	Help Convenient way to get old furniture to CCC	Free delivery & pick-up of items <ul style="list-style-type: none"> Provision of cargo bikes (or electric transporters) to help out people with transporting bulky items
Fear of social nonconformity Worries about potential judgement or lack of understanding from others regarding active participation in CCC initiatives.	Circularity being the norm Understanding and sharing the normality of being part of circular lifestyle	Establishment of an online platform <ul style="list-style-type: none"> Create an online inclusive platform for users to ask questions, share challenges, and receive support from the community (e.g. website, Facebook group)
Differences/unconnectedness between different communities resulting in fragmentation	A sense of connectedness Connect communities and neighborhoods, Desires a sense of loyalty and personal connection to the CCC to overcome potential issues that may be personally challenging	Skill sharing workshops Ambacht ambassadors <ul style="list-style-type: none"> Sending out those involved in the CCC to educate their communities/initiatives about offers and possibilities to co-create Engage popular/famous Meppelers as 'influencers' to advertise for and educate about the CCC and circular economy
Cost constraint	Affordability <ul style="list-style-type: none"> Affordable circular offers 	Affordability <ul style="list-style-type: none"> Integrate barter systems (e.g. when items are handed in to CCC, credit notes are issued for another building block) Loyalty system: Stamp cards with "Green Ponits"- with 10 participations/ contributions/ deliveries you get discounts or advantages
Time & energy constraint <ul style="list-style-type: none"> Balancing everyday life with sustainability/ circularity 	Convenience <ul style="list-style-type: none"> Time efficient & easy accessible services 	Free delivery & pick-up of items <ul style="list-style-type: none"> Provision of cargo bikes (or electric transporters) to help out people with transporting bulky items Easy access to those services (e.g. appointment booking online for younger and via phone for elderly citizens)

CHALLENGES	NEEDS	INTERVENTIONS
<p>Finding suitable, educational resources for children</p> <ul style="list-style-type: none"> Finding age-appropriate and engaging resources to teach children about sustainability is difficult. 	<p>Engaging activities</p> <ul style="list-style-type: none"> CCC offers suiting activities for every age group and level. 	<ul style="list-style-type: none"> Age appropriate, engaging workshops (Interactive games --> "Trash Sorting Rallye": children race to correctly sort different items into recycling, compost, and landfill bins; DIY Crafts from Recycled Materials) Provide CCC as location for birthday parties, celebrations, company outings (bedrijfsuitjes)
<p>Fear of complexity</p> <ul style="list-style-type: none"> Concerns about complexity that a CCC or sustainability practices will bring 	<p>Good examples & guidance</p> <ul style="list-style-type: none"> Want to witness the realisability & tangible effects of utilizing the CCC to see that it is worth the effort 	<p>Showcase success stories</p> <ul style="list-style-type: none"> Publishing living examples/ individual successes of people in Meppel who have integrated sustainable practices, particularly related to waste behavior <p>--> "Green business/ individual of the month"</p> <p>--> Recognition Awards from CCC: Create awards or certificates to recognize individuals, businesses, or organizations that have made significant contributions to circularity within community</p> <p>--> content of newsletter</p>
<p>Boring activities</p> <p>Offers and services are perceived as boring, especially by young people</p>	<p>Interactive, creative, and fun offers</p>	<p>Art and Creativity Initiatives</p> <p>Organize art competitions or exhibitions that focus on sustainability and circularity</p> <p>Collaborative Art Installations</p> <p>Create public art installations made from recycled materials</p> <p>--> Inspiration: Murals for Change (@muralsforchange) • Instagram-Fotos und -Videos</p> <p>Encourage youth-led initiatives and projects, empowering young people to take an active role in promoting sustainability within the community.</p>

CHALLENGES	NEEDS	INTERVENTIONS
Lack of awareness/ ignorance <ul style="list-style-type: none"> • Uncertainies regarding responsible disposal methods • Difficulty in finding local resources and outlets for sustainable products and services 	<p>Effective promotion of sustainable offerings and circular alternatives</p>	Easy accessible & visible advertising and education <ul style="list-style-type: none"> • Need for an uniformed, municipal newsletter that informs about circular living and local offers (in CCC) • Setting up an Instagram channel for CCC to enhance name recognition • Creation of a collective document with all sustainable/ circular stores, communities and initiatives in Meppel
Resistance because of sacrifices Resistance towards behavioral change and circular practices	Comfort, support & recognition <ul style="list-style-type: none"> • Finding comfort towards changes and satisfaction outside old patterns • The need for recognition and positive reinforcement for the effecting in adopting circular practices 	Recognition, support & guidance <ul style="list-style-type: none"> • Celebration of wins towards a more circular living in Meppel --> Educational Workshops and Exhibitions: Host workshops and exhibitions that showcase the community's sustainable practices and achievements. • Mutual support between like-minded people (e.g. neighbour challenges) • Guidance for a comfortable change step by step
Balancing professional duties with desire to participate	<p>CCC offers that connnect professional pursuits with participation</p>	Networking and Mentorship Programs <ul style="list-style-type: none"> • Facilitate mentorship programs connecting experienced individuals in sustainable practices with young mentees. • Establish networking events where young people can connect with professionals in sustainability-related fields.
No motivation	<p>Need for a community of like-minded people that inspires and motivates</p>	Skill sharing workshops Community Challenges <ul style="list-style-type: none"> • Organize friendly competitions or challenges within the community. --> "Zero Waste Week" or "Community Clean-up Challenge"

Our contact information:

johanna.tammik@windesheim.nl
samira.gunselmann@windesheim.nl
sandra.gantner@windesheim.nl

References:

NICE°:

<https://www.wearenice.org>

MensA:

<https://www.demensa.nl>

Circulair Ambachtscentrum:

<https://circulairambachtscentrum.nl>