From Intentions to Actions: Nudging Generation Z towards Sustainable Fashion Choices through Service Design

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Abstract

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Commissioned by VISU project, this thesis focuses on developing practical recommendations for promoting sustainable fashion practices among Generation Z.

The goal of the work is to assist fashion brands, educators, and policy makers in shaping sustainable choices among this demographic. This is done by integrating service design and behavioral economics theories that helps to develop nudging activities. The primary beneficiaries of this research are stakeholders seeking practical ideas regarding how to nudge young consumers to behave more sustainably.

The design objective is to summarize the findings of the study and create practical recommendations. The theoretical framework of the study includes concepts of sustainable fashion , Generation's Z consumer behavior, Theory of Planned Behavior, Nudge Theory, and service design methodologies such as the Double Diamond process.

Thematic in-depth interviews and observation were used to collect data and thematic analysis was applied for data analysis. Service design methods including empathy workshops and customization worshop were used to implement the project. The main results show that engaging Generation Z in sustainable fashion activities empowers them, innovative nudges are favored, and co-creation fosters their sense of community. The analysis shows the effectiveness of experiential learning and design thinking in promoting sustainable choices.

The thesis concludes by recommending empowerment through participation, favoring engaging methods, and building community through co-creation, experiential learning, and tangible solutions such as nudging. These recommendations are intended to assist stakeholders in promoting sustainable fashion among Generation Z.

Keywords: Sustainable fashion, Generation Z, service design, behavioral economics, nudge strategies

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1. Introduction

The thesis, carried out as part of the VISU (**Vi**llage for **Su**stainable Clothing—bringing together educators, young consumers, and companies) Village project, is a comprehensive study of the needs and preferences of Generation Z through a service design process. VISU is a pioneering initiative that bridges the gap between different stakeholders including the youth community, business and the educational sector. Its main mission is to bring sustainable practices to the fashion industry. The project is an innovative fusion of research, development and education, changing their dynamics in favor of a more sustainable future. The project's ecosystem fosters collaboration and knowledge sharing between different stakeholders, giving birth to fresh ideas and strengthening the core activities of each participant. The project is led by Laurea University of Applied Sciences and the Finnish Textile and Fashion Association, as well as partners such as the City of Vantaa and the Faculty of Education of the University of Helsinki, with financial support from the Uusimaa Regional Council.

The main beneficiaries of the project are young consumers – representatives of Generation Z, teachers, clothing companies and other relevant organizations. The main goal of the project is to create a culture of sustainable clothing consumption, recognizing the key role of clothing choices in shaping the decision-making skills of young consumers. Beyond functionality, clothing serves as a means of self-expression and identity formation for young people. In addition, the project recognizes the invaluable contribution the younger generation makes to the fashion industry through their knowledge and unspoken signals.

The idea of a "village" in VISU is not just symbolic; it embodies the essence of community, cooperation and a shared sense of purpose. As the proverb goes, "It takes a village to raise a child," VISU recognizes that, just as in a traditional village, VISU acknowledges that, similar to a traditional village, individuals with diverse skills and experiences unite In a village, each member has a unique role to play and their contribution has value. Thus, in the VISU project, the stakeholders - the younger generation, educational institutions, businesses, and local authorities - play a key role in the formation and development of a sustainable fashion community.

The primary **goal** of this thesis is to emphasize, define and ideate a nudging service that effectively encourages and facilitates the adoption of sustainable fashion practices among young individuals in the capital region of Finland.

1.1 Research Problem Statement

In recent years, the global fashion industry has undergone significant changes: sustainable fashion has become a paramount need, attracting the attention of both consumers and large fashion corporations. The paradigm shift is largely due to the emergence of Generation Z (the population segment born in 2001 or later (Reeves & Oh, 2008, 297), which is characterized by specific attitudes and behaviors. Although Generation Z has a clear affinity for eco-fashion brands, which is reflected in their preferences, this favor is not always reflected in specific decisions to consume eco-friendly clothing. This paradox between expressed attitudes and observed behavior is a well-documented phenomenon in the field of behavioral economics (Benartzi, Thaler, 2013). Behavioral economics studies the cognitive biases and psychological factors that influence the decision-making process. In the context of eco-fashion, it provides insight into why consumers, especially Generation Z, often express enthusiasm for environmental sustainability but have difficulty translating these feelings into eco-friendly consumer decisions. Factors such as the present bias, where immediate gratification takes precedence over long-term benefits, may explain why sustainability commitments sometimes yield to more convenient or traditional options.

1.2 Research Objectives

The objectives of this study are as follows:

- To examine the consumer behavior of Generation Z in the context of sustainable fashion in the capital region of Helsinki.
- To explore the applicability of behavioral economics principles, such as paradox between attitudes and behavior to understand consumer behavior in fashion among Generation Z.
- To explore the potential of service design, supplemented with theory of planned behavior and nudge theory, in promoting and popularizing eco-fashion practices among Generation Z.
- To evaluate the impact of two different nudge interventions, one based on social norms and the other including educational elements, on young people's eco-fashion choices.
- To investigate whether experiential learning and participation in collaborative activities can effectively serve as "nudges" to promote behavior change that promotes sustainable development in the context of fashion.

- In the context of sustainable fashion education, this study examines the impact of two different nudge interventions: one based on social norms and the other incorporating educational elements. These strategies are designed to influence young people's

choices towards sustainable fashion practices. We expect both interventions to have a positive effect on stable preferences, with the social norms intervention expected to produce the most significant results.

1.3 Methodology Overview

The thesis combines 3 key pillars: **service design**, **behavioral economics**, and **sustainable fashion** to address the main challenge: "How can we encourage pro-environmental behavior among youth in the fashion industry?"

1.3.1 Interdisciplinary approach

At the heart of this design project is the application of an **interdisciplinary approach**. Service design, being inherently multifaceted, draws inspiration from different fields and disciplines (Polaine et al., 2013). Interdisciplinarity, as defined by Choi and Pak (2006), harmoniously weaves the links between these disciplines to form a coherent structure. This approach leverages the strengths of individual disciplines to work together with a common understanding and purpose, ultimately fostering innovation (Whitfield & Reid, 2004).

1.3.2 Service design and behavioral science methods: an overview of key concepts

The methodology of this dissertation ingeniously combines service design and behavioral economics to create a powerful toolkit to address the challenges at hand.

Behavioral Aspects

A deep understanding of consumer behavior is necessary to achieve the goals of the project. Behavioral science principles and, in particular, ideas from behavioral economics, will help to understand consumer decision-making processes and promote environmentally conscious choices in the fashion industry.

Service Design Approach

Service design as a discipline goes beyond traditional product-centered design to include analyzing and designing experiences across multiple consumer touch points, including different products and interactions.

A set of indispensable tools and methodologies will be utilized to ensure the creation of an integrated and well-designed service:

Double Diamond Method

The Design Council's Double Diamond Method, in which the phases of divergent and convergent thinking are represented by two diamonds, takes you through the four phases of design: identify, define, develop, and implement. This systematic process ensures that tangible design outcomes are achieved.

Design thinking

Design thinking is a human-centered problem-solving approach that emphasizes empathy, creativity, and iterative prototyping to develop innovative solutions. It involves understanding user needs, defining problems, ideating creative solutions, and testing prototypes, fostering a collaborative and user-centric mindset.

Persona Map

Creating detailed user profiles through persona mapping will provide a deeper understanding of the needs, preferences, and behaviors of the target audience.

Behavioral Archetypes Map

This tool allows you to map behavioral patterns specific to archetypal users and identify critical touchpoints for intervention.

Customer Journey Map

Following the approach described by Polen and colleagues (2013), the client journey map will be used to visualize and analyze the holistic experience from an individual's perspective. This process will identify pain points and opportunities to improve the overall service experience.

1.3.3 A combined approach of behavioral economics and service design

Recognizing the complementary nature of behavioral economics and service design, this thesis develops a combined approach. This approach involves integrating knowledge gained from client pathway mapping and nudging strategies to develop intervention strategies that address specific barriers at each stage, ultimately resulting in meaningful behavioral improvements.

In addition, the research approach involves a qualitative study to explore Generation Z's attitudes and behaviors toward eco-friendly fashion with a focus on exploring the "why" behind their choices. The main population of the study is members of Generation Z selected through purposive sampling to ensure diversity in terms of age, gender and socio-economic status. Data

collection methods include in-depth interviews to obtain information about people's perceptions, motivations, and behaviors related to eco-friendly fashion. In addition, an empathy workshop was conducted for the VISU project researchers in order to accumulate information from the interviews with members of Generation Z, which led to the creation of persona maps and archetype maps. This data is subsequently used to define the problem and conduct workshops as part of service design. Later, the results of these workshops will be analyzed from a behavioral economics perspective.

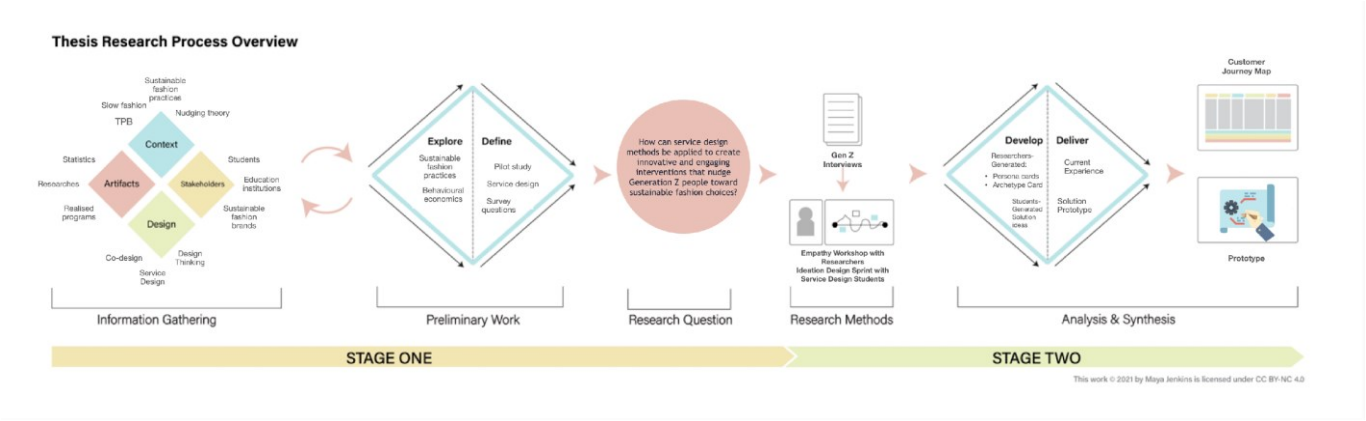


Figure 1. Thesis Research Process Overview

2 Knowledge bases

In the dynamic landscape of today's world, the intersection of service design, innovative thinking and sustainable practices has become a powerful force for transformational change. This chapter explores the key role of service design as an agent of change, particularly in the context of the fashion industry's pursuit of sustainability. By focusing on Generation Z, a demographic characterized by a unique perspective on environmental responsibility and social impact, we examine the multifaceted approach of design thinking as a tool to foster innovation.

The chapter unfolds through an exploration of the key methodologies that define the design thinking process. We examine the double diamond model, the triangulation method, co-design, and participatory design, analyzing how these frameworks facilitate idea generation, prototyping, and implementation in the pursuit of sustainable development. Tracing the complex relationship between fashion and consumer choice, we examine the critical role of service design in shaping solutions that transcend individual style.

A significant portion of the chapter is devoted to examining the impact of fast and ultra-fast fashion on consumers and the environment. By presenting different approaches to combat the negative effects of this trend in the industry, we aim to provide a comprehensive understanding of the complex issues involved.

Understanding the behavioral dimensions underlying consumer choices and industry practices is paramount to effecting lasting change. To this end, we present the Theory of Planned Behavior, Nudge Theory, and the Wheel of Behavior Change approach using the COM-B model of behavior change. We also include the EAST Framework, explaining how these psychological and behavioral theories can be practically applied to develop sustainable practices in the fashion sector.

This chapter lays the foundation for a deeper exploration of the complex relationship between service design, innovation and sustainability in subsequent sections. By examining these interrelated elements, we hope to achieve a full understanding of the transformative potential of service design as a catalyst for positive change, especially when applied to address the pressing challenges facing the fashion industry and its evolving consumer base.

2.1 Service Design as a Change Agent

Service design emerged as a discipline in the 1990s in response to the expansion of the service sector in twentieth century economies (Meroni, A., & Sangiorgi, D., 2011). As the discipline is relatively young, there is no universally accepted definition (Stickdorn and Schneider, 2010). Therefore, exploring the different interpretations of the term "service design" that have developed over time is essential in the study and application of the discipline.

Treccani's (2021) dictionary characterizes a service as "a provision designed to satisfy a human need, individual or collective, and subject to economic valuation and acquisition". It also notes that such services are "usually organized on a large scale either by a government, a public institution or a concessionary enterprise". Stefan Moritz, a specialist in customer experience and interdisciplinary collaboration, describes service design as a means of innovating or improving existing services by making them more useful, convenient and attractive (Moritz, 2005). Moritz's words emphasize the fundamental concepts of this discipline: Service design involves not only the creation of new services but also the improvement of existing ones. It aims to create value for all stakeholders while considering the operational context of the service. The Service Design Network emphasizes these values by defining service design as a practice that uses an integrated approach with a highly collaborative and human-centered perspective (Service Design Network). In addition, Moritz (2005) emphasizes the interdisciplinary nature of service design. Bason (2010) defines the design process used in service design as the ability to "generate new ideas, test them to identify solutions that create new value for people and organizations".

Despite the various definitions associated with service design, its principles are generally accepted. Mark Stickdorn and Jacob Schneider, in their book This is Service Design Doing (2018), identify five key principles that underpin Service Design and are essential to developing solutions that create high-quality experiences for users and organizations:

User-centered approach: Services emerge from the collaboration of different entities that interact and collaborate with each other and with interfaces. Without the involvement of people - users, providers or producers - services cannot exist.

Co-creation: Users are seen as experts who can contribute their knowledge and skills to the development of the service.

Sequentiality: Services should be seen as a sequence of interrelated activities.

Holistic perspective: Services are embedded in a broad context and each component of that context can influence their functioning and outcomes.

Reality orientation: Based on context analysis, service design is grounded in real-world conditions (Stickdorn and Schneider, 2010).

2.1.1 Co-design and Participatory Design

In the field of co-design and participatory design, my passion as a service designer is firmly rooted in conducting interdisciplinary research aimed at practical problem solving, as Robinson (2008) confirms. At the heart of my approach is the belief that design should be characterized by inclusivity and collaboration.

The VISU project introduces the metaphorical notion of 'village' for a sustainable fashion. Drawing on the proverb "It takes a village to raise a child", the project illustrates the key role of this "village" in sustainable development. When applied to sustainable fashion development, this age-old adage takes on a new meaning, denoting the collective efforts of various stakeholders. Ludescher (2009) describes the principles underlying the construction of such a 'village'.

First, the principle of **collaboration** emphasizes that the sustainable development of the fashion industry depends on the collaborative efforts of different members of the community. It goes beyond the role of designers and consumers to encompass governments, businesses, activists, educators, etc. who work together to create sustainable fashion.

Second, The power of collective action recognizes that sustainable fashion encompasses a wide range of initiatives, from waste reduction to ethical labor practices to eco-friendly materials. These initiatives often require different skills and resources to implement. In this context, the Village is a dynamic network of people, organizations and institutions collaborating to promote sustainability in the fashion sector.

Knowledge sharing, as a third principle, is analogous to the transfer of wisdom and knowledge in a traditional village. Similarly, the fashion industry relies on experts, influencers and educators to disseminate information and educate others on sustainable fashion practices.

Finally, the concept of **public engagement** extends to consumers and communities. The choices consumers make when purchasing clothing have a significant impact on the direction of the

industry. Encouraging informed and sustainable choices becomes a common goal within this collective framework.

A **co-design methodology** based on a **participatory approach**, where users are seen as essential partners in the research process, is consistent with Sanders' (2008) perspective. This collaborative partnership takes different forms and serves different purposes, as shown in Fig. 3. Different design research methodologies adapt to different time frames, as Sanders and Stappers (2014) point out.

Sanders and Stappers (2014) distinguish between service design and social design, which prioritize user-centered design principles and partnerships, and critical design and design interventions, which take a more provocative stance, focusing on designing for users with less direct involvement. In an in-between position are design research, which includes design fiction and transitional design, which primarily focus on user engagement. While design fiction and transitional design explore a speculative future, other approaches consider either the near future or current reality. Design fiction often seeks to induce reflection, while my area of research, service design, emphasizes service delivery.

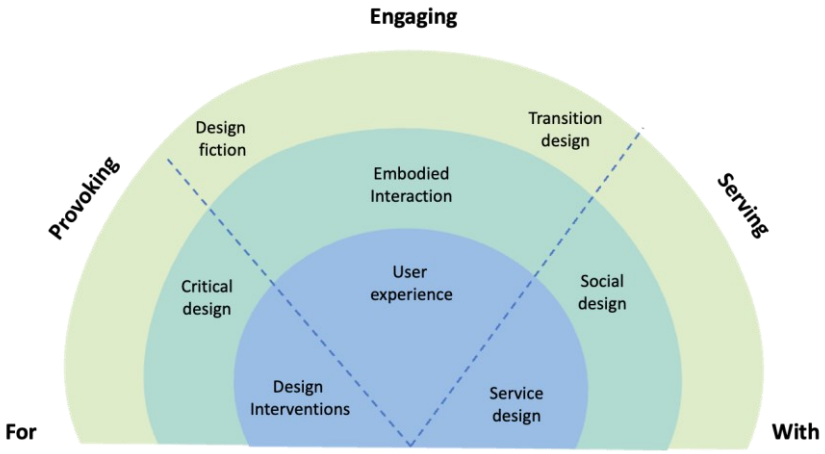


Figure 2. Adapted from Sanders & Stappers, 2014. "Three Horizons of Design", encapsulated movements of design across different time scales: the worls as it is (inner ring), the near future (middle ring) and the speculative future (outer ring).

By adopting a participatory design approach that fosters partnership with users and encourages 'do first' thinking, learning becomes an integral part of the process, echoing the principles articulated by Mintzberg and Westley (2001) and Sanders and Stappers (2012). Participatory learning encompasses different layers of knowledge, including tacit knowledge that is difficult to express verbally because of its deep integration with our experience (Sanders, 2002).

Moreover, involving users in the design process allows them to articulate their hopes and dreams for an alternative future, which is consistent with Sanders and Stappers' (2012) assertion that it facilitates the development of a language and vision for that future. This collaborative approach recognizes the inherent creativity of all people and encourages different forms of thinking and decision-making, especially in generative sessions where future possibilities are collectively shaped.

In addition to traditional rational thinking and decision making, where decisions are made on a "think first" basis, Mintzberg and Westley (2001) suggest the use of "see first" and "do first" approaches. The 'think first' approach is usually in line with scientific methods and is suitable for addressing well-defined issues in structured contexts. However, it has its limitations when solving complex problems or predicting future scenarios, such as when developing business strategies or entering new markets. The "see first" method has similarities with artistic creation and proves effective when combining different elements to develop creative solutions, as in product development or conceptual visualization. Finally, the "do first" approach is closely related to craft and design and proves invaluable when dealing with new and complex situations, such as the introduction of new technologies or addressing complex sustainability issues. This approach shifts the focus from generating ideas to formulating and testing alternative solutions.

Active collaboration on a "do-first" basis, combined with reflection on the actions taken, allows us to effectively learn from the experiences of research participants throughout the testing and implementation process. This methodology allows us to identify tacit knowledge related to the sustainability practices observed in others and the design practices I use in my work.

Participatory and socially engaged service design aims to bring about meaningful social change (Miettinen & Valtonen, 2013). It relies on the opportunities and choices of individuals and groups who, through their behavior and specific actions, can influence and initiate such change (Thaler & Sunstein, 2009).

2.1.2 Design thinking as a tool for innovation

Design thinking is both a mindset and a method that fosters innovation (Ojasalo et al., 2015). According to Tim Brown, chairman of IDEO, a global design and innovation company, innovation emerges through a creative, human-centered discovery process followed by iterative cycles of prototyping, testing, and refinement. Brown emphasizes that innovation is collaborative, requiring people with different expertise to work together (Brown, 2008).

This approach to problem solving allows interdisciplinary teams, consisting of both designers and non-designers, to collaborate in understanding and formulating problems. Design thinking

fosters creativity in generating innovative ideas and testing potential solutions (Brown, 2008). Adopting the concept of design thinking involves utilizing qualities such as empathy, integrative thinking, optimism, experimentation, and collaboration. "Empathy" involves seeing the world from different perspectives, which allows one to find solutions that fulfill both explicit and implicit needs. "Integrative thinking" allows you to consider all aspects of a complex problem, leading to the creation of new solutions. "Optimism" is the belief that no matter how complex a problem is, there is a potential solution that is superior to existing options. "Experimentalism" is the willingness to ask questions and explore constraints in creative ways that foster innovation in entirely new directions. "Collaboration" is critical due to the increasing complexity of products, services and experiences, which requires multidisciplinary or interdisciplinary teams (Brown, 2008).

In addition to a way of thinking, design thinking acts as an effective toolkit applied in various innovation processes. It combines creative design thinking with traditional business thinking, aligning with planning and rational problem solving. This systematic process identifies and solves problems by generating creative ideas to meet people's needs (Tschimmel, 2012).

The process of design thinking is described by various models, among which the Double Diamond model is widely used. The Double Diamond model, developed by the UK Design Council in 2005, illustrates the divergent and convergent stages of the design process inherent in design thinking. Divergent thinking, associated with creativity, explores multiple possibilities while recognizing uncertainty. Convergent thinking, characterized by analytical processes, seeks the right answer and reduces uncertainty (Design Council, 2021).

The design thinking process tends to be iterative rather than strictly linear, allowing for constant refinement of the design based on user feedback. While the stages may not follow a specific order, they often run in parallel, creating a dynamic and adaptive approach to problem solving (Stickdorn & Schneider, 2011).

2.1.2.1 Double diamond

The Double Diamond model includes four distinct phases: Discover, Define, Develop, and Deliver.

A. DISCOVER

In this initial phase of the Double Diamond, thorough research is conducted to gather insights about the service's context and the various actors involved. It serves as a discovery and exploration stage, allowing designers to gain multifaceted perspectives on the problem at hand. The data amassed during this phase forms a robust repository of information and knowledge, serving as the bedrock for the ensuing project.

B. DEFINE

The Define phase involves the organization of collected data to formulate a comprehensive understanding of the service's operations, the challenges it confronts, and the requirements of all stakeholders. It is during this stage that insights begin to surface, encapsulated in concise statements that elucidate the most pivotal aspects that have arisen.

C. DEVELOP

This phase entails the transformation of identified insights into tangible ideas. These ideas are further elaborated to craft concrete concepts. Once the most promising concepts are identified, the process advances to the prototyping stage. Prototyping facilitates the materialization of proposed solutions, enabling a more profound examination, comprehension, and communication of ideas within the team. It also facilitates testing to identify potential issues and iteratively improve the solutions.

D. DELIVER

The Deliver phase marks the culmination of the design journey, wherein the product or service undergoes finalization. Feedback mechanisms are implemented and tested at this juncture. Technical experts, including developers, engineers, and product designers, may be engaged to ensure the project's successful execution.

This model is characterized by a rhythm of alternating divergent and convergent phases. During divergent phases (peaks of the curve), each co-creator operates autonomously, generating content or ideas independently. Conversely, convergent phases (crossing points of the sine waves) necessitate collaboration, dialogue, and co-design among co-creators to reach a shared consensus and integrate diverse perspectives. The iterative nature of this approach should be duly acknowledged, signifying that at each stage of the service design process, it may be imperative to step back or even initiate anew. Hence, designers should maintain a critical stance toward any design process theory or model throughout the entire journey, allowing them to adapt to evolving challenges and needs and continually enhance their proposed solutions (Hegeman, 2008).

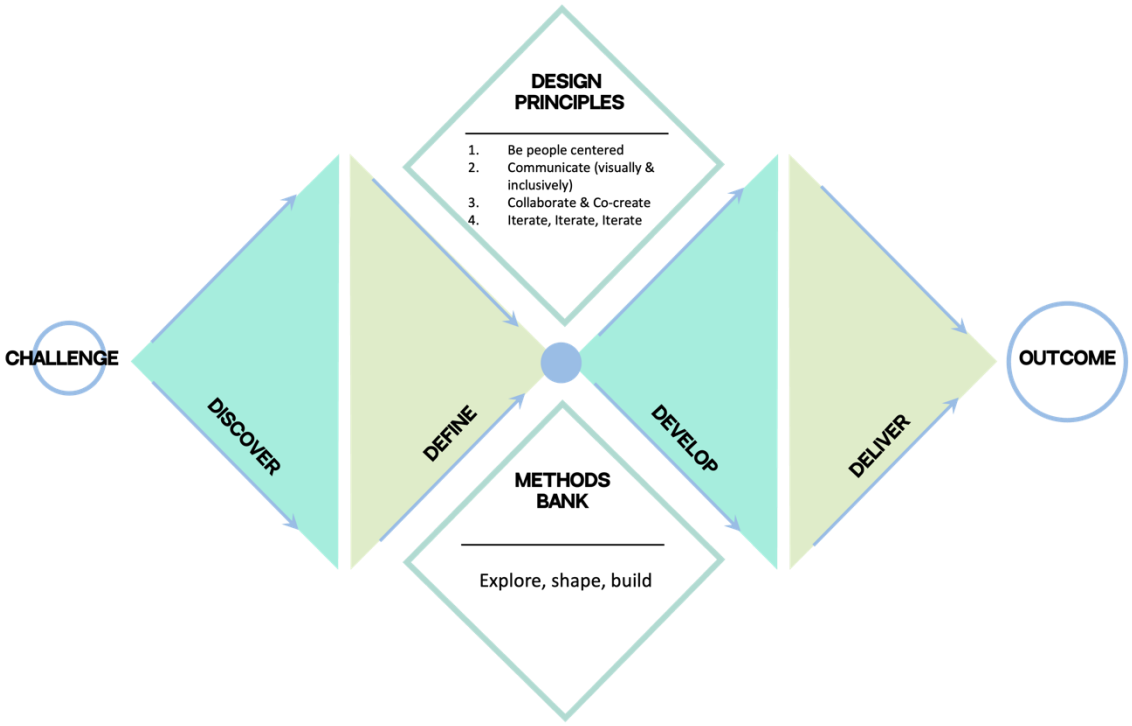


Figure 3. Double Diamond Framework (British Design Council, 2019, modified)

The service design process utilizes a diverse set of methods and tools at each stage to ensure the accuracy and reliability of the research results. The use of triangulation of methods allows for multiple approaches to the research, allowing for comparison of the results obtained to confirm their accuracy. The ultimate goal is to improve the completeness of the information obtained during the research phase.

2.1.2.2 Triangulation of methods

Triangulation of methods means use of different methods to achieve coherent results. It is often complemented by data triangulation, where the researcher collects data on the same phenomenon under study at different times, in different contexts and under different scenarios. The use of different data sources provides a more comprehensive and in-depth view of the problem, which contributes to a better understanding of its dynamics.

While the Double Diamond represents a simple framework for design thinking, the actual design process is often more convoluted and iterative. It may not fully reflect the complex and non-linear nature of many design problems.

Besides, the Double Diamond sometimes overlooks ongoing user involvement. Design is an ongoing process, and user feedback and testing should be done throughout the process, not just at the "Implementation" stage.

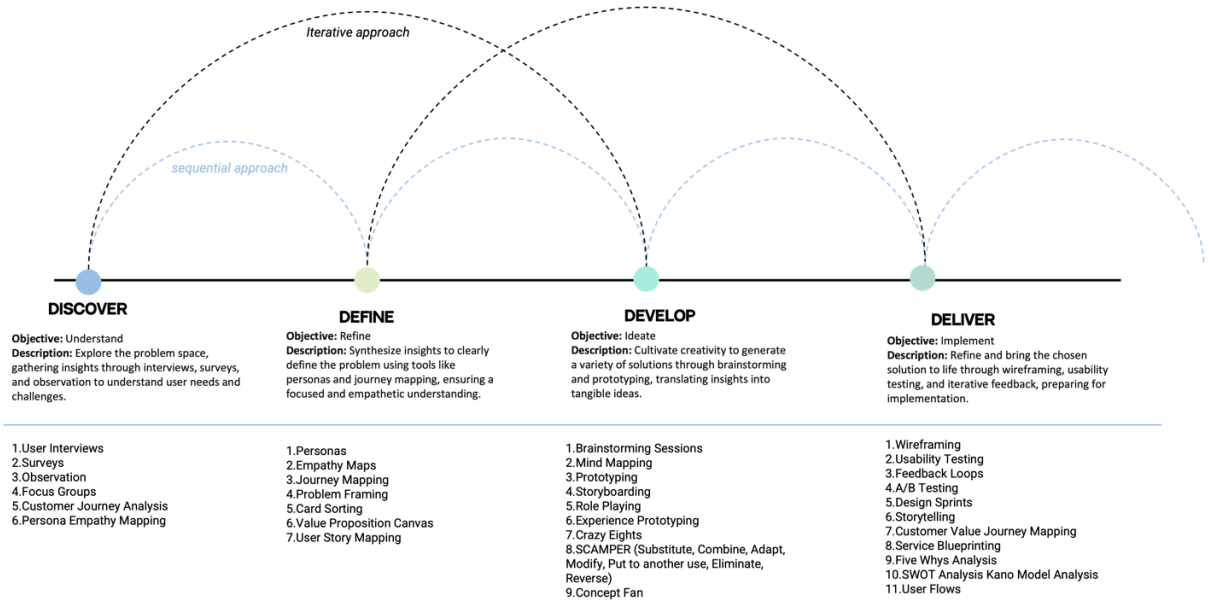


Figure 4. Triangulation model, inspired by Stickdorn &Schneider, 2011

2.2 Sustainability: A Comprehensive Exploration of Sustainable Development, Fashion Choices, and Generation Z in the Context of Fast Fashion and Sustainable Consumption

2.2.1 Sustainable development and sustainability

To effectively navigate this field, it is important to distinguish between the concepts of "sustainable development" and "sustainability", as both terms have multiple interpretations. The term "sustainable development" is most often used in the public and private sectors, which is consistent with a growth-oriented agenda. In contrast, the term "sustainable development" is preferred by non-governmental organizations and academics, who often question the existing system and emphasize humanity's ability to live within environmental constraints. One of the most recognized definitions of sustainable development comes from the Brundtland Report, where it is defined as meeting the needs of present generations without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987, p.23). Robinson (2004) notes that this definition has been criticized because it divides environmentalism into two opposing viewpoints. One side favors incremental steps, relying on technological and institutional reforms as solutions to sustainability problems.

The concept of sustainable development has been at the center of global political discourse and activity for more than two decades. However, despite its long existence, the analysis of the development of this concept has revealed several problems in its implementation.

First, there is a slow progress towards sustainable development caused by low activity of governmental bodies. More than twenty years have passed since the creation of recommendations aimed at ensuring the survival of mankind. However, key indicators that show the movement towards global disasters continue to deteriorate. Far from improving, the situation is worsening due to the impact of globalization and the global financial crisis. Undoubtedly, some countries are actively working towards realizing sustainable development, but most developing countries and some developed countries face serious obstacles. It is important to note that current measures remain insufficient in scale and significance to make a significant difference to the current situation.

Second, low awareness among all segments of the population is a constraint to everyone realizing their role in achieving sustainability. This prevents the use of knowledge and the potential of the population to find effective ways to overcome global crises in both everyday and professional activities.

The modest results achieved in the movement towards sustainable development can be explained by insufficient attention to education as a crucial mechanism for achieving a sustainable future. Scientists recognize the importance of education as an effective factor in implementing the concept of sustainable development. Education issues are linked to virtually all areas of activity in the world program "Agenda 21", developed by representatives of 179 states. The Agenda emphasizes that education, including formal education and public awareness, plays a crucial role in promoting sustainable development and empowering countries to address environmental and developmental challenges. It should cover a wide range of issues, including the physical, biological and socio-economic environment and human development, and be an integral part of all fields of knowledge and utilize all formal and non-formal methods and means of communication. (Report ofthe United Nations Conference on Environment and Development: United Nations Resolutions Adopted by the Conference in Rio de Janeiro. New York: United Nations, 1992).

Indeed, the only effective tool that can change people's behavior in a direction that takes into account the principles of sustainable development is education and awareness-raising in its various forms and manifestations. These educational and informational processes should be aimed at building skills and behaviors, as well as at changing the value and ethical orientations of society so that it becomes more oriented towards the rational use of resources and sustainable impact on the environment, economy and social development.

Education for sustainable development is a dynamic concept that encompasses all aspects of society, awareness, knowledge and skills. Its aim is to change knowledge, values, behaviors and lifestyles towards sustainability. This enables everyone to commit to creating and maintaining a sustainable future.

2.2.2 Sustainable development in Finland

Finland, a wealthy Nordic nation with an average yearly income of €45,365 in 2021 (average annual income in 2023), has common characteristics with other Western countries, such as the importance of fast fashion. At the same time, Finland is known for its strong commitment to sustainable development, which is reinforced by policies put in place by the government. These policies are especially relevant when considering the circular economy (as described in the 2023 Strategic Program). As seen by the work of Kokko and Räisänen (2019), the nation's traditionally agrarian culture has promoted craft skills, and textile making is still a popular pastime and leisure activity. These skills are alive to some extent and help in building circular economy. Sustainable development and environmental literacy are given a lot of weight in Finland's educational system (Kokko and Räisänen, 2019).

Moreover, data indicates that 30% of Finns engage in activities like clothing lending or donation. Furthermore, according to Dahlbo et al. (2021: 34), 53% of households buy their clothing from conventional flea markets, internet marketplaces, or other second-hand sources. Finland strives to be a leader in textile recycling, as seen by these developments. Finland's annual textile consumption is 11.3 kg, which is slightly less than that of its neighbors, like Sweden (12.8 kg), but higher than that of several Baltic nations, including Latvia (6.1 kg) and Lithuania (7.0 kg). The rate of textile waste collection in the Nordic region is comparatively consistent at 44%, however it is significantly lower in the Baltic region (Dahlbo et al, 2021).It is important to note that comparing textile consumption data across Europe can be difficult due to differences in calculation methods, as scholars noted (Dahlbo et al, 2021).

2.2.3 Sustainable fashion and consumer choice

Consumers use products and brands as tools for self-expression and identity formation, with clothing and fashion playing a significant role in this process (Berger and Heath, 2007). Fashion serves to both shape individuality and conform to societal norms (Murray, 2002; Thompson and Haytko, 1997), so consumers play an important role in ensuring the sustainability of fashion (Claudio, 2007).

Contemporary consumer behaviour towards sustainable fashion varies widely. Some prefer vintage clothing (Hardy, 2013), while others favour DIY fashion (Walliker, 2006). Trashion -

fashion created from waste materials - is also emerging, exemplified by brands such as Ecoalf (Claudio, 2011). Another trend, slow fashion, upholds local traditions in pursuit of authenticity, often encouraging reduced consumption (McNay, 2010) and a detachment from fleeting fashion trends (Cho et al., 2015).

However, despite these movements, research shows that the use and aftercare phases of clothing have a significant environmental impact (Fletcher, 2008). Consumers can significantly improve fashion sustainability by adopting practices such as infrequent washing, full load washing machines (WRAP, 2012), low temperature washing with appropriate detergents, extending the life of garments and prioritising quality over quantity when purchasing.

Notably, despite the growing relevance of the topic of sustainability and the spread of green practices across industries, research shows that consumers often face barriers to sustainable consumption (Harrison et al., 2005; McNeill and Moore, 2015). Whilst consumers express concern about sustainability and unethical practices (Bray et al., 2010), these attitudes may not always translate into action, particularly in fashion (Joergens, 2006). McNeill and Moore's (2015) study divides fashion consumers into three distinct groups based on their attitudes towards sustainability.

Firstly, these are the 'sacrificing' consumers who show the greatest concern about social and environmental impacts and often have negative attitudes towards the practices of the fashion industry. Secondly, 'social' consumers, balancing fashion and responsibility. Finally, 'in-house' consumers hold neutral or unfavourable attitudes towards sustainable fashion, which is reflected in their behaviour.

Although research on the relationship between age and attitudes towards sustainability in fashion is limited, it has primarily focused on Millennials or Generation Y. Born between 1980 and 2004 and digitally connected, this generation is characterised by scepticism and anxiety (Jayson, 2006; Williams and Page, 2011). Although they are keen to change the world and support the idea of sustainable development (Kagawa, 2007), Millennials often do not have a full understanding of sustainable development (Bhaduri and Ha-Brookshire, 2011; Gam, 2011; Wilhelm, 2009).

2.2.4 Generation Z as a target audience for sustainable transformation

Generation Z encompasses people born between the mid-1990s and early 2010s, according to the Generation Z-Affiliate Marketing Product Review Site (2021). Compared to previous generations, Generation Z is characterized by higher levels of education, generally conscious behavior, but also experiences higher levels of stress and occasional depression.

As the first cohort to be fully formed in the digital age, Generation Z has significant purchasing power and unfettered access to digital information. It is expected that by 2026, a significant portion of Generation Z will have significant economic clout ("Sustainability," 2021).

Notably, Generation Z is often referred to as the "green generation" because of their propensity to make environmentally and socially responsible purchases. They favor terms such as "organic" and "environmental protection" when choosing products, viewing ethical and environmental aspects as a status symbol and an expression of their aspirations (Sustainability, 2021).

A significant difference between Generation Z and previous generations of consumers lies in how and why they make purchasing decisions. Members of Generation Z tend to be characterized by high self-esteem and unwavering self-confidence (Van den Bergh & Pallini, 2018). Accordingly, they show resistance to traditional marketing methods, exhibiting a notable amount of skepticism (Van den Bergh & Pallini, 2018). Their main source of fashion knowledge is often social media, where they prefer to interact with and be influenced by famous people such as celebrities or opinion leaders (KOLs). Peer groups have a significant influence on them, emphasizing the social value of fashion. In addition, they devote much of their free time to following personalized fashion statements by celebrities, bloggers, and KOLs. Movies and live broadcasts serve as the main sources of fashion knowledge (Van den Bergh & Pallini, 2018).

Joshi and Rahman (Joshi and Rahman, 2015) argue that for members of Generation Z, buying used clothing may be more appealing than opting for eco-friendly fashion. This preference arises because members of Generation Z often relate their purchases to prevailing social trends, including environmental awareness and reduced consumption. The high-end brands found in secondhand stores combine fashionability, affordability, and alignment with Generation Z's unique personalities. Motivations for buying secondhand items are often not related to fashion trends, but rather driven by concerns for environmental sustainability and saving money (Machado, Almeida, Bollick & Bragagnolo, 2019). This is particularly relevant as young Generation Z shoppers may not have sufficient financial resources to purchase new eco-friendly goods. However, second-hand clothes may make shoppers reluctant to buy them due to concerns about their worn appearance or hygiene (Machado, Almeida, Bollick & Bragagnolo, 2019).

In essence, Generation Z's consumption of eco-friendly fashion is driven by a range of motives that include trends, economic benefit, and sustainability. These motives interact and influence final purchase decisions: some favor fashion choices based on economic benefits, while others seek sustainable consumption while maintaining economic benefits. The pursuit of sustainable consumption often serves to enhance self-esteem and alignment with the social circle and peers (Kihl & Vähänen, 2018). Nevertheless, a portion of Generation Z consumers may prioritize

sustainable consumption even when it involves avoiding overpriced products, exceeding expectations, or product designs that do not match their preferences (Joshi & Rahman, 2015).

Sustainable behavior remains a subjective issue, and people define it based on their unique perceptions. As Lundblad and Davis (2016) point out, sustainability can be viewed as a lifestyle or culture, with each individual holding their own perspective that may or may not coincide with others.

Generation Z's main priorities, including pop culture, interest groups, and social centers, are inextricably linked to their fashion choices and scene preferences. Fashion serves as one of the most important ways for members of Generation Z to express themselves, helping them to shape their identity and define their social circle (Özkan, 2017). Members of Generation Z are particularly receptive to exploring different interest groups to broaden their experiences. They are no longer content with following established fashion trends, and with the recent change in lifestyle and environment after the pandemic, they place more importance on activities such as fitness, camping, and homemaking. These activities provide opportunities to experiment with new forms of self-expression in the face of evolving normality (Djafarova & Bowes, 2021).

Members of Generation Z face a form of cognitive dissonance as societal trends and increased awareness emphasize the importance of sustainability as a lifestyle choice. However, this often conflicts with their desire for new products (Priporas, Stylos & Fotiadis, 2017). Consequently, members of Generation Z may prefer to avoid non-sustainable clothing or rationalize their purchases of fast fashion despite being aware of its environmental impact. In practice, many Generation Z consumers may purchase fast fashion products while directing their sustainability efforts to other areas such as transportation and food (Su & Chang, 2017).

One notable challenge faced by members of Generation Z is a lack of information about making green purchasing decisions, they have difficulty accessing comprehensive data on sustainable fashion consumption, and they often do not know which fashion brands prioritize sustainability and where to find relevant information. Generation Z may assume that more expensive premium products mean higher quality, but they often lack the knowledge to justify this assumption (Wood, 2013).

According to Chora (2019), Generation Z consumers show a strong inclination towards global brands due to factors such as international travel, easy access to information through the internet and frequent discussions about clothing among friends and peers. They prioritize individuality and uniqueness, demonstrating brand consciousness and a materialistic mentality. In addition, their spending on fashionable clothing is driven by access to their parents' credit cards and their financial support (Çora, 2019).

2.2.5 Fast and ultrafast fashion's effects on consumers and the environment

Fast fashion has attracted attention as a significant contributor to environmental and social issues (Dahlbo et al., 2021; Niinimäki et al., 2020; Kim et al., 2021; Park and Lin, 2020). This phenomenon, epitomized by brands such as H&M and Zara, is based on low-cost production and procurement of materials from overseas markets. This has fostered a culture of impulse buying, with new clothing models entering the market every week, appealing primarily to young female consumers (McNeil and Moore, 2015).

Typical behaviors of fast fashion consumers include a lack of awareness of environmental impacts, impulse purchases driven by immediate gratification, self-centered buying motives, and a sense of powerlessness over environmental issues. In addition, the desire for 'novelty' plays an important role in their self-identity (see McNeil and Moore, 2015). These patterns reflect a disconnection from environmental practices and a focus on short-term gratification.

Ultra-fast fashion, exemplified by Shein, has gained widespread acceptance, especially among young consumers. Its affordability and fast production cycles have caught the attention of young people still struggling to find ways to express themselves and manage finances in the post-recession era (Mahmood, 2022). Shein's growing popularity emphasizes the need to educate and empower young consumers to make smarter choices amidst the influx of fast fashion options.

2.2.6 Different approaches to combating fast fashion.

Several concepts, such as eco-fashion, ethical fashion, and sustainable fashion—all of which are sometimes used synonymously challenge the dominance of fast fashion (Henneringer et al., 2016). While ethical fashion prioritizes fair working conditions, sustainable business methods, and the use of eco-friendly materials with certification and traceability, eco-fashion is linked to campaigns against fur (Henneringer et al., 2016).

Being a part of the slow fashion movement, sustainable fashion expresses a particular ideology based on the ideas of sustainable development rather than just being an opposition to fast fashion. Its objectives include dismantling conventional organizational barriers, empowering employees, and lessening environmental harm (Henneringer et al., 2016). Slow fashion, then, presents a different perspective that is in line with ethical production and consumption.

Olga Gurova (2023), in her article "Practice theory approach to Gen Z's sustainable clothing consumption in Finland" for the Young Consumers journal, advocates the adoption of the term "sustainable fashion" as an overarching concept that incorporates these concepts.

2.2.7 Sustainable consumption

In the field of sustainable fashion, a deep understanding of consumer behavior plays a key role. Various models and studies have explored the intricacy of factors influencing sustainable consumption. Moisander (2007) presented a model that distinguishes between motivation and ability as central factors in sustainable consumption, emphasizing the discrepancy between motivations and actions. Terlau and Hirsch (2015) proposed a decision-making model that takes into account individual, social, and situational factors, in which attitudes toward sustainable consumption interact with intentions and behaviors. In addition, Nguyen et al. (2016) found an indirect effect of environmental concern on product choice by reducing perceived inconvenience. Taken together, these studies highlight the gap between attitudes and actual sustainable consumption behavior, highlighting both external (situational) and internal (individual) factors as underlying factors.

External factors:

External or situational factors include elements such as price, information availability, time constraints and consumption context. Higher prices of environmentally friendly products often deter people from choosing environmentally responsible options despite their desire to conserve resources. The availability or lack of information has a significant impact on purchasing attitudes and motivations, with well-informed consumers more likely to choose environmentally friendly products. Time constraints force people to stick to habitual consumption patterns, often favoring non-sustainable options. The environment in which consumption decisions are made plays an important role; immediate situational influences can affect decision making, e.g. online shopping provides a relatively stable environment. In addition, social pressure due to societal norms has a significant influence on behavior, as individuals seek to align their preferences with the majority.

Internal factors:

In contrast, internal, or personal, factors bring their own set of variables into the equation. Extensive economic research emphasizes the key role of environmental concern as the basis for sustainable consumption. For example, Lee, Kim and Choi (2011) found a positive correlation between environmental concern and green purchasing behavior. Similarly, Yang, Hwang et al. (2010) recognized the significance of environmental knowledge and values in shaping green purchase intentions. Moreover, Pagiaslis & Krontalis (2014) emphasized the influence of environmental concern, beliefs and knowledge on willingness to pay (WTP) for environmentally friendly products. Consequently, environmental concern significantly shapes preferences for eco-friendly choices.

Individual personality characteristics also have a significant influence. Notably, women are more involved in sustainable consumption compared to men (Isenhour & Ardenfors, 2009). Given that sustainable consumption is often costly, income level negatively affects the purchase of sustainable products (Hargreaves et al., 2008). Education level also plays a role in this dynamic, with similar trends among urban residents.

In addition, sustainable consumption is significantly influenced by consumption habits. Consumers often resort to heuristics when making decisions that require significant cognitive effort, which often manifest themselves as habitual behaviors. These habits, which require less cognitive effort, are easier to rely on, which is consistent with Kahneman's "systems 1 and 2" theory (Kahneman, 2011). Sustainable consumption requires thoughtful decision-making, which inherently requires greater cognitive effort. Yet empirical evidence consistently shows that consumers rely heavily on established habits to make purchases.

Finally, in this complex interaction, the consumer's perception of the product is also a major influence. In Theory of Planned Behavior (TPB), this phenomenon is called "perceived behavioral control" (Javadi et al., 2012), referring to the ease or difficulty associated with performing a certain behavior. Nguyen et al. (2016) refer to this phenomenon as "perceived discomfort", while Tsen et al. (2006) examine discomfort experienced during shopping behaviors. Taken together, these studies suggest that heightened perceptions of discomfort when purchasing or using a product reduce sustained positive attitudes towards it. This perception is intertwined with past experiences (Vermeir & Verbeke, 2008), making it a critical determinant of sustained consumption. Consequently, internal factors influencing sustainable consumption include concern for the environment, personal attributes, and adherence to social norms.

By combining the situational and individual factors discussed earlier, we can refine the model presented in Figure 1, and as a result, we can obtain a comprehensive model of sustainable consumption (Figure 2).

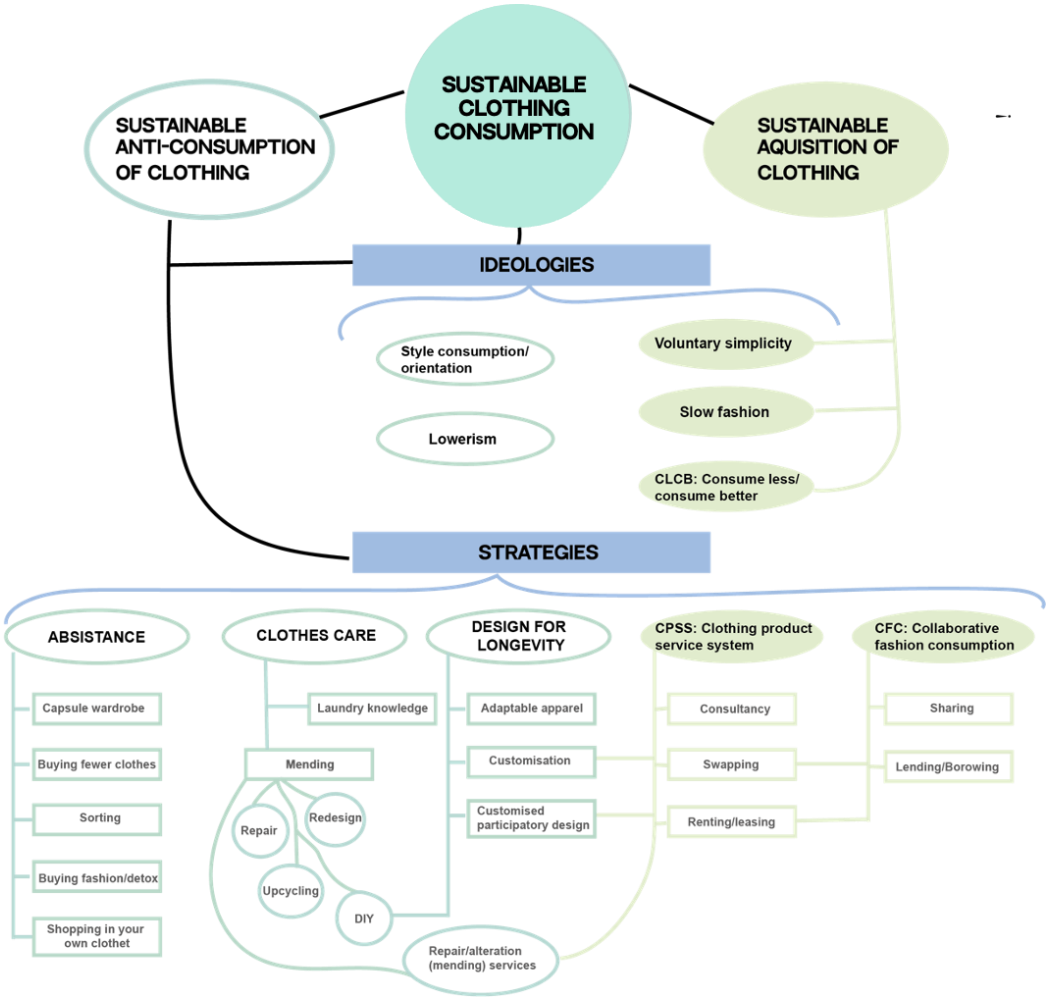


Figure 5. The framework of sustainable consumption of clothing. (by E.Prits)

2.3 Understanding behavior

By observing people's behavior without preconceived notions, we find unexpressed desires, find the meaning hidden in them, interpret them, and propose solutions.

"Say it to me. I will forget. Show me, and I may remember. Involve me, and I will understand."

This is a Chinese proverb that Philip Kotler quotes in Market 3.0. It expresses the idea that we can understand people more deeply by observing behavior than by speaking or writing, and by participating than by observing behavior.

In the realm of user-centered design, numerous methodologies have been developed to glean insights into the contextual use of a service. These methodologies encompass diverse techniques, each targeting distinct levels of knowledge. Figure below illustrates the correlation

between various data collection methods and their capacity to access these knowledge levels (Sanders and Stappers, 2018). The central triangle enumerates the different techniques, the left triangle delineates the user actions each technique encompasses, and the right triangle specifies the type of knowledge entailed.

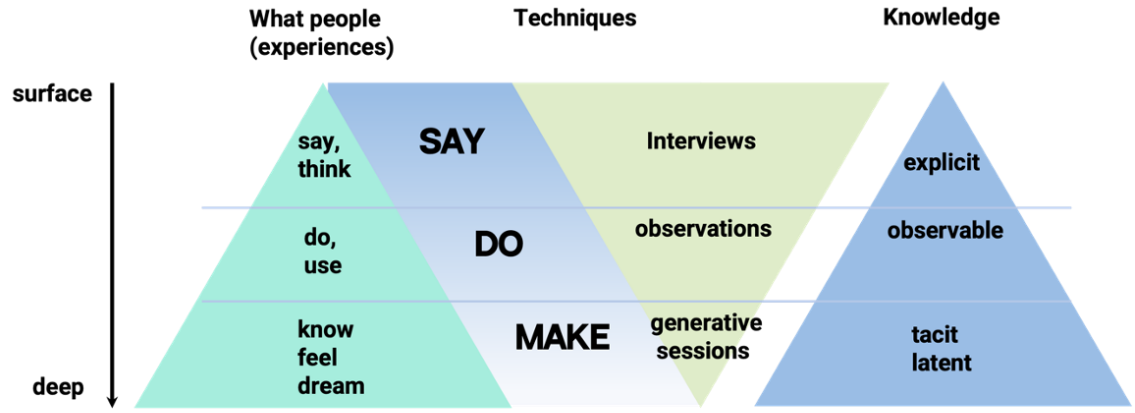


Figure 6. Pyramid of knowledge, inspired by Sanders & Stappers, 2018

Employing these techniques allows us to foster understanding and cultivate empathy for users, an indispensable foundation for the design process (Koskinen, 2003).

2.3.1 Theory of planned behaviour

The study of sustainable fashion has been the subject of numerous studies examining the behavior of consumers committed to sustainability. Many of these studies have used the Theory of Planned Behavior (TPB), developed by social psychologist Isaac Ajzen (1985), to understand how behavioral intentions can predict actual behavior. TPB primarily considers factors such as behavioral beliefs, normative beliefs, and perceived behavioral control to determine intentions to act. However, like any theory, TPB has its limitations. It does not consider the material aspects of dress, the availability of infrastructure for purchasing goods, or their disposal. Instead, it focuses on psychological factors that influence consumer actions, such as intentions, norms, and perceptions.

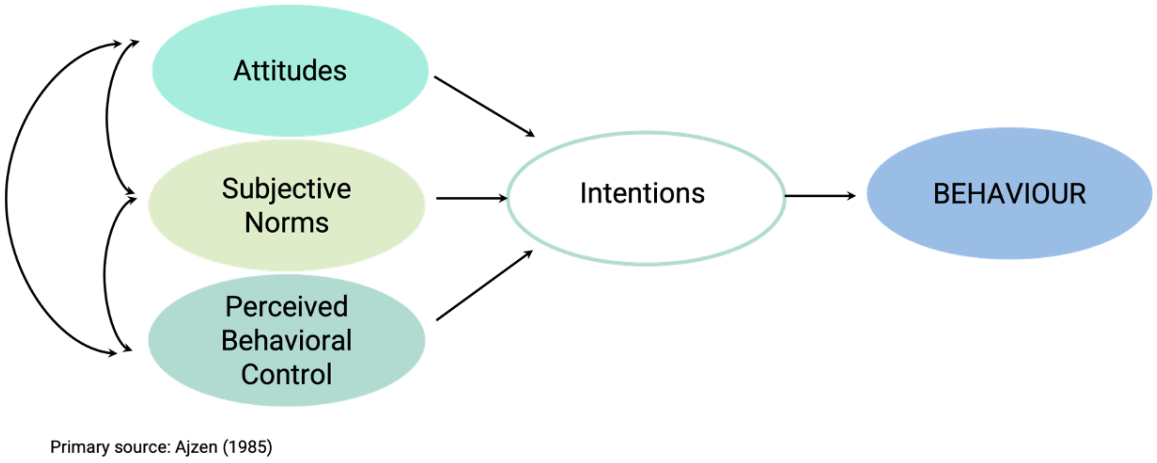


Figure 7. Theory of Planned Behavior, modified from Ajzen, 1985

Now let's apply the theory of planned behavior to eco-friendly fashion choices:

Attitude towards eco-fashion: In this context, this attitude is related to how the individual views his/her eco-fashion choices. If an individual believes that eco-friendly fashion choices have a positive impact on the environment and society, then the individual is likely to have a positive attitude toward eco-friendly fashion.

Subjective norms: Social influence plays an important role in eco-friendly fashion choices. If an individual's friends, family, or peers value and encourage eco-friendly fashion choices, this will positively influence his or her subjective norms for these behaviors.

Perceived Behavioral Control: The ability to make eco-friendly fashion choices depends on a variety of factors, including access to eco-friendly fashion products, knowledge of eco-friendly practices, and financial resources. If people believe that they have control over these factors and can make eco-friendly fashion choices, their perceived behavioral control will be higher.

Thus, the theory of planned behavior helps us understand that people are more likely to make eco-friendly fashion choices if they have positive attitudes toward eco-fashion, perceive social support for such choices, and believe they have the necessary control and resources to act on their intentions.

2.3.2 Nudge theory

Nudge theory, developed by Richard Thaler and Cass Sunstein in 2008, refers to the field of practical interventions that promote behavior change. Nudges, defined as aspects of choice

architecture that guide behavior in a predictable manner without constraining opportunities or significantly altering economic incentives, are designed to gently guide an individual toward desired actions. These measures are based on the premise that human decision making is often influenced by subtle environmental cues.

2.3.2.1 Theoretical foundations of "nudging"

The concept of "soft nudge" originated within the framework of behavioral economics - a branch of economic theory that takes into account the influence of social, cognitive and emotional factors on economic decision-making by individuals. The founder of this trend was G. Simon. He questioned the possibility of an individual to make absolutely rational decisions and for the first time proposed the term "bounded rationality"; according to the latter, an individual makes decisions within the limits determined by his ability to process information. This idea was developed in the following years also in the application to the theory of organizations: firms began to be considered as sets of individuals making decisions limited by their cognitive abilities.

In the 1970s, psychology researchers Daniel Kahneman and Amos Tversky (Kahneman, Tversky, 1974) published a series of scientific articles criticizing classical economic theory in terms of the limited decision-making capacity of individuals. Their hypothesis was that individuals are inherently wrong when making decisions, including those of an economic nature.

Richard Thaler's nudge theory, also known as libertarian paternalism, was examined by Richard Thaler as an innovative approach to economic policy. It involves gently encouraging individuals to make choices that are more favorable for them without imposing any restrictions on their options (Panidi, 2017). This concept is rooted in people's tendency to opt for default choices, a phenomenon described by Johnson and Goldstein in 2003.

For instance, consider the case of organ donation in Germany, where approximately 1000 people die annually while waiting for suitable organ donors. While most individuals express support for organ donation, only about 12% actually sign up as donors. In contrast, in France and Austria, nearly 99.9% are potential donors. The disparity arises from the fact that in Germany, the law doesn't facilitate organ donation by default, whereas in France, citizens are automatically considered potential donors unless they explicitly decline.

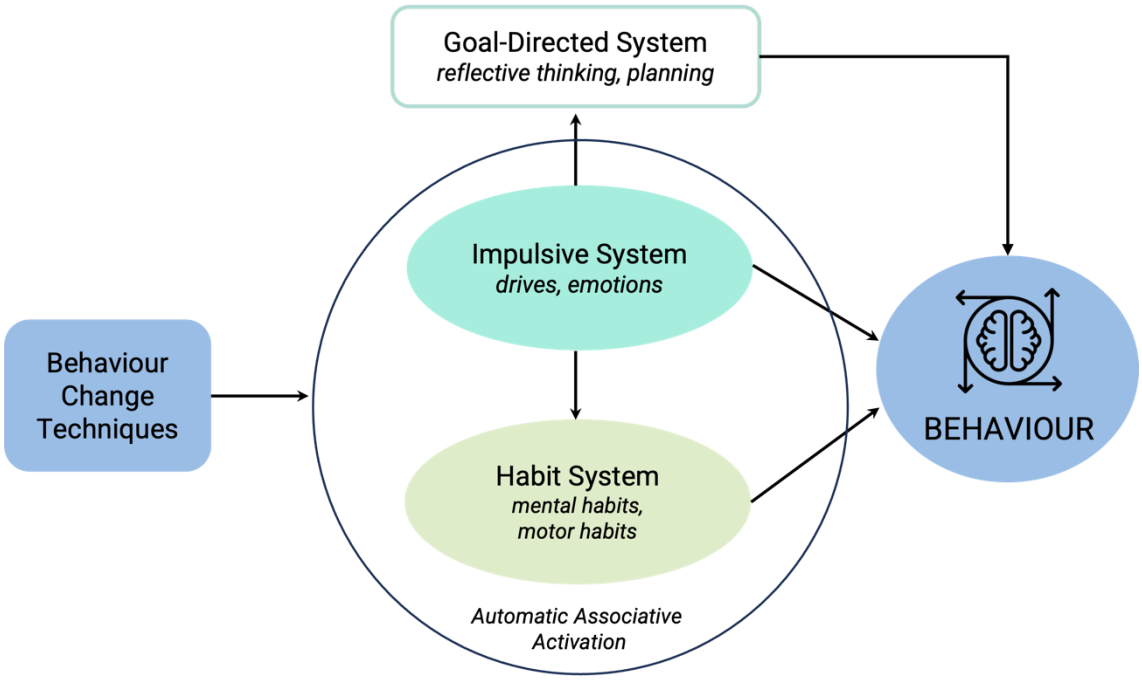


Figure 8. Self-regulatory process involved in behavioral change. The three core brain systems for behavioral control can generate psychological processes (thoughts, drives, emotions, and mental and motor habits) and can independently influence behavior, inspired by Thaler, 2013

This example demonstrates how nudging individuals toward the "right" choice of a default option can influence their decisions. Researchers, including Thaler, have proposed extending this principle to various economic matters, such as boosting retirement savings. Given people's cognitive biases in economic decision-making, implementing default savings programs could have a positive impact. For example, Thaler and colleagues examined the existing 401(k) retirement plan in the United States, which faced a crisis with only half of employees signing up for advantageous savings plans. Moreover, two-thirds of those who did enroll believed their savings contributions were insufficient. A proposed modification to the retirement plan choice architecture involved automatic enrollment in a savings program with a predetermined income share, an investment plan, and a program to increase savings rates as income rises. This approach yielded promising results, and in 2006, the U.S. enacted the Pension Protection Act, providing significant incentives to employers adopting automatic enrollment retirement savings plans (Panidi, 2017; Benartzi, Thaler, 2013). Consequently, by 2011, 56% of employers had transitioned to systems with automatic savings plans, potentially benefitting 4.1 million individuals (Benartzi, Thaler, 2013).

It's important to note that individuals are free to opt out or modify their participation in the program, which places no restrictions on their choices. Tyler's influential research on libertarian paternalism has led to its application in various domains, with governments worldwide exploring

behavioral insights to influence public behavior and priorities (Bernartzi et al., 2017). Several countries have established Nudge units, composed of behavioral science experts, to develop interventions that encourage desired behaviors without limiting choices. For example, the UK established a Behavioral Insights Team in 2010, and similar units were introduced in Australia, Germany, the Netherlands, and the USA, among others (see Afif et al., 2019). The World Bank anticipates the continued expansion of behavioral ideas in the years to come (Afif et al., 2019).

Successful examples of libertarian paternalism policies include streamlining the federal financial aid application process to increase college enrollment in the United States (FAFSA, Free Application for Federal Student Aid), reducing electricity consumption by sending comparative electricity usage letters to homeowners, and boosting adult flu vaccination rates by scheduling specific vaccination appointments (Bernartzi et al., 2017).In the words of Thaler and Sunstein (2008), "By understanding how people think, we can make it easier for them to choose the option that is best for them, their family, and the community." It's crucial to reiterate that nudging should not curtail individual freedom of choice, and it should be easy and cost-effective to opt out of the suggested choice. Additionally, thorough pre-testing of proposed nudges for their societal benefits is a crucial step.

Currently, the abbreviation BIAP (Behavioural Insights Applied to Policy) is also used to emphasize the variability of the application of behavioral approaches in different industries (sectors).

A dual-system model of sustainable fashion behavior, inspired by Daniel Kahneman's work (Kahnemann,2011) in behavioral economics (Figure 9), offers a compelling framework for understanding and influencing consumers' eco-fashion choices. Resembling Kahneman's "System 1" (intuitive, automatic) and "System 2" (reflective, conscious), this model identifies the cognitive processes underlying eco-fashion decision-making.

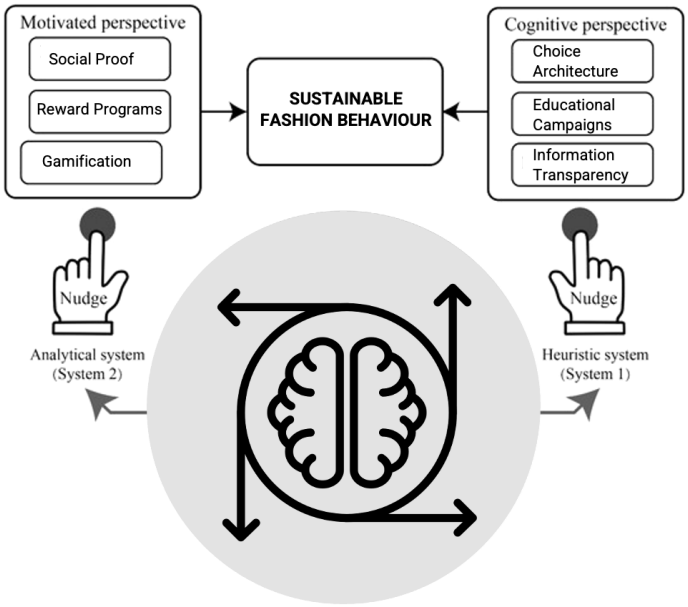


Figure 9. Dual-system model for Sustainable fashion behavior, inspired by Kahneman, 2011

System 1: Intuitive Influence

Fast and Automatic: As with Kahneman's System 1, decisions made under System 1 are often fast and automatic. People rely on heuristics and cognitive shortcuts to navigate the complex landscape of fashion choices.

Visual cues and defaults: Eco-friendly fashion behavior can be prompted by intuitive visual cues. The use of eco-friendly labels, distinctive product packaging features, or default settings that favor eco-friendly options can prompt quick eco-friendly decisions.

System 2: Reflexive Decision Making

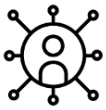
Conscious Decision Making: System 2 in eco-friendly fashion behavior involves more conscious and deliberate thinking. Consumers thoughtfully consider the environmental impact of their clothing, reflecting a deeper level of understanding.

Educational Initiatives: Influencing System 2 can be achieved through targeted educational campaigns. Providing information on the sustainability of the fashion industry, the life cycle of clothing and the impact of different materials promotes informed decision making.

By adopting Kahneman's two-system model of sustainable fashion behavior, fashion industry actors can adapt their strategies to address both the intuitive and reflective aspects of consumer decision-making.

When we compare TPB and Nudge Theory, we see their complementarity. TPB addresses the cognitive aspects of behavior, focusing on antecedents of behavior such as intentions, attitudes, and subjective norms. Nudge Theory, in contrast, focuses on behavioral aspects, seeking to create interventions that can directly induce desired actions.

Table 1. Theoretical part of the thesis

Topics		Authors
	Service design, design thinking, co-creation	Stickdorn and Schneider 2010; Ojasalo et al. 2015; Tschimmel 2012; Niinimäki and Durrani 2020;
	Double diamond	Design Council 2022
	Theory of Planned Behavior	Javadi et al. 2012; Michie et al. 2014;
	Nudge Theory and behavioral interventions.	Kahneman, Tversky 1974; Thaler & Sunstein 2008; Panidi 2017; Bernartzi et al. 2017 ;
	Generation Z as consumers	Joshi and Rahman 2015; Machado et al.2019; Priporas et al 2017; Çora 2019; Kihl & Vähänen 2018; Özkan 2017
	Sustainable clothing practices and their global importance.	Vladimirova et al. 2022; Yin 2003; Berger and Heath 2007 ; Claudio 2007; Dahlbo et al. 2021; Niinimäki et al. 2020; Kim et al. 2021; Park and Lin 2020

2.3.3 Reflections on knowledge basis

Reflecting on the combination of the fields of behavioral economics and service design in the context of sustainable fashion, the synergy between these approaches , in my view, is a fruitful way of understanding and influencing consumer behavior. Combining behavioral economics theories, such as Theory of Planned Behavior and Nudge Theory, with service design methodological approaches, design thinking and co-design principles, offers a comprehensive set of tools for designing interventions for promoting sustainable fashion among young people.

While the merging of behavioral economics and service design is a promising approach, it is necessary to acknowledge some of the criticisms and challenges inherent in this theoretical framework. One of the most important points is the possible oversimplification of human

behavior within the concept of nudging. Behavioral economics, despite its strength and explanatory power, can sometimes lean towards reductionism, overlooking the complex and context-dependent nature of decision-making. There is also a risk of overlooking cultural nuances and individual differences in preferences, which can lead to interventions that are not universal or even culturally sensitive. Another important issue is the ethical dimension of nudging, especially in the context of sustainable fashion. The line between guiding choice and manipulating behavior is very thin, raising ethical questions about the limits of influence and the possibility of unintended consequences. It is therefore very important to approach the application of these theories with caution, recognizing their potential while being mindful of the ethical complexities and diversity of human behavior and values.

3 Development setting

Table 2. Service design process

#	Name	Methods and Techniques	Participants	Stages	Main Conclusions
1	Interview	Semi-structured interviews	Young people	Discover	Understanding current attitudes towards fashion
2	Empathy Workshop	Persona cards, Archetype behavior cards	VISU Researchers	Define	Creating empathetic personas and behavioral archetypes
3	Design Thinking Workshop	Ideation, Brainstorming	Business College Students	Develop and Deliver	Generating and testing innovative solutions
4	Nudge Experiment	Nudge techniques, Behavioral interventions	Mixed groups of participants	Develop and Deliver	Evaluating the impact of nudges on sustainable choices

3.1 Discover

Purpose: The aim of the primary research was to investigate the eco-fashion practices manifested in the daily lives of young consumers in the Finnish Capital Region and to identify barriers to its wider adoption.

3.1.1 Research Methodology

This study utilizes a single case research method (Yin, 2003) to investigate sustainable fashion consumption among members of Generation Z in Finland.

Data collection: This qualitative study conducted semi-structured interviews with high school students in the Finnish metropolitan area comprising Helsinki, Vantaa and Espoo. The interviews were conducted in Finnish and English in the winter and spring of 2023, and the duration of the interviews ranged from 30 to 75 minutes. The interview topics included awareness of fast fashion, eco-fashion, greenwashing, and practices related to the acquisition, use and disposal of clothing. The data set included 36 interviews with 25 females and 11 males. Most of the interviewees were high school students, while the rest were studying in vocational schools or universities and their ages ranged from 16 to 21 years old. Data collection was carried out by VISU project participants from Laurea University of Applied Sciences and Finnish Textile and Fashion Association.

Table 3. Interviews data

Number	Gender	Age	Place of study	Small (below 200,000) or big city
1	Female	18	High school	Big
2	Female	17	High school	Big
3	Female	17	High school	Big
4	Female	17	High school	Big
5	Female	16	High school	Big
6	Female	16	High school	Big
7	Female	18	High school	Big
8	Female	21	AMK/ University	Big
9	Male	21	AMK/ University	Big
10	Female	19	High school	Big
11	Female	18	High school	Big
12	Female	17	High school	Big
13	Female	18	High school	Small
14	Female	20	AMK/ University	Big
15	Female	19	High school	Big
16	Male	20	Vocational school	Big
17	Female	18	Vocational school	Big
18	Female	20	AMK/ University	Big

19	Female	19	High school	Big
20	Female	17	Vocational school	Big
21	Male	18	Primary school	Big
22	Male	18	Double degree	Big
23	Female	18	Vocational school	Small
24	Male	16	Vocational school	Small
25	Female	18	Working	Small
26	Female	18	Working	Small
27	Female	17	Double degree	Big
28	Male	15	Primary school	Big
29	Male	15	Primary school	Big
30	Male	15	Primary school	Big
31	Female	20	Vocational school	Small
32	Male	19	High school	Big
33	Male	14	Primary school	Big
34	Female	15	Primary school	Big
35	Female	14	Primary school	Big
36	Male	15	Primary school	Big

3.1.2 Conducting in-depth interviews

In order to gain a deeper understanding of how to design a service that meets the specific needs of Generation Z, in-depth interviews were conducted by VISU project members with students of high and vocational schools. Such interviews are a valuable tool for gathering information about the expectations, experiences, activities, and needs, attitudes, ideas and attitudes of relevant stakeholders. In practical project scenarios, interviews are usually conducted according to a semi-structured scheme. They start with general questions to establish rapport and gradually progress to research-related questioning, as described in Stickdorn et al. (2018).

In the preparatory phase, the team refined the scope of the interviews to align with the objectives and desired number of participants. The team set out to interview at least thirty students from different schools, although this was challenging. The main aim was to gain insight into young people's fashion practices, their awareness of sustainable fashion and their perceptions of how schools and teachers view sustainability and the circular economy. The interview topics covered issues such as awareness of fast fashion, sustainable practices, the issue of greenwashing, and habits related to buying, using, and disposing of clothing. In addition, the interviews sought students' perceptions of sustainable fashion services. The team conducted semi-structured online interviews with students at vocational schools, high schools, and institutes in the Uusima region. The survey questionnaire can be found in Appendix 2.

The interviews with the young people were audio recorded. The recordings were then transcribed and sent to the interviewers, further increasing the reliability and validity of the content.

Data collection began with the assistance of the municipality of Vantaa, which provided access to the schools and permission to conduct the study. Subsequently, the study was advertised on the Finnish electronic school system Wilma. In addition to these recruited interviewers, snowball sampling was used to identify additional participants from Helsinki, Espoo, vocational schools and secondary schools. This purposive sampling method aimed to represent Generation Z youth living in the Finnish metropolitan area. It is important to recognize the limitations of this sampling strategy, such as the focus on the metropolitan area and the gender bias due to the higher proportion of females. In addition, the data may be biased because it mainly includes people who have already shown interest in clothing and sustainability.

3.2 Define

3.2.1 Thematic analysis

Thematic analysis was applied to analyze the collected data (Braun and Clarke, 2006). This method, known for its flexibility, involves generating codes from both existing literature (e.g. awareness, greenwashing, acquisition, use and abandonment of practices, materials, meanings and skills) and emerging categories from the interviews. Additional codes, including names of specific practices and influencing factors, were identified during data analysis. Triangulation was conducted to enhance the validity of the analysis by discussing the data and findings with the project team. The analysis aimed to identify recurring themes and patterns in the data.

The limitations of the study need to be acknowledged, including its qualitative nature, which limits the generalizability of the findings beyond the context of the study. The practices examined in the study are context dependent and may differ in other settings. The study does not examine differences within the interviewee group on factors such as gender, education level, or place of residence, which leaves room for future research. Finally, the sampling approach focuses on young high school girls, potentially limiting the diversity of perspectives included in the study.

The thesis incorporates the analysis conducted by sociologist and Senior Researcher in Circular Economy and Consumer Citizenship at Laurea AMK, Olga Gurova, who not only serves as one of the researchers but is also a key initiator of the VISU project.

3.2.1.1 Awareness

Understanding the differences between "fast" and "sustainable" fashion, as well as being able to recognize instances of greenwashing, are essential skills for participating in sustainable fashion. A survey was conducted to assess respondents' knowledge in this area. Contrary to some studies indicating potential gaps in understanding of sustainability among young people, our results are in line with Jafarova and Foote (2021), who found high awareness among members of Generation Z in the UK. Similarly, the study found significant awareness of fundamental concepts among young consumers in Finland.

In the survey, the majority demonstrated a clear understanding and only a small number of respondents had difficulty in defining terms. Notably, one respondent articulated the concept of 'fast fashion' but had difficulty with 'sustainable fashion', subsequently demonstrating a fine understanding of sustainability in the context of fashion. This suggests an overall high awareness, particularly in relation to fundamental concepts.

Although nuances such as environmental certifications were not addressed in the interviews, the topic of sustainability figured prominently in discussions about clothing.

Regarding green fashion, the participants' responses fell into three categories. The first group, "supporters", expressed approval and saw the companies' sustainability initiatives as a positive step. The second group, "skeptics," expressed doubts about the authenticity of these efforts. The third group, the "critics," expressed skepticism or cynicism toward the sustainability initiatives of fashion companies, viewing them as "greenwashing."

Notably, one participant raised concerns that second-hand companies seem to be adopting "fast fashion" practices, indicating the complexity of sustainable choices and consumer perceptions in fashion.

3.2.1.2 Clothing use map

When classifying practices related to sustainable consumption of clothes, Olga Gurova used the traditional three phases of the clothing life cycle: acquisition, use and disposal (according to Vladimirova, 2021). Gurova constructed a so-called "map of clothing use" by analyzing the answers to questions about the sources of clothing acquisition, methods of extending its life and approaches to its disposal. It is important to note that this categorization is not rigid, and some practices may overlap in different categories. For example, clothing sharing may include practices related to acquisition, use, and disposal, depending on the specific context. The forthcoming discussion will review the findings and compare them with similar studies involving young Finnish consumers.

3.2.1.3 Acquisition

It is increasingly popular among young people to create clothes using knitting, crochet or sewing, which are often taught to family members, especially mothers and grandmothers. The family unit plays a key role in the transmission of these valuable skills (Korsunova et al., 2023: 5). However, a common barrier is the lack of skills and access to the necessary tools. Thrifting has become a common and accepted practice that extends the life of clothing and promotes sustainable fashion. Despite the impact of income, thrifting is no longer associated with poverty.

The popularity of thrifting has led to a change in attitudes towards brands. Many respondents do not place importance on brands, emphasizing the feel and look of the clothes rather than specific labels. This shift towards a more relaxed attitude towards brands may indicate a broader shift towards valuing material qualities and practicality in eco-fashion.

Despite their fascination with digital technology, Generation Z overwhelmingly prefers to shop offline, citing various reasons such as unique in-store shopping experiences and the pleasure of discovery. Members of Generation Z often prioritize needs over wants, with some taking a minimalist approach to consumption, emphasizing infrequent, need-driven and seasonal purchases.

Collaborative consumption, especially among family and friends, plays an important role. The popularity and normalization of collaborative consumption among friends contradicts previous findings that collaborative consumption does not play a large role in perceptions of the circular economy. Although renting and leasing are not popular among Generation Z in Finland, sharing clothes with friends and family members is welcomed, which contributes to sustainable fashion by extending the lifespan of clothes and inducing a constant sense of novelty.

Table 4. Acquisition of clothing (Gurova, 2023)

ACQUISITION							
Making clothes		Making own clothes (knitting, crochet, sewing)					
Shopping/thrifting		Thrifting (shopping for second-hand clothes)	Live/offline shopping, browsing before shopping	Shopping with friends for experience	Not caring about brands	Online shopping	Buying often, on sales (including second-hand)
Refusing		Avoiding shopping for fun, impulse shopping	Buying only when needed	Avoiding buying trendy clothes	Not buying cheap clothes	Purchasing few clothes, rarely	Creating a "capsule wardrobe"
Sharing		Sharing with family, friends, siblings, for special occasions, for parties, when want new things, handing down	Not sharing with siblings or friends				

3.2.1.4 Use

In a "throwaway" consumer culture dominated by fast fashion, the interviews revealed an unexpected trend among young people: a strong emphasis on the durability of clothing. Eight respondents expressed a desire to extend the life of their clothes, emphasizing effective closet rotation and minimizing unworn items, challenging the common "throw away" mentality. Strategies include buying versatile, "neutral" clothing and creating a "capsule closet" with fewer matching items.

Younger consumers often try to make repairs with their own hands, relying on relatives and instructional videos to increase durability. There is a reassessment of the importance of "newness," with a significant shift toward valuing material qualities and practicality in eco-friendly fashion.

Repair is recognized as a valuable skill, often learned from mothers and grandmothers. While not everyone possesses these skills, family support and education play an important role in their acquisition and dissemination. The practice of recycling (upcycling), the alteration of clothing to extend its lifespan, is sporadic but has the potential to develop sustainable fashion.

Washing practices have a significant impact on the longevity of garments, but their importance is often underestimated. Proper laundry practice, based on knowledge, can extend the life of clothing. Some young people take laundry seriously, using strategies such as infrequent washing, separating items, and air drying to extend the life of clothing.

Table 5. Use of clothing (Gurova,2023)

USE						
Rotating wardrobe		Wearing clothing for a long time	Having a good rotation of the existing wardrobe	Not having unworn clothing		
Mending and repairing		Repairing holes etc.	Removing stains	Shortening pants, skirts	Using lint roller, lint remover, cashmere comb	Not having repairing or sewing skills or tools
Remaking		Upcycling				
Laundering		Reading laundry instructions	Not washing clothes often to save them	Washing by hand according to the instructions, using conditioner	Taking clothes out into the fresh air, shaking them after laundry	Not caring about laundering laundry; not reading laundry instructions

3.2.1.5 Discard

At the end of the life cycle, clothes are used for home or summer houses, given to siblings and friends, sold at flea markets, donated to charitable organizations, turned into rags and finally disposed of. Thanks to Finland's well-developed infrastructure, recycling, including energy recovery, is widespread.

Reselling end-of-life clothing is one option, with some using apps such as Tise. There is a strong resale infrastructure in the Finnish capital region, but there are challenges in finding buyers and time costs. Digital skills facilitate resale, but for some it is challenging due to an oversupply

of goods and time constraints. Charitable clothing donations are likely to thrive due to these challenges in the resale market.

Table 6. Discard of clothing (Gurova,2023)

DISCARD					
(Not)throwing		Not/rarely throwing clothing away	Keeping clothing in the basement (closet) in case they are needed or back in fashion	Doing "spring (or summer) cleaning"	Throwing clothing away when they are broken or in bad condition
Repurposing		Old clothes becoming clothes "for home", "for cottage"	Making rags out of old clothes		
Reselling		Reselling instead of returning	Reselling is difficult, expensive, takes too much energy, too much time		
Recycling		Giving clothes to the recycling center	Donating to charities		

3.2.1.6 Key findings from the in-depth interviews

Key findings from in-depth interviews with students provide insight into their attitudes towards eco-fashion and the factors influencing their choices. Influential actors including family, friends, social networks, and educational institutions shape young consumers' eco-friendly clothing behavior.

The results show a high awareness of eco-friendly fashion, but the issue of greenwashing adds to the complexity. In addition, there is a noticeable lack of knowledge and skills in practices such as darning, washing and selling through various apps, which creates difficulties due to the many and varied platforms available.

Buying habits lean towards fast fashion due to trends, affordability and peer influence, but some are open to eco-friendly alternatives if they are available. A "throw away" culture is prevalent in society, emphasizing the need for interventions aimed at responsible use and care of clothing. Educational institutions, especially schools, have the potential to increase knowledge and skills related to sustainable fashion. Despite existing habits, there is a genuine desire among young people to adopt more sustainable fashion if provided with information and opportunities.

3.2.2 A collaborative rapid persona-building workshop: creating design personas with VISU researchers

During the user research phase, common characteristics and patterns of user behavior were identified and organized using the user persona model theorized by Alan Cooper, a computer scientist and interaction designer (Cooper, 1999). The use of personas helps to create a specific view of the user group around which a product or service will be designed. According to this model, imagined users are created based on research to get a clear picture of their goals and needs in specific contexts.

A workshop which was conducted by me as a facilitator with the project researchers was held to consolidate the information collected during the in-depth interviews. It was important to get a picture of young consumers through the prism of the researchers' paradigms. As there were 4 researchers present at the workshop, I decided to make 4 persona maps, which was an individual task. Thus, the participants were able to think about and recall their impressions from the surveys and gain experience in making persona maps. After the persona maps were made, each of the participants presented his/her map and described his/her character. The next stage was the collective creation of a behavioral map of the archetype. Characters and archetypes in service design are two slightly different ways of visualizing the same ideas. Both summarize user research data: they represent clusters of audiences, capturing key areas of overlap in behavior, their attitudes, motivations, pain points, and goals.

Finding these clusters yields a small set of composites that demonstrate key characteristics and significant differences between several types of users. In this respect, personas and archetypes are identical.

The difference between the two is whether each of these user types is represented as a specific human character. With personas we come up with a (plausible) name, biography, photograph, and other personal characteristics, whereas with archetypes we omit these details and refer to a user type simply by an abstract label that represents the defining behavioral or attitudinal characteristics of that user.

Both the archetype and the persona represent the same type of user and contain the same basic ideas about the needs, behaviors, goals, pain points, and even motivations of this type of user. Both can serve to compare the different priorities and motivations of users. But archetypes are abstract and personas wear a human face.

Based on the findings, and other general parameters (such as age, gender, average clothing expenditure, type of product sought, predominant mode of purchase, eco-friendliness), 4 personas were created.

A common characteristic of all profiles is that the contemporary fashion consumer is increasingly aware of the economic, social and environmental implications of their purchases: according to the Sustainable Brand Index Official Report (https://static1.squarespace.com/static/5c46c7c1a2772c47f0e07c24/t/6511498482d42578cf64ea00/1695631758971/Finland_Official+Report_2023.pdf), only 6-7% of consumers consider sustainability as a decisive factor in their choices: although sustainability is among the six main purchase factors for most global fashion consumers, it is clearly less prioritized than other more tangible factors closely linked to sustainability, such as product quality and durability.

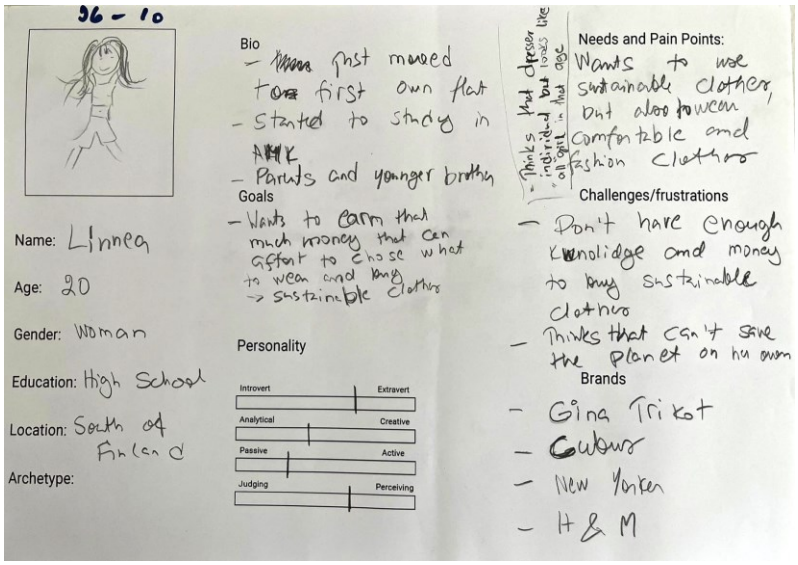
The empathy workshop served as a collaborative platform where stakeholders, including researchers from Laurea AMK and Finnish Textile and Fashion Association, came together to gain a collective understanding of the target group's needs. Through a series of interactive activities and discussions, the workshop aimed to uncover insights, challenge assumptions, and co-create personas and behavioral archetypes that represent Generation Z's fashion behaviors.

Picture 1. Picture from the workshop 20.06.2023 in Laurea AMK Tikkurila. Ethical approval has been obtained for the publication of facial images. Participants are acknowledged for their consent (Photo by E.Prits)

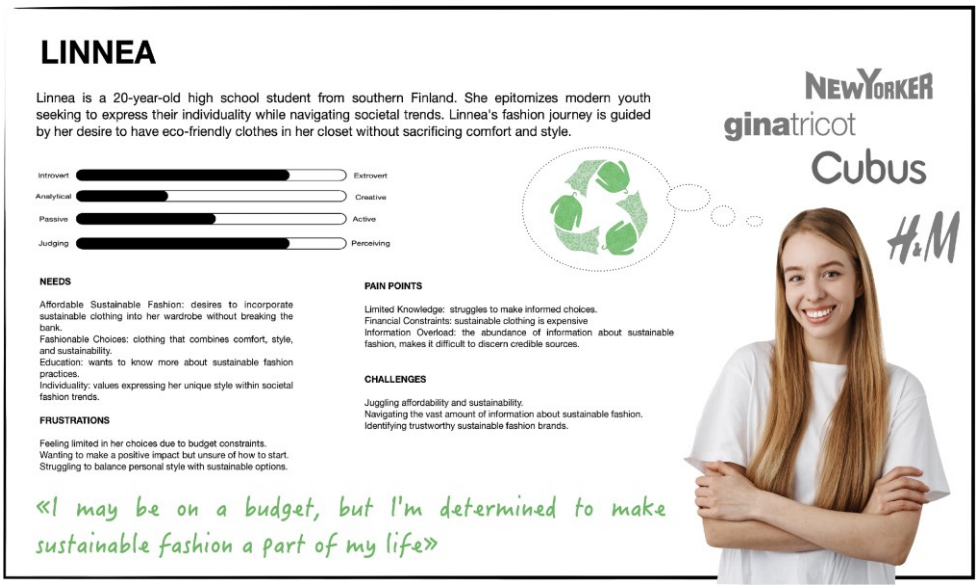
3.2.2.1 *Persona cards analysis*

Four persona cards were created during the workshop, each representing a unique individual from Generation Z. Let's explore the personas and their characteristics:

Linnea, a 20-year-old girl from the south of Finland, exemplifies the desire for individuality within the constraints of societal trends. Linnea aspires to afford sustainable clothing while maintaining comfort and fashion. She feels limited by her lack of knowledge and financial resources but remains optimistic about making a positive impact. Linnea is drawn to popular brands such as Gina Tricot, Cubus, New Yorker, and H&M.

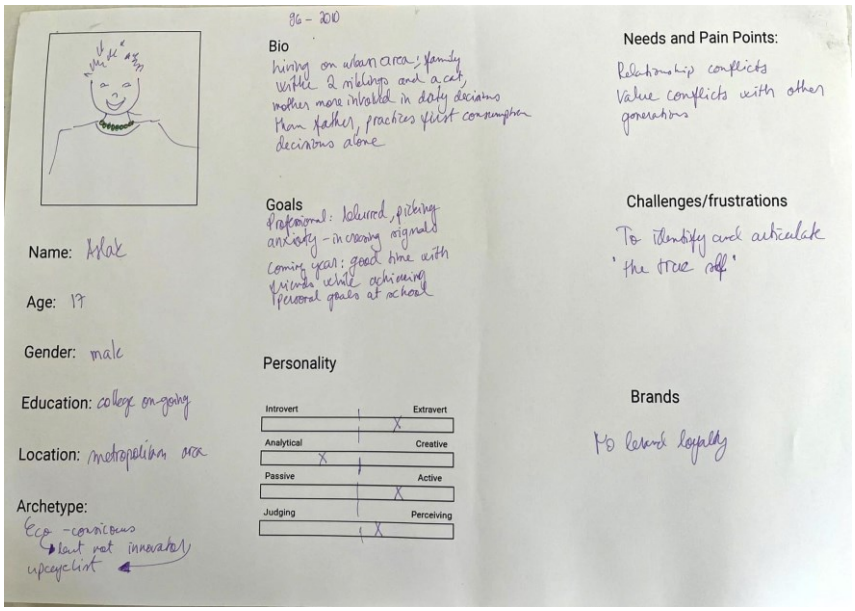


Picture 2. Persona card. Picture from the workshop 20.06.2023 in Laurea AMK Tikkurila



Picture 3. Persona card of Linnea, design by E.Prits

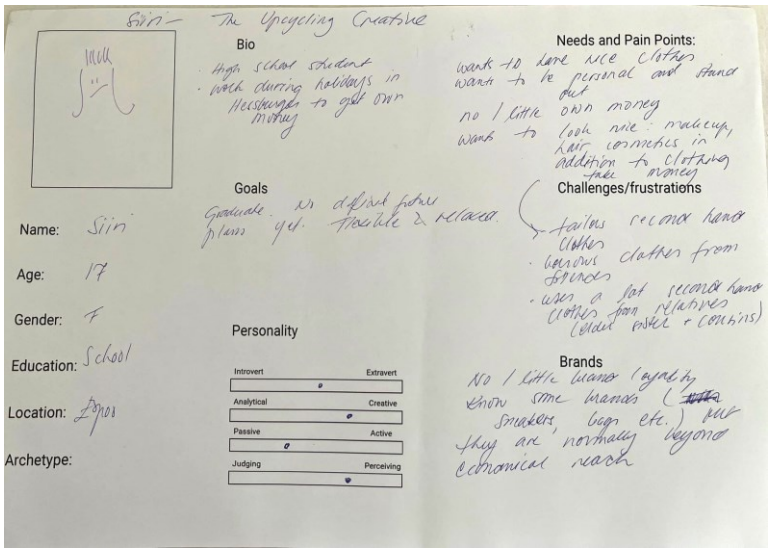
Aslak, a 17-year-old boy from a metropolitan area, embodies the archetype of an eco-conscious upcyclist. He faces challenges related to relationship conflicts and clashes with other generations' values. Aslak seeks authenticity and struggles to identify his own truth. Brand loyalty does not drive him, and he remains open to diverse fashion options.



Picture 4. Persona card. Picture from the workshop 20.06.2023 in Laurea AMM Tikkurila

Picture 5. Persona card of Aslak, design by E.Prits

Siiri, a 17-year-old girl from Espoo, represents the archetype of the Upcycling Creative. Siiri desires personal expression and wants to stand out while facing financial limitations. She is resourceful, often borrowing and tailoring second-hand clothes. Siiri lacks brand loyalty and explores various fashion options within her reach.

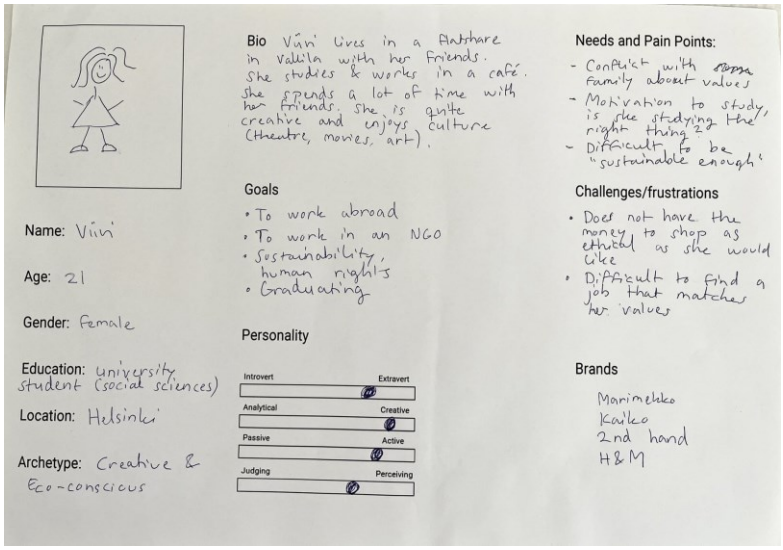


Picture 6. Persona card. Picture from the workshop 20.06.2023 in Laurea AMK Tikkurila

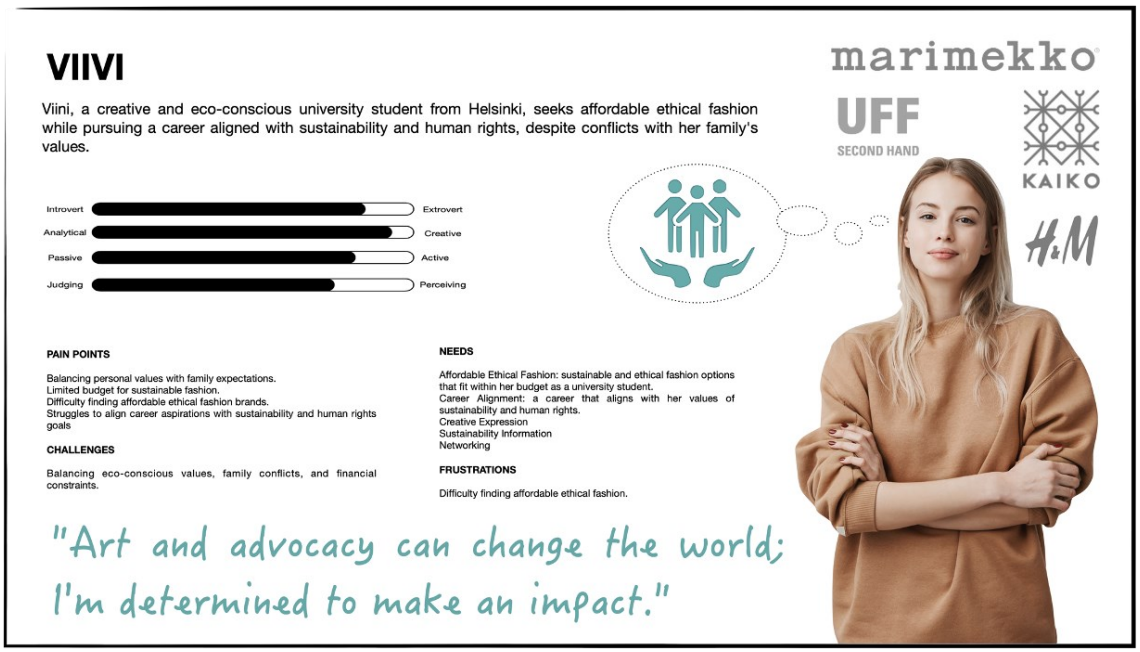
Picture 7. Persona card of Siiri, design by E.Prits

Viivi, a 21-year-old girl university student from Helsinki, embodies the archetype of a creative and eco-conscious individual. She seeks a career aligned with sustainability and human rights, leading to conflicts with her family's values. Viini faces challenges in finding affordable ethical

fashion and struggles to match her ideals with her financial limitations. She is drawn to brands such as Marimekko, Kaiko, 2nd Hand, and H&M.



Picture 8. Persona card. Picture from the workshop 20.06.2023 in Laurea AMK Tikkurila

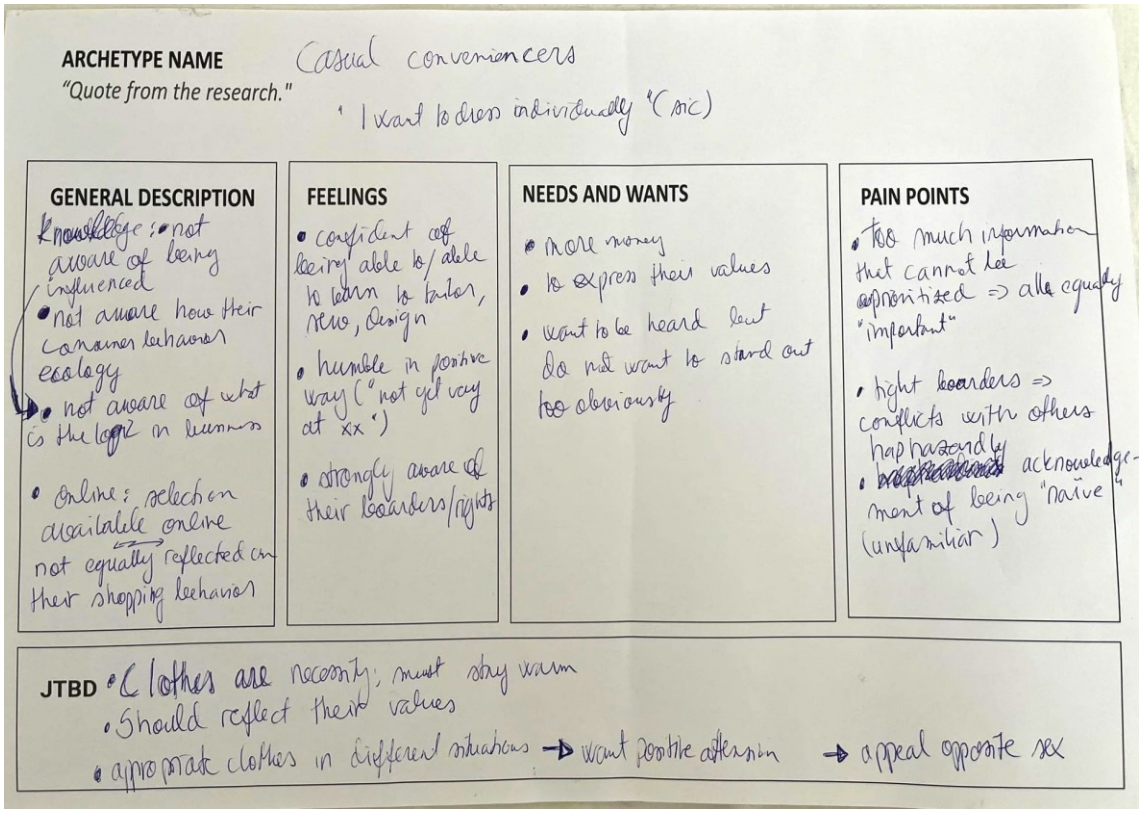


Picture 9. Persona card of Viivi, design by E.Prits

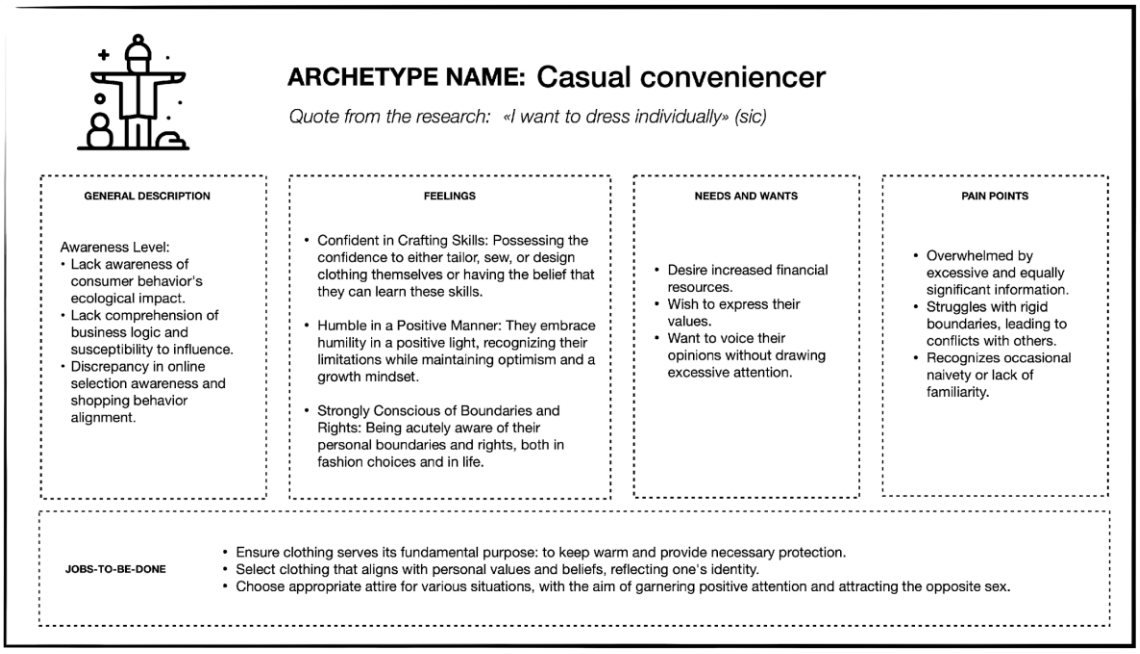
3.2.2.2 Behavioral archetype card analysis

One behavioral archetype card was co-created during the workshop, representing the "Casual Conveniencer." This archetype is characterized by the following traits:

- Desire for individuality: Generation Z individuals in this archetype express the desire to dress individually while conforming to societal norms.
- Limited awareness of consumer behaviour ecology: They are unaware of the ecological impact of their fashion choices and the discrepancy between their online selection and shopping behaviour.
- Confidence and humility: They possess confidence in their ability to tailor, sew, and design while remaining humble. They are strongly aware of their boundaries and rights.
- Needs and wants: This archetype desires more financial resources to express their values through fashion. They want to be heard without overtly standing out. Additionally, they seek appropriate clothing for different situations, aiming to attract positive attention, especially from the opposite sex.



Picture 10. Archetype map. Picture from the workshop 20.06.2023



Picture 11. Archetype map, design by E.Prits

3.2.2.3 Results of the Define phase

The research work and empathic workshop conducted with stakeholders following a survey of Generation Z in Finland provided valuable insights into their fashion and behavioral needs. The collaboration at the workshop resulted in persona maps and behavioral archetype maps, which provided some insight into Generation Z's preferences for eco-friendly fashion.

Although the results of the study and the workshop shed light on the aspirations, challenges and motivations of Generation Z Findings may be limited to specific individuals and may not fully reflect the broader demographic picture.

Besides, the process of co-creation at the workshop, while collaborative and in-depth, may have been influenced by the biases and views of the stakeholders. The personas and archetypes created during the workshop may not fully encompass the full range of Generation Z experiences and preferences. It is important to recognize that fashion needs and behaviors can vary greatly from person to person, so personas and archetypes should be viewed as general representations rather than rigid categorizations.

In addition, the research work has largely focused on sustainable fashion preferences, potentially overlooking other factors that influence Generation Z's fashion choices, such as cultural influences, social network trends, and economic considerations. These aspects must be taken into account in order to more fully understand Generation Z's fashion needs.

Despite these observations, the research work and the empathic workshop laid the foundation for developing fashion choices that are in line with Generation Z's values and contribute to sustainability.

3.3 Develop

3.3.1 Design Thinking Workshop with Gen Z students

3.3.1.1 3.3.1.1 The concept

The workshop's concept is based on the principles of design thinking. Design thinking was chosen as the core for the development of the entire concept due to its dual nature - it serves as both a problem-solving mindset and a method for stimulating innovation. The main goal of the workshop is to create new solutions and services. Design thinking in this context not only offers a systematic approach, but also provides a broad set of tools and processes for innovation that are not constrained by any specific framework. By bringing concreteness and empathy to the innovation process, design thinking ensures the creation of solutions that are truly people-centered (Ojasalo et al., 2015).

Since the VISU project targets 17-20 year olds and aims to engage educators and students, it was decided to organize a workshop at Business College Helsinki. In order to make the seminar as relevant to the thesis as possible, 10 students from the service design course at the Business College Helsinki participated in the seminar. The seminar program was coordinated with three service design professors. A 8-hour service design workshop was held on October 2 and 5, 2023 during class time from 9 a.m. to 1:30 p.m. The workshop was designed to incorporate the research findings of the VISU project. The aim of the workshop was to design a new service for young people to encourage them to reduce their clothing consumption. The Business College Helsinki assisted in organizing the seminar by providing all necessary office tools in the form of post-it notes, paper, blackboards, flip charts, etc. The motto of the seminar was "Learning by doing".

3.3.1.2 3.3.1.2 Agenda

The workshop "Design Thinking for Sustainable Fashion" of 8 hours duration consisted of two parts. The first day included welcoming and opening the workshop, defining the "theme", warm-up and team building, brainstorming on the given "theme", persona mapping, empathy mapping, idea and concept development. Two presentations on "Design Thinking" and "Sustainable Fashion" were given before the teamwork began. The day ended with the completion of a rational concept canvas. The second day started with an introductory session, a presentation

on prototyping services, followed by concept refinement, prototyping and presentation preparation.

3.3.1.3 The workshop program

Day 1: Divergent thinking and problem definition (duration: 4 hours)

1. The day will focus on defining the needs and vision of the students, and considering the problems they see in the fashion industry and in their use of clothing. At the end of the day, the groups will brainstorm solutions to the problem of their choice, then vote on one service concept idea to be further developed on day 2.

Table 7. Agenda of Design Sprint in Business College Helsinki (2.10.2023)

5 min	Presentation of facilitators	
30 min	Introduction to the topic	About the project and the brainstorming phase
5 min	Instructions for the Icebreaker challenge (Spaghetti marshmallow challenge)	
	Split into 2 teams (5-6 people per team, can be divided beforehand)	
18 min	Spaghetti marshmallow challenge	Background music
5 min	Wrap-up of the challenge & participants' reflection	
10 min	Presentation of the challenge	
Guidelines for the brainstorming workshop		
Ideation (on: how to reduce consumption in the fashion industry?)		
30 min	Task 1 (done in groups): fill in a personality card based on your own needs and views. Questions If you don't know what to say or how to answer a question, you can research it online. In a group, choose one need/problem for which you would like to find a solution.	Persona card + Empathy map
Break		
40min	Groups move to brainstorming, suggest a problem based on knowledge about the client and generate solution ideas (Ideation Sandbox Canvas)	The sandbox of ideation Collage T-shirt personalisation ideas

5 min	Voting	
20 min	Groups complete the Rational Concept sheet and evaluate their ideas using the Concept Evaluation Canvas (if we have time)	Rational Concept sheet Evaluating the Concept Canvas

Day 2: Convergent thinking and prototyping - Mindset (duration: 4 hours)

Review and selection of ideas: reviewing and analysing the ideas generated, identifying themes and jointly selecting promising ideas that meet the challenge.

Prototyping Mindset: Exploit the "prototyping mindset" by envisioning how the selected ideas could be implemented as concrete solutions, taking into account user experience and impact.

Cross-pollination: participants from different backgrounds collaborate and share their views to refine and enrich the selected concepts.

Pitch development: developing convincing presentations of the selected ideas and preparing them for presentation to the group.

Final presentation of ideas: each group presents its chosen idea, highlighting its unique features, user benefits and sustainability impacts.

Table 8. Agenda of Design Sprint in Business College Helsinki (5.10.2023)

Prototyping		
20 min	Presentation of prototype options	Introduction Why are service prototypes made? What methods exist? Testing?
3 min	Instructions for the exercise: recall your solution proposal from the brainstorming day and think about how you could	

	prototype it? How you would use the service you would use in reality.	
40min	Group work	The groups will use collages, modelling clay, coffee cups, tape and model bases. Storyboard, blueprint, digital wireframes
Testing and feedback		
20 min	Feedback loop Participants can move between tables to explore prototypes and learn about other groups' ideas. There is always one person at each table who has a prototype and explains how the service works and how to use it. Participants from other groups can comment and write feedback so that the service developers can later improve their own idea. Instructions for presenting a prototype service concept: - Explain your idea and listen! The aim is to collect feedback and ideas for improvement. - DON'T BE DEFENSIVE - Think of this as an opportunity to learn more about your partner.	
Break		
40 min	Participants return to their groups, review the feedback from others and consider how the prototype could be improved on the basis of that feedback. Preparing for the presentations	Storyboards Preparation for the presentation
45 min	Group presentations Each group will present its own service concept. 10 minutes, followed by 5 min for questions and comments	

10 min	Wrap up (facilitators ja pamu-teachers)	

3.3.1.4 Participants

The workshop was attended by 10 young people aged 17-19 who are the target group of the VISU project, i.e. they have established habits and practices of wearing and consuming clothes. In addition, they want to participate in the development of new services or redesign of existing services in the near future.

3.3.1.5 Objectives

The main objective of the workshop was to introduce the participants to the philosophy of design thinking, its potential to create innovation and the desire to address the problem associated with clothing overproduction and over-consumption through design practice. In addition, the workshop was to help in understanding the mindset of young people, the persona maps created during the workshop were to be compared with the persona maps created by the researchers, the concepts and prototypes were to be verified with potential solutions created within the VISU project.

3.3.1.6 Verified tools and methods

The following elements and tools were tested and applied during the workshop:

- Service Design Toolkit
- Phases of Service Design
- Mashmallow Challenge
- Idea Selection - Idea Sandbox
- Rational Concept Sheet
- Personas
- Empathy Maps.
- Low fidelity prototyping techniques: low fidelity prototyping techniques (sketches, paper prototypes, Lego models, story boards).
- Storytelling
- Brainstorming

1. Service Design Toolkit:

What is it? A collection of tools and methodologies specifically curated for service design projects.

Usefulness: It assists in structuring the service design process, facilitating creativity, problem-solving, and user-centric thinking.

How to use it: Select and adapt tools from the toolkit based on the project's needs. Tools might include personas, customer journey maps, and ideation techniques.

2. Service Design Phases (Discover, Ideate, Prototype):

What are they? A structured approach dividing the design process into distinct phases: Discover (research), Ideate (generate ideas), Prototype (build and test solutions).

Usefulness: Ensures a systematic and comprehensive design process, promoting collaboration and clarity.

How to use them: Progress through each phase sequentially. Discover by researching user needs, Ideate by brainstorming solutions, and Prototype by creating tangible representations for testing.

3. Marshmallow Challenge:

What is it? A team-building and problem-solving activity where teams compete to build the tallest structure using spaghetti, tape, and a marshmallow.

Usefulness: Fosters collaboration, creativity, and quick decision-making in a time-constrained environment.

How to use it: Divide participants into teams, provide materials, set a time limit, and challenge them to build the tallest structure with the marshmallow on top.

4. Idea Selection - Ideation Sandbox (Futurice Oy, 2020):

What is it? The idea sandbox is the starting point for cultivating innovative ideas within a structured framework.

Idea Sandbox Components:

Business Goals: The work of the idea sandbox begins with alignment with the core goals of the business. This step ensures that the ideas generated are firmly aligned with the strategic goals of the organization.

Team Missions: Team missions are the specific goals and aspirations of the team, guiding the ideation process to achieve goals aligned with the team's mission.

Company missions: Company missions provide the broader context in which the ideation process unfolds. They articulate the broader goals and values of the organization that guide innovative ideas.

Public Purpose: Inclusiveness is paramount in the idea sandbox. It embraces public purpose by emphasizing the impact that the ideas generated can have on the broader community and society.

Ideas and Improvement: The idea sandbox is not just a static platform, but a dynamic engine that promotes idea generation. It encourages teams to brainstorm, collaborate and iterate.

Usefulness: Streamlines the ideation process, helping prioritize and develop the most promising concepts.

How to use it: Establish a designated space or time during ideation sessions for evaluating and selecting the most viable ideas.

5. Rational Concept Sheet:

What is it? A structured document for organizing and formalizing design concepts.

Usefulness: Provides a clear and concise format for documenting and communicating design ideas.

How to use it: Participants fill out the concept sheet, detailing key aspects such as the problem addressed, solution proposed, and potential impact.

6. Personas:

What are they? Fictional characters representing different user archetypes with distinct characteristics and needs.

What is it for?

Developing successful personas is the art of inclusion and exclusion. These personas are often based on a wealth of information from a variety of sources, each rife with intricate details. The challenge is to identify the common threads from which the foundation of the persona is woven and select the details that breathe life into it. Doing this process effectively is hugely beneficial because it allows you to brainstorm ideas and test potential solutions from the user's perspective. Often, creating multiple personas can help identify the characteristics of different subgroups of the target audience.

How to use it?

Personas represent the different target subgroups that an organization seeks to engage with. Understanding the preferences, habits, and motivations of these different groups allows you to effectively tailor your products and services to each specific subgroup.

Use the worksheet or template to develop a complete portrait of a typical person who could be a representative persona for one of the target subgroups your organization is targeting. Try to make it as real as possible: give it a name, put a photo, describe interests, skills and motivations. Feel free to include any other details relevant to your unique situation and the context of this particular person.

7. Empathy Maps:

What are they? Visual representations of user thoughts, feelings, and actions in specific scenarios.

Usefulness: Aids in understanding user experiences and identifying pain points or areas for improvement.

How to use them: Create empathy maps by collaboratively filling in sections for what users see, hear, say, and do in a given context.

8. Storytelling:

What is it? Communicating design ideas and concepts through a narrative format.

Usefulness: Engages stakeholders and communicates the user journey, making design concepts relatable.

How to use it: Craft a compelling narrative that illustrates the problem, solution, and impact of the design in a way that resonates with the audience.

9. Brainstorming:

What is it?

Brainstorming is a collaborative or individual creativity technique aimed at generating a large number of ideas in a short period. It was first introduced by advertising executive Alex Osborn in the late 1930s. The core principle behind brainstorming is to create a non-judgmental and open environment where participants can freely express their thoughts, no matter how unconventional or seemingly impractical.

Why is Brainstorming Valuable?

- Diverse Perspectives: Brainstorming brings together people with different backgrounds, experiences, and perspectives. This diversity can lead to a wide range of ideas, offering fresh and innovative solutions.
- Idea Generation: It's an effective way to overcome creative blocks and generate a multitude of ideas quickly, making it especially useful in problem-solving scenarios.
- Fosters Team Collaboration: Brainstorming encourages teamwork and collaboration. It promotes a sense of ownership and involvement among team members.
- Enhanced Creativity: By suspending judgment and embracing wild ideas, brainstorming nurtures creativity. It allows participants to think beyond conventional boundaries.
- Effective Decision-Making: Brainstorming produces a pool of ideas, which can be systematically evaluated and refined to arrive at the best solutions.

How to use it?

- Set Clear Objectives: Define the problem or goal you aim to address during the session. A well-defined focus keeps the brainstorming on track.
- Choose the Right Participants: Invite a diverse group of individuals with relevant knowledge and skills. Ensure a mix of team members who can contribute unique perspectives.
- Create a Comfortable Environment: Foster an atmosphere where participants feel safe sharing their ideas. Emphasize that all ideas are welcome and that criticism is deferred until later.
- Use Structured Techniques: While traditional brainstorming involves spontaneous idea generation, structured techniques like mind mapping, SWOT analysis, or the 6-3-5 method can guide the process.
- Set a Time Limit: Brainstorming sessions should have a defined time frame to maintain focus and prevent burnout. Typically, sessions range from 15 minutes to an hour.
- Document Ideas: Record all ideas, whether on a whiteboard, flipchart, or digital tool. This ensures that no idea is lost and allows for later evaluation.
- Encourage Wild Ideas: Embrace unconventional and wild ideas. Sometimes, these lead to breakthrough innovations when refined.
- Voting and Prioritization: After the brainstorming session, organize and prioritize ideas. Use techniques like dot voting to identify the most promising ones.
- Follow-Up: Implement and test the selected ideas. Ensure that they align with your objectives and address the identified problem.A group creativity technique for generating a large number of ideas in a short period.

10. Low-Fidelity Prototyping Methods (Sketches, Paper, Lego, Digital, Wizard of Oz, Storyboards):

What are they? Various techniques for creating simple and quick prototypes to test design concepts.

Usefulness: Enables rapid iteration and testing of ideas before investing in more complex prototypes.

How to use them: Choose the appropriate method based on the project needs. For example, use sketches or paper for quick visual representations, Lego for hands-on modeling, or digital tools for interactive prototypes.

a) Sketch Prototypes:

Sketch prototypes are fundamental in the design process, allowing designers to quickly visualize and communicate ideas through hand-drawn representations (Norman, 2013).

b) Paper Prototypes:

Paper prototypes involve creating low-fidelity mock-ups with paper or cardboard to simulate user interactions, commonly used for usability testing. The concept of paper prototyping is widely accepted in the design community, and usability experts like Jakob Nielsen (Nielsen, 1994) have advocated for its use.

c) Lego Prototyping:

Lego prototyping involves using LEGO bricks to build physical models representing design concepts, fostering a hands-on and collaborative approach (Schrage, 2000).

Lego Serious Play, a method incorporating Lego into workshops, was developed by Johan Roos and Bart Victor. "Serious Play: How the World's Best Companies Simulate to Innovate" by Michael Schrage explores the broader concept of serious play.

c) Storyboard Prototypes:

Storyboard prototypes use visual narratives to illustrate a sequence of events or interactions, providing a holistic view of the user experience (Garrett, 2011). Storyboarding draws inspiration from filmmaking and storytelling, with no specific authorship for design storyboards.

These tools collectively contribute to a comprehensive and effective service design process, fostering innovation and problem-solving in the realm of sustainable fashion.

3.3.1.7 Day 1 (Monday)

The first day of the workshop begins with a warm-up to engage participants, familiarize them, and prepare them mentally and energetically for the work ahead. Such warm-ups play a key

role in the process of co-creating innovation for several reasons. First, they create psychological safety within the workshop by fostering an atmosphere in which participants feel comfortable sharing and collaborating. Second, they help participants tune into the specific type of thinking required for innovation. Third, these exercises allow participants to hone critical innovation skills. Finally, the warm-ups initiate the workshop with a shared experience, creating a sense of unity among participants (Vagelos, 2019).

The Marshmallow Challenge game, a team-building exercise developed by Tom Wujec was chosen as the warm-up for the first day. This game serves as an "icebreaker", allowing participants to get to know each other before discussing the main topics of the workshop. The ice breaker is particularly important when participants do not know each other, as it builds trust by encouraging the sharing of personal information within the group (Monthan, 2018). In a challenge, teams are given a time-limited task: build the tallest freestanding structure using spaghetti, twine, ribbon, and marshmallows, all within 18 minutes. This task has the dual purpose of fostering teamwork and innovation, but also emphasizes the importance of prototyping and uncovering the hidden assumptions inherent in projects (Wujec, T., 2010).

To ensure the smooth running of the event, each team should receive a standardized kit in advance. This kit should include 20 uncooked spaghetti straws, 1 meter of twine, 1 meter of painter's tape (for attaching to the table), and a standard size marshmallow.

At the beginning of the event, the host explains the rules: teams must build a freestanding structure with a whole marshmallow on top, using the items from the provided set as creatively as possible. Breaking spaghetti, twine or ribbon is allowed, and there is a strict time limit of 18 minutes. Once the rules are clear to all participants, the facilitator makes sure they are understood by asking for confirmation from the group.

In step 2, the task begins. Participants are reminded of the time and a countdown is announced. This is followed by active observation and a progress report.

Phase 3 concludes with the measurement of all designs, the announcement of the winning team and a group discussion on the experience and lessons learned.

Picture 12. Pictures from Design Sprint in Business College Helsinki 2.10.2023. Ethical approval has been obtained for the publication of facial images. Participants are acknowledged for their consent. (Photos by E.Prits)

After this dynamic and engaging warm-up, participants are introduced to the program of the two-day workshop. This overview gives an idea of what the participants can expect throughout the workshop:

Picture 13. Presentation slides from Design Sprint in Business College Helsinki 2.10.2023

3.3.1.7.1 Kick off

Before starting the first topic and exercise of the day, participants are explained the aim and objectives of the workshop, introduced to the underlying themes of Sustainable fashion and Design Thinking, and introduced to the concept of Nudging.

The presentation emphasised the significant role of the user in the context of slow fashion. Users play a key role in the slow fashion sector, as their choices and behaviours can form the basis for the adoption of sustainable practices. Their demand for ethical production, durable products and smart consumption has a direct impact on the industry's transition to sustainability and responsible behaviour. This in turn reduces environmental impact and promotes fair working conditions.

Picture 14. Presentation slides from Design Sprint in Business College Helsinki 2.10.2023

Nudging can cultivate responsible and sustainable behaviour by encouraging green choices with subtle cues, making eco-friendly options more attractive and accessible.

Picture 15. Presentation slides from Design Sprint in Business College Helsinki 2.10.2023

After presentation, the purpose of the workshop is outlined. By introducing the purpose of the workshop, facilitators make sure that all participants understand the purpose of the workshop and their role in it. They can also find out if their discussions throughout the day will help them achieve the overall goal (Monthan 2018).

Picture 16. Presentation slide from Design Sprint in Business College Helsinki 2.10.2023

The challenge were presented: To create a service concept that can encourage young people to wear clothes for a long time.

3.3.1.7.2 Group work 1: Imagining the future customer

The first group assignment, after we had explored topics such as fast and slow fashion, sustainable fashion, design thinking methods and tools, involved the creation of persona cards and empathy maps. In this context, personas are fictional archetypes of clients developed from research and knowledge gained in previous exercises. They serve as a means of empathising and guiding the development of future service ideas, contributing to a deeper understanding of potential customer segments (Ojasalo et al., 2015).

The future persona creation exercise usually takes about 30 to 40 minutes and is carried out as follows:

Groups are first given the task of brainstorming and identifying future clothing consumers. Participants write down ideas about different types of consumers and their defining characteristics (personas) by posting them on a wall or table, often using sticky notes. To guide the discussion, participants are asked to answer a few key questions about personas: Who are they? What values do they hold? Why do they buy clothes? What social networks do they participate in? What activities and experiences do they enjoy? What content do they consume? How do they express their style? What are their personality traits, etc.?

Once all consumer types (personas) have been identified and placed on a wall or table using sticky notes, groups are given the task of voting for one to three of the most attractive personas.

The personas with the most votes are then finalised and persona cards are created that contain a detailed description of these future consumers.

Groups are encouraged to use methods such as online ethnography to gather information and empathise with these future personas. Online ethnography involves observing and learning about potential customers through internet-based methods, such as examining their social media activity, which provides valuable insights into personas and their digital environment.

Given that the workshop participants themselves belong to the target audience of the future service, the Discovery phase also involved oral sharing of information in groups. Students shared information about how people of their generation usually buy clothes and what they do with them after they are no longer in use. This shared knowledge was used to enrich the persona mapping process and gain a comprehensive view of potential customers.

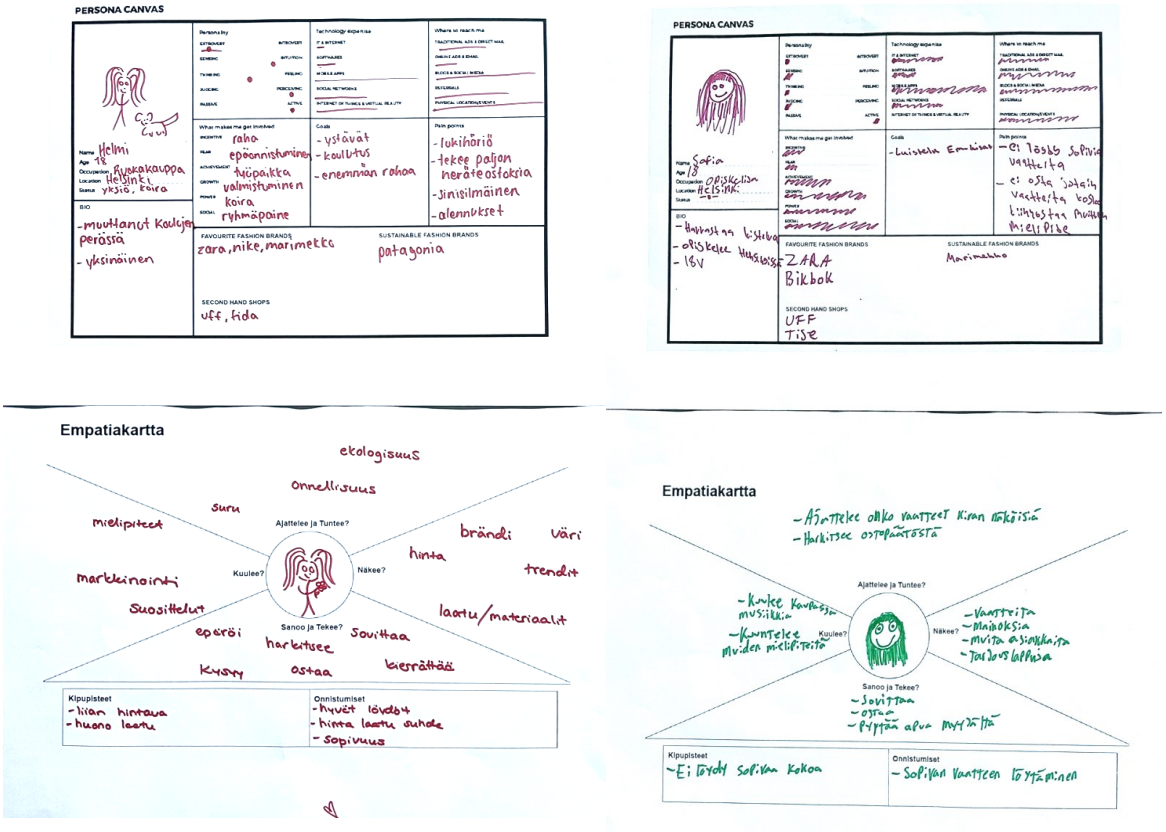
A standard persona card typically contains important information such as the person's name, portrait image, demographics, a representative quote or motto, their attitude, interests, background or scenario, personality traits, statistics, behaviour, and goals or motivations

relevant to the solution being developed (Nielsen et al., 2015). It is emphasised that participants should be creative and unique in shaping both the physical design of the persona cards and the information they wish to place on them. In doing so, the focus should be on Generation Z issues and highlighting aspects that are important in the context of sustainable fashion services.

Once the future persona cards are ready, it is time to create empathy maps.

Empathy mapping played a key role in understanding the unique needs and experiences of sustainability-focused fashion buyers. The groups approached this task by delving into carefully previously developed personas, drawing inspiration from their demographics, behaviours and motivations (as described in Nielsen et al., 2015). Guided by the principle of empathy, participants engaged in lively discussions to elicit the feelings, thoughts and pain points of these fictional eco-fashion consumers. They considered questions such as "What emotions might these consumers feel when buying clothes?" or "What challenges do they face when making eco-friendly choices?". By actively putting themselves in the shoes of these individuals, the groups were able to gain a deeper insight into the world of eco-fashion consumers. This empathy not only contributed to a better understanding of the target audience, but also provided a valuable basis for developing innovative consumer-centred solutions.

The results of this group work you can see on the Picture 17.



Picture 17. Persona cards and Empathy maps from Design Sprint in Business College Helsinki 2.10.2023

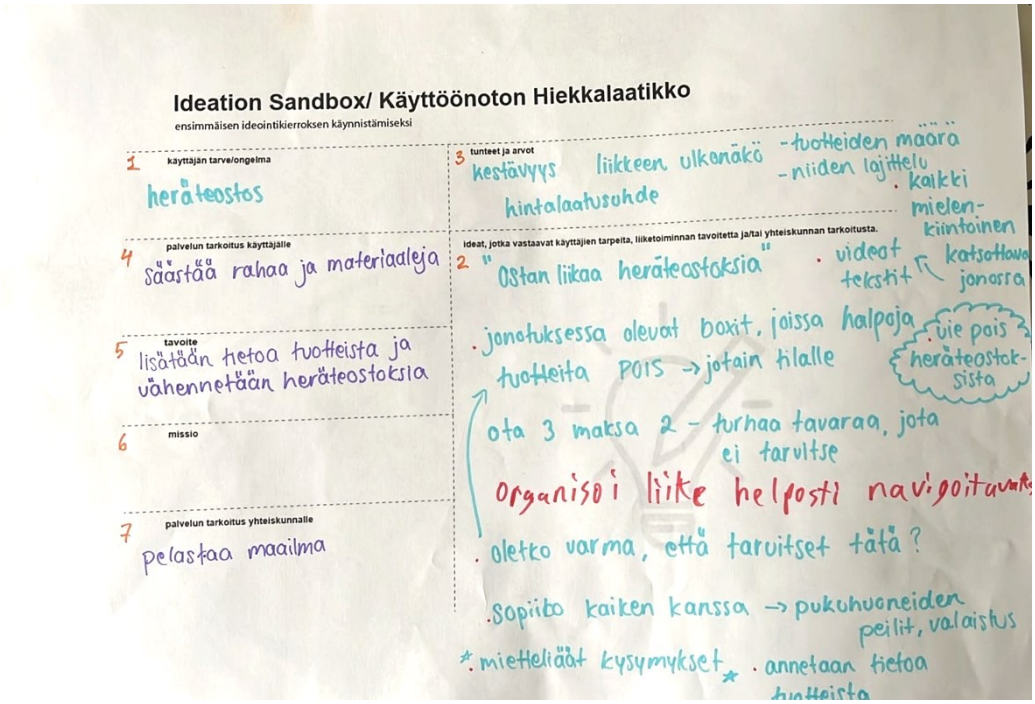
Group work 2. Ideation of the future solution

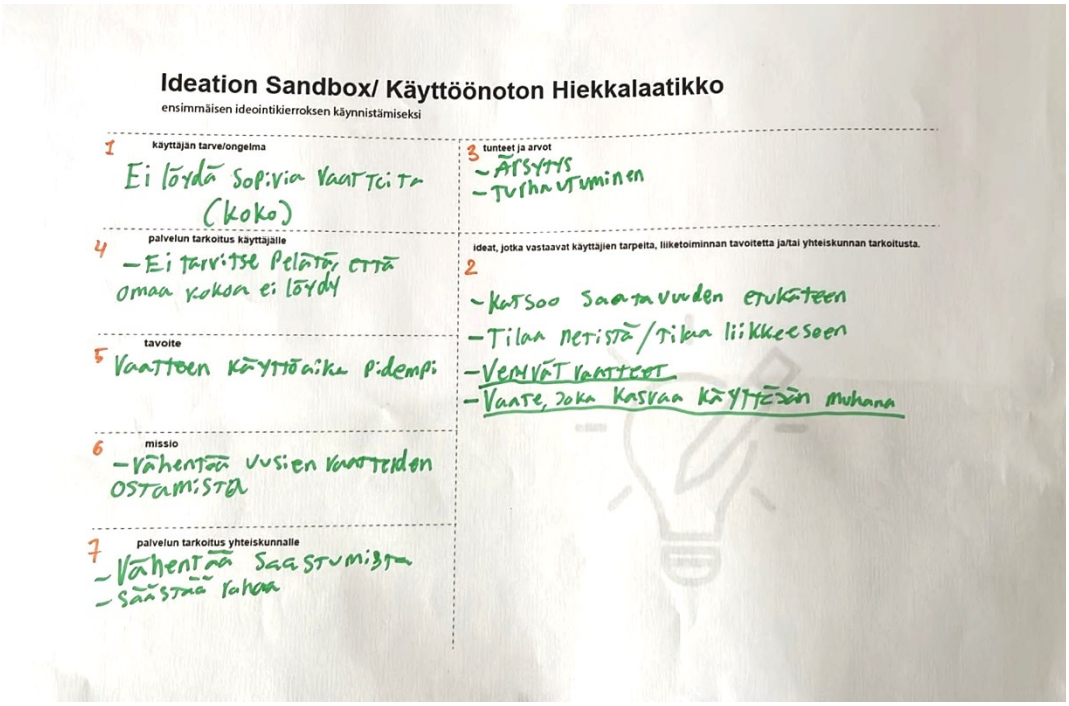
3.3.1.7.3 Group work 2: Ideation of innovative service

When groups move into the brainstorming phase of the Idea Sandbox of the sustainable fashion workshop, the focus shifts to using the client's knowledge to identify a current problem and generate innovative solution ideas. Building on the empathy maps and persona maps created earlier, participants are immersed in a structured brainstorming session. In the first step, participants collectively define a specific problem or challenge that aligns with the needs, aspirations or pain points of the sustainable fashion customer. This problem statement serves as the basis for idea development. The Ideation Sandbox Canvas, a versatile idea generation tool, provides a visual framework for systematically organising and searching for solutions.

Participants are encouraged to think differently, fostering a culture of open-mindedness and creativity. During the ideation process, participants are asked to consider various aspects including the problem statement, customer segments, key ideas and possible solutions. As the ideation process evolves, participants generate multiple solution ideas, considering both incremental improvements and pushing innovation. Canvas serves as a dynamic space to capture and refine these ideas together.

The connection between the initial understanding of the client through empathy mapping and persona creation becomes apparent as groups target their brainstorming sessions towards solutions that truly address the identified problem.





Picture 18. Ideation Sandbox Canvases from Design Sprint in Business College Helsinki 2.10.2023

Picture 19. Pictures from Design Sprint in Business College Helsinki. Ethical approval has been obtained for the publication of facial images. Participants ae acknowledged for their consent. (Photos by E.Prits)

3.3.1.7.4 Group work 3. Creation of the service concept

The concept creation process unfolded as follows:

Concept Selection: After a brainstorming phase, each group selected one or more concepts that they felt could effectively solve the problem at hand. These concepts were selected based on their relevance to the problem statement, user insights gained through empathy mapping, and the goals outlined in the idea sandbox.

Formulating the rationale: Once the students had decided on the selected concepts, they began to formulate a rationale for their choice on the Rational Concepts sheets. They detailed the main characteristics of their proposed solutions and explained how these characteristics would effectively solve the problem at hand. This step provided a clear understanding of the value proposition of their concepts.

User-centred approach: Students followed a user-centred approach throughout the process. They referred to empathy mapping exercises to ensure that their proposed solutions matched the emotions, preferences and concerns of the target audience, which in this case were the environmentally conscious consumers of Generation Z.

Resource requirements: Each group analysed the resource requirements to implement their chosen concepts. This took into account human resources, technology, materials, and any other elements needed to make their ideas a reality. Understanding the resource implications was critical to assessing the feasibility of the proposed solutions.

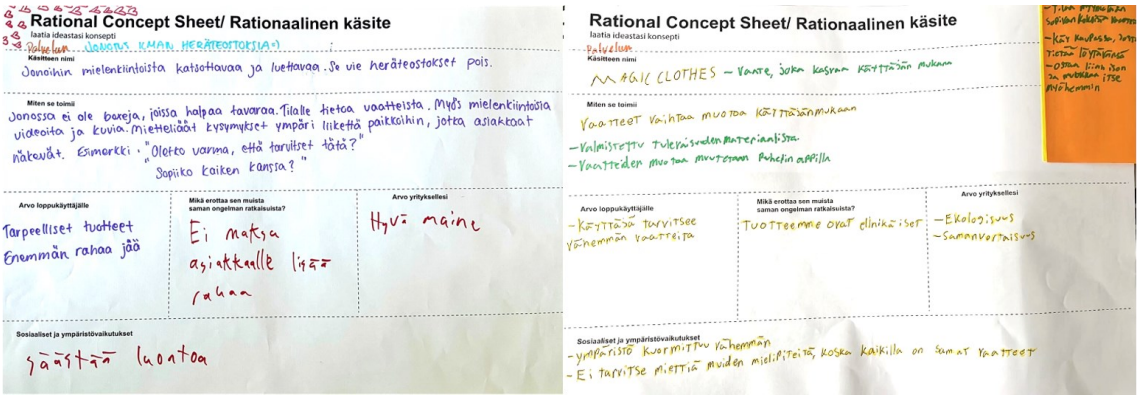
Expected Outcomes: On the Rational Concepts sheets, students described the expected outcomes of their concepts. These outcomes were in line with the workshop objectives "To create a service that will prompt a reduction in clothing consumption" and were intended to make a positive contribution to the identified problem. Clearly defining the expected outcomes allowed the success and impact of the proposed solutions to be evaluated.

Risk Assessment: An integral part of working with the Sustainable Concepts worksheets was to identify and assess the potential risks and challenges associated with each concept. Students considered factors that could prevent successful implementation and developed strategies to mitigate these risks, demonstrating a thoughtful and proactive approach.

Feedback and Iterations: After framing their ideas, groups shared their concept with each other. This allowed for constructive feedback and iterations. Based on the knowledge gained from the peer review process, groups revised and refined their concepts, improving their overall quality and effectiveness.

Wrap-up: After revision and validation, the rational concept sheets were finalised. These sheets served as comprehensive documents that summarised the essence of each group's proposed solution and provided a clear roadmap for the next steps in the design thinking process.

Two concepts were created. The first group focused on creating magical clothes that grow with you. The second group designed the idea of an anti-consumption shop with posters encouraging sustainable clothing choices.



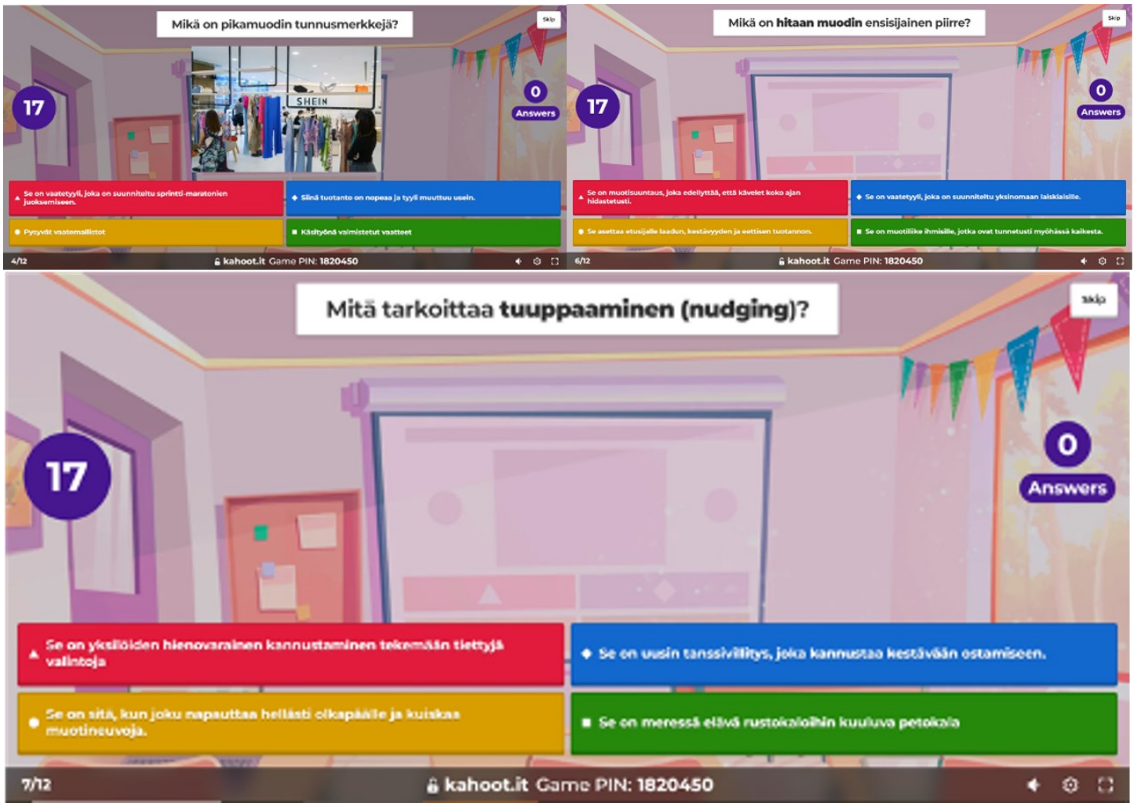
Picture 20. Rational Concept Sheets from Design Sprint in Business College Helsinki

Thus, the workshop students approached the creation of the rational concept sheets in a systematic and collaborative way. They applied critical thinking, user-centredness and creativity to refine their ideas and develop well-structured concepts that met the objectives of a sustainable fashion brand and effectively addressed the identified problem. This process ensured that the proposed solutions were not only innovative but also practical.

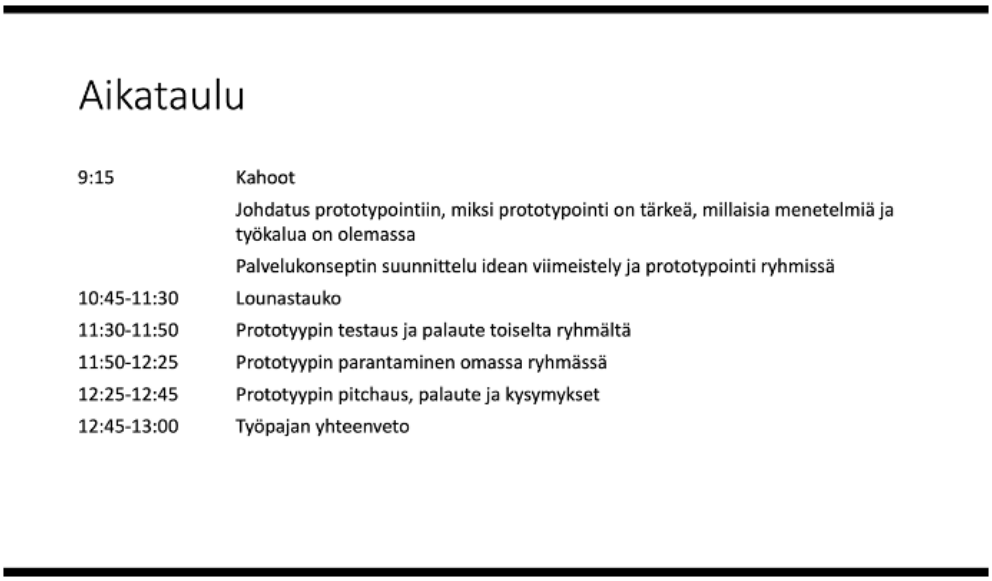
The first day ended with a short wrap up.

3.3.1.8 Day 2. (Thursday)

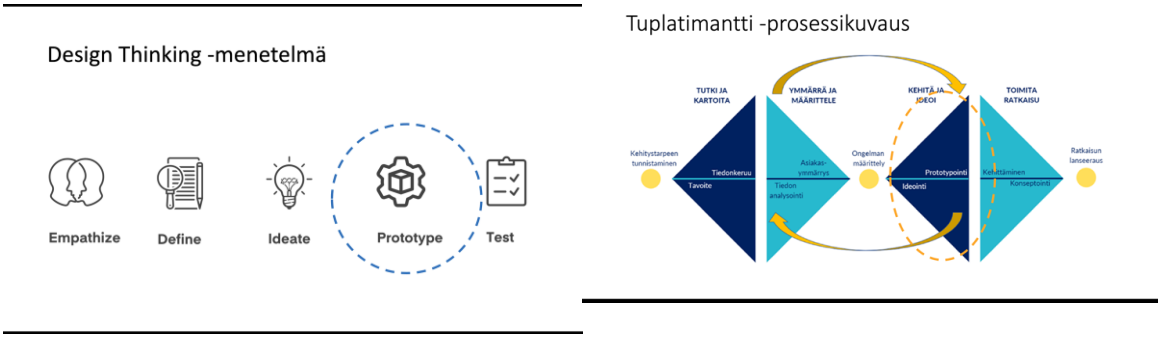
The second day started with a Kahoot game to check what the students had learnt from the previous day. The questions were about sustainable fashion and nudging, and also design thinking overview.



The agenda of the second day:



Picture 21. Presentation slides from Design Sprint in Business College Helsinki 5.10.2023



Picture 22. Presentation slides from Design Sprint in Business College Helsiki 5.10.2023

The game was followed by a lecture on prototyping methods and types of prototypes, and examples were given.

Picture 23. Presentation slides from Business College Helsinki 5.10.2023

3.3.1.8.1 Group work 4. Prototiping the service

In the workshop, the first group focused on creating innovative clothing that grows with the user. They chose the Storyboard method to create a prototype. They started by sketching different designs and functionalities on a large sheet of paper, outlining the process of how the garment would transform as the user grows. As they progressed, they used visuals and illustrations to depict the customer experience, providing a complete picture of how it would work.

Prototype 1. Magic clothes concept.

The concept of clothing that grows with the individual represents an innovative and forward-looking approach to fashion and textile technology. This futuristic clothing concept suggests that clothes will adapt and increase in size as the wearer grows, eliminating the need for

frequent replacement and reducing waste. Here is a detailed description of this interesting concept:

1. **Adaptive Fabric Technology:** This garment utilises advanced adaptive fabric technology that allows the material to expand or contract based on changes in the wearer's body size. The fabric contains "smart" fibres or materials that can stretch or shrink without compromising comfort and style.

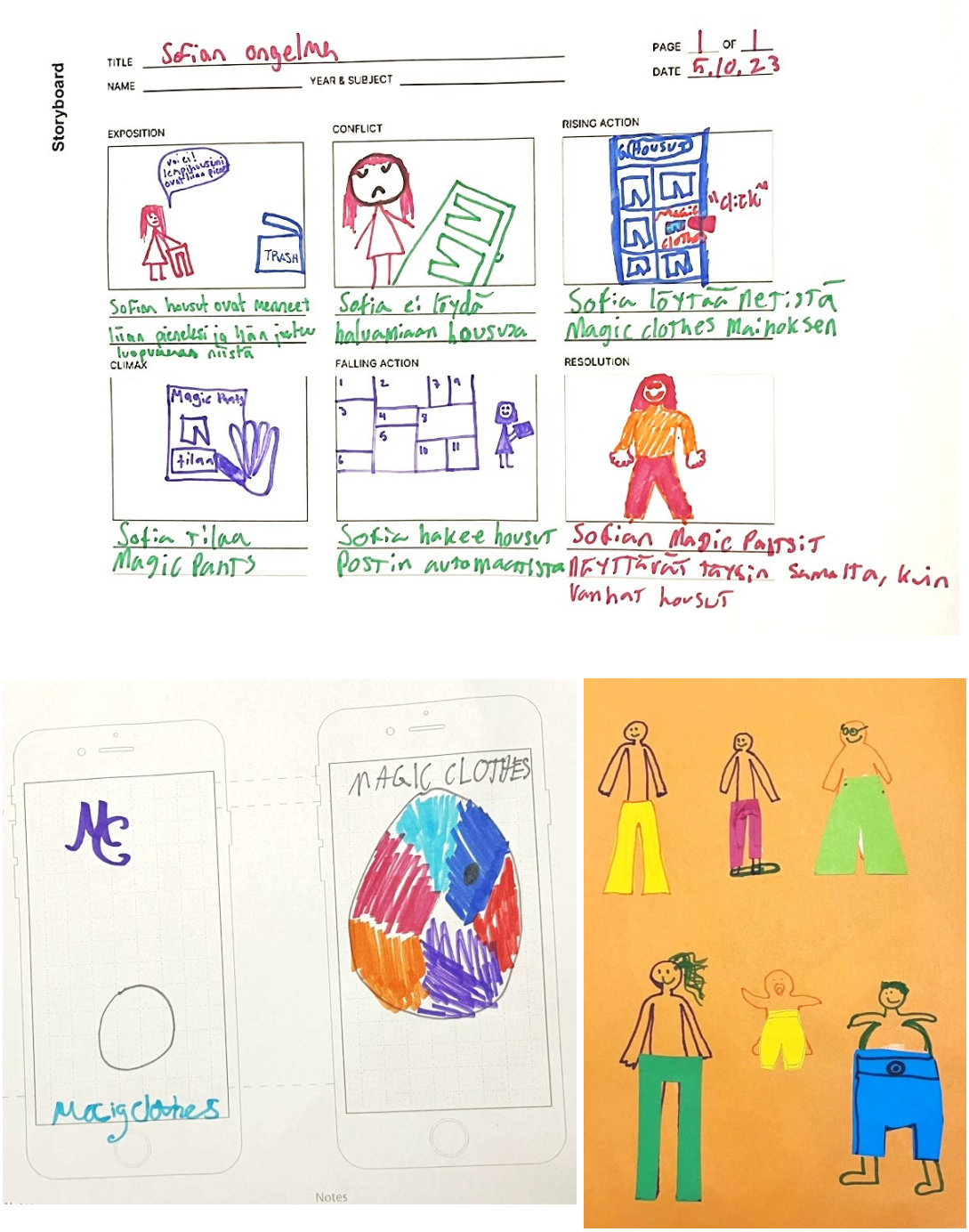
2. **Personalised Fit:** The user can adjust the fit of the garment manually or through the app to ensure a perfect fit at all times. This personalisation feature allows the garment to adapt not only to height, but also to fluctuations in weight or body shape.

3. **Sustainability and eco-friendly:** the concept is in line with the principles of sustainability, as it significantly reduces fashion's impact on the environment. Clothing that grows with the individual promotes long-term use, reducing the need for frequent shopping and minimising textile waste.

4. **Accessibility:** It is crucial to make this technology accessible to a wide range of people, including people with different body types and sizes. Inclusivity should be a central aspect of the design and production process.

The concept of clothing that grows with the individual is a fusion of fashion and technology, offering a sustainable, cost-effective and very comfortable solution to the ever-present problem of clothes that fit. This innovation has the potential to transform the fashion industry, reduce textile waste and contribute to a greener and more economically viable future.

Picture 24. Creation of a prototype. (Photo by E.Prits)



Picture 25. Storyboard and prototype of group 1 from Design Sprint in Business College Helsinki (Photos by E.Prits)

Prototype 2. Anti-consumption shop. A queue without impulsive buys.

The second group concentrated on the nudging design, keen to promote anti-consumption in their shop, decided to use Lego to build a prototype. They built a physical model of their shop out of Lego bricks, carefully designing every element, from product display to signage. This

tangible representation allowed them to visualise the layout and interactions in the shop. The model also incorporated interactive components, such as push-button displays, that highlighted facts about sustainability and encouraged shoppers to make informed product choices. The Lego prototype helped effectively communicate the shop concept, making it easier for the team to refine and communicate their anti-consumerism message.

The Anti-consumption shop, with queuing without impulse purchases and nudging messages, is a unique retail concept designed to encourage conscious and responsible shopping habits and use subtle messages to guide shoppers towards sustainable choices. Here is a detailed description of this innovative concept:

1. Limited selection of goods:

- The shop offers a limited selection of eco-friendly and ethical products that prioritise quality, durability and sustainability.
- A focused range of products reduces decision fatigue and encourages thoughtful buying.

2. Nudging messages:

- Strategically placed throughout the shop are messages that encourage informed consumption:
- "You look better if you don't encourage 'fast fashion'!" promotes the message that quality and personal style are more important than fleeting trends.
- The question "What do you value most about clothes?" encourages reflection on the fact that clothes have more than just aesthetic value.
- "Hey, did you know that child labor was used in the making of those shoes. Do you still want to buy some?" raises awareness of ethical issues.
- "Are you sure you can afford the purchase? Are you sure you need it?" - encourages the buyer to think about their financial priorities and real needs.
- "Your wardrobe will be more sustainable afterwards!" emphasises the environmental impact of responsible choices.
- "We guarantee that our products will last at least 3 years. The environment thanks you!" - reassures customers of the durability of the products and their positive impact on the environment.
- The "Buy 1, Pay for 1" promotion encourages a "buy one, share with another" approach, promoting sustainable consumption.

3. Sustainable Practices:

- The shop puts into practice what it preaches: using sustainable materials and reducing packaging waste.

- Product labels include information about sustainability, ethical production and expected lifespan.

4. Lack of impulse incentives:

- The shop avoids traditional sales, discounts and promotions, which discourages impulse purchases based solely on perceived benefits.
- Pricing reflects the true value of eco-friendly products.

5. Interactive and educational elements:

- Interactive displays or workshops allow shoppers to learn about responsible consumption and product care.
- Educational materials reinforce the shop's mission and values.

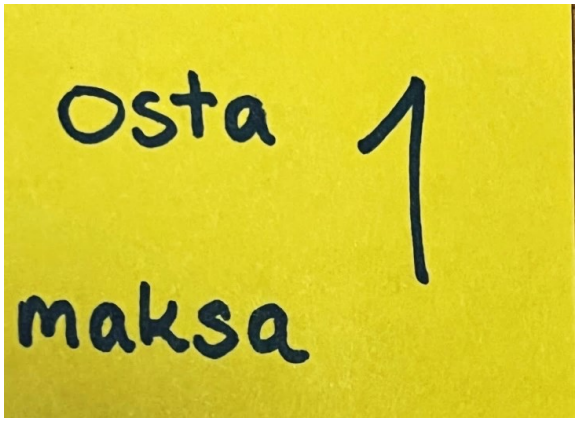
6. **Queuing without impulsiveness:**

- The queuing system is designed in such a way that it is purposeful and contemplative.
- Shoppers waiting for their turn can read clues and contemplate their choices.

The concept combines anti-consumerism, sustainable fashion and behavioural economics to create a shopping environment that encourages shoppers to make informed, ethical and sustainable choices. Nudge messages subtly guide shoppers towards conscious consumption, enabling them to prioritise quality, ethics and the environment, minimising impulsive buying behaviour.

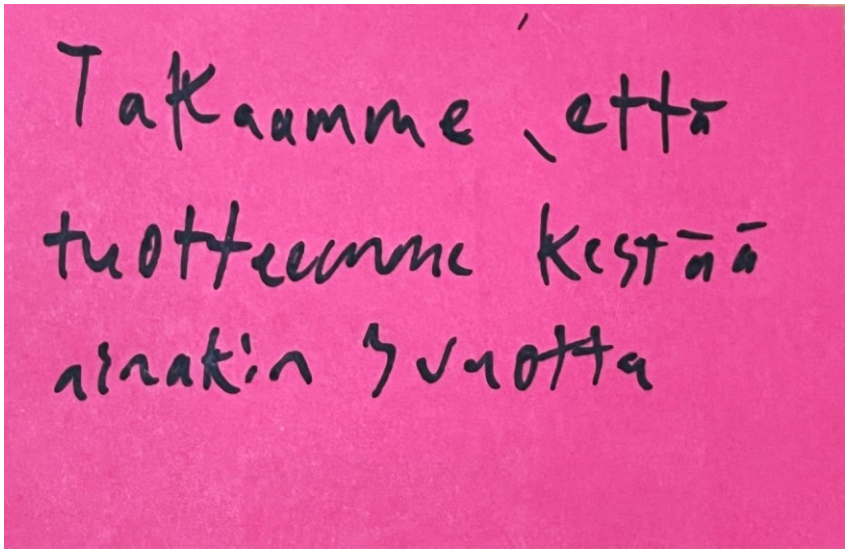
Picture 26. Pictures and Lego prototype of group 2 from Design Sprint in Business College Helsinki (Photos by E.Prits)

Nudging messages, created by students:

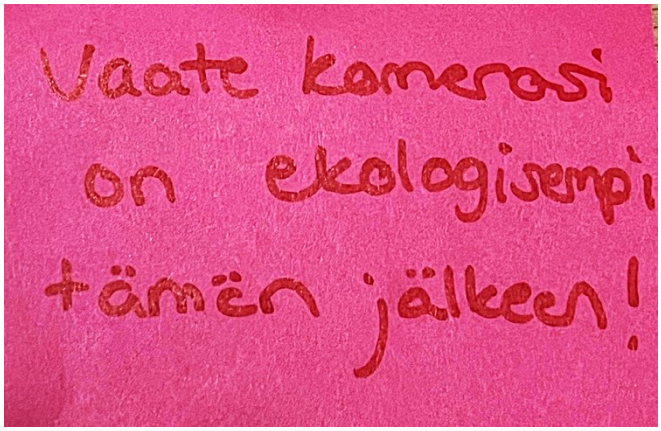


Ympäristö kiittää. The environment thanks you.

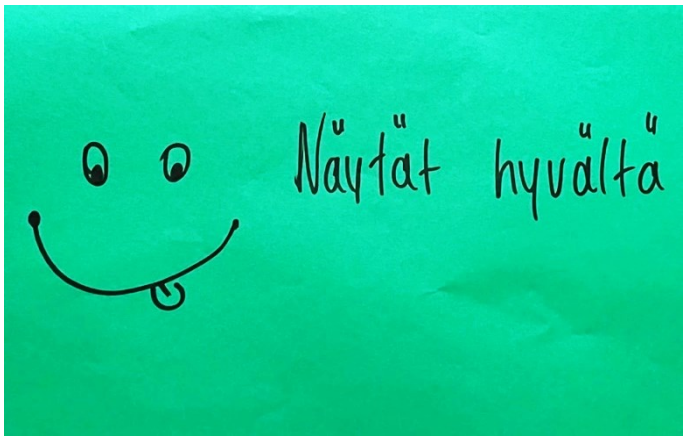
Osta 1, maksa 1. Buy 1, pay 1.



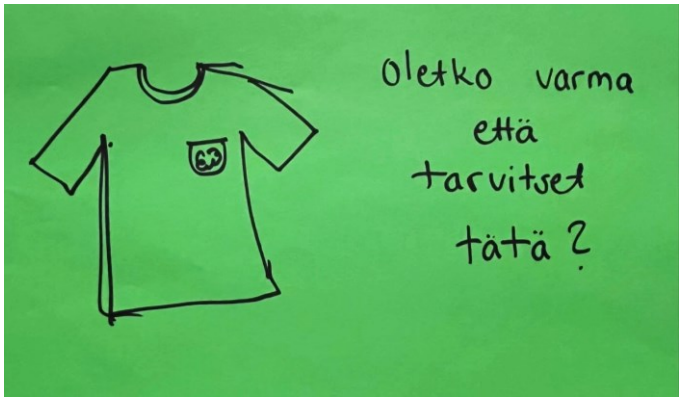
Takamme, että tuotteemme kestää ainakin 3 vuotta. We guarantee that our products will last at least 3 years.



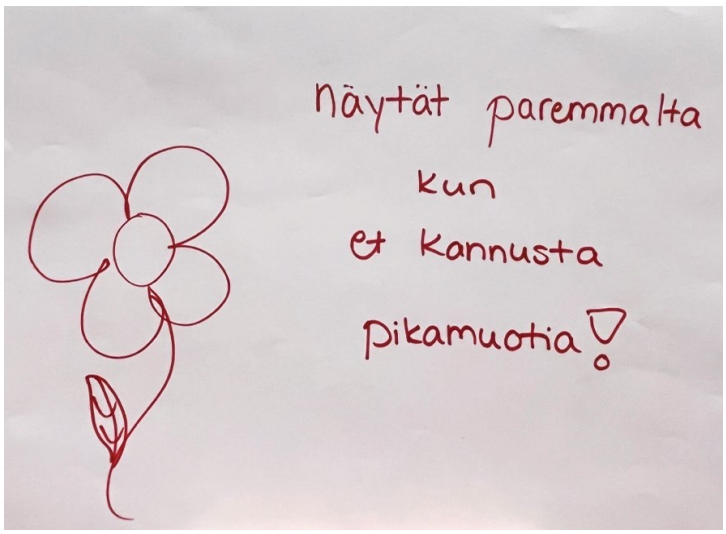
Vaate komerasi on ekologisempi tämän jälkeen! Your wardrobe will be more ecological after this!



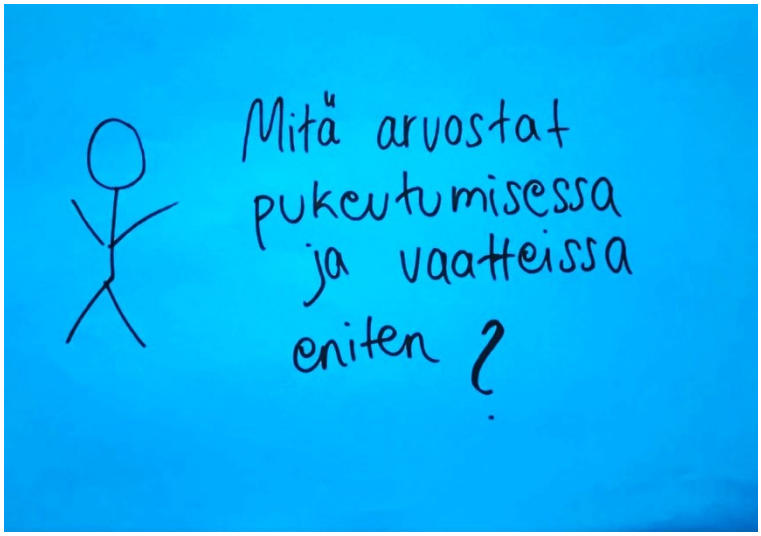
Näytät hyvältä. You look good



Oletko varma että tarvitset tätä? Are you sure you need it?

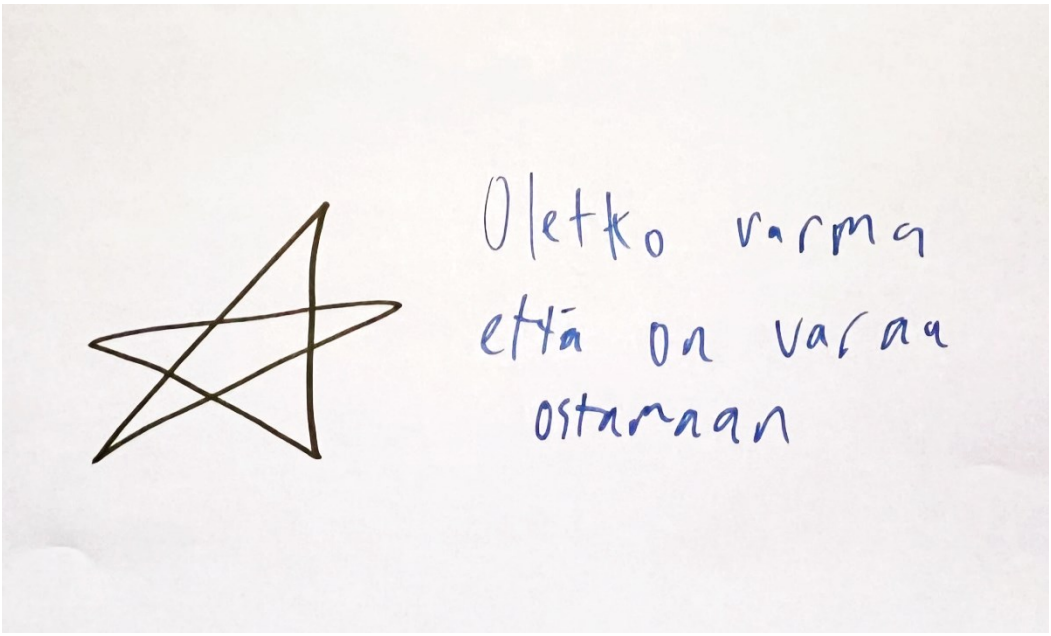


Näytät paremmalta kun et kannusta pikamuotia! You look better when you don't encourage fast fashion!



Mitä arvostat pukeutumisessa ja vaatteissa eniten? What do you appreciate most about dressing and clothing?

Hei, tiesitko että näiden kenkien valmistamiseksi on käytetty lapsityövoimaa. Haluatko vielää ostaa? Hey, did you know that child labour was used to make these shoes. Still want to buy?



Oletko varmaa että on varaa ostamaan? Are you sure you can afford to buy?

Let us analyse the messages presented in order to determine which messages are nudging and which are not:

Nudging messages:

"You look better if you don't encourage fast fashion!". - This message prompts consumers to think about the impact of their choices on the environment and their own appearance, encouraging them to avoid fast fashion.

"Are you sure you can afford the purchase? Are you sure you need it?" - These questions encourage consumers to think critically about their purchasing decisions, promoting a more informed approach to consumption.

"After this, your wardrobe will be more eco-friendly!". - This message nudges consumers by emphasising the positive environmental impact of their purchase, encouraging them to choose more sustainable clothing options.

"We guarantee our products will last at least 3 years. The environment thanks you." - This message pushes consumers by emphasising the longevity of the products and their positive impact on the environment.

"Buy 1, pay for 1." - This pricing strategy encourages consumers to buy one product and get one free, reducing waste by sharing or donating excess product.

Not nudging messages:

"What do you value most in clothing?". - This message in and of itself is not a nudge message. Rather, it is an open-ended question that prompts introspection but does not guide behaviour towards rational choices.

"Hey, did you know that child labour was used in making these shoes? Still want to buy some?". - Although this message informs consumers about unethical practices, it is guilt-based and can be seen as a guilt-inducing message rather than a nudge. A nudge typically involves subtle encouragement rather than guilt.

It is important to note that nudge messages should aim to gently induce the consumer to make rational choices without imposing guilt or judgement. Messages that emphasise the positive outcomes, affordability and awareness of consumption tend to be more effective in inducing sustainable behaviour.

Typically, the study of nudges and their impact on behavior leans toward quantitative research. However, an alternative way is to use service design tools for such analysis. It remains unclear whether these nudges actually influence behavior, so further research is needed to confirm and verify their impact, ideally through real-world testing in retail stores.

3.3.1.9 Design Thinking workshop as a nudging element towards sustainability.

A design thinking workshop can be an effective platform to address this issue and promote sustainable fashion.

Understanding the problem:

To begin the workshop, it is important to give participants an understanding of the scale of the problem. According to the literature, the fashion industry is one of the world's largest environmental polluters, generating huge amounts of textile waste and contributing to environmental degradation (Fletcher, 2008). In addition, concerns about unethical labour practices in the industry have attracted considerable attention (Bhardwaj & Fairhurst, 2010). By engaging participants in discussing these concerns through storytelling and visual images, the workshop creates a sense of empathy and urgency (Chapman, 2005).

Empathising with the target audience:

Young participants are more likely to adopt sustainable fashion practices if they can relate to the experiences of those who have been affected by unsustainable practices. Workshop organisers can draw inspiration from the work of authors such as Sheth et al. (1991) who highlight the importance of empathy in understanding consumer behaviour. This step helps participants to emotionally empathise with the challenges faced by garment workers and communities negatively impacted by the fashion industry.

Ideas and brainstorming:

To promote sustainable fashion, the workshop uses design thinking principles to promote creative problem solving (Brown, 2009). Workshop participants engage in brainstorming sessions that generate innovative solutions to fashion sustainability issues. The design thinking literature emphasises the importance of divergent thinking in the ideation process (Dorst, 2011).

Prototyping sustainable solutions:

Working in groups, participants create prototypes of products or services that contribute to sustainable fashion. This step is in line with the principles of user-centred design and emphasises that solutions should resonate with the target audience (Norman & Draper, 1986).

Incorporating nudge elements:

A unique aspect of this workshop is the incorporation of nudge principles into the development of prototypes. The behavioural economics literature suggests that subtle cues, or 'nudges', can influence decision making (Thaler & Sunstein, 2008). In this context, visual cues, social norms,

and feedback mechanisms are embedded in prototypes. For example, labels or tags on fashion items can serve as visual cues, and showing friends or influencers making sustainable choices creates a sense of social normativity. Personalised fashion sustainability trackers provide feedback, nudging participants towards conscious consumption (Feldman & Frey, 2007).

Role-playing and scenarios:

Participants engage in role-playing scenarios that simulate shopping decisions, during which they are exposed to nudge messages and techniques. This approach helps participants understand how nudging can be applied in the real world (Johnson et al., 2012).

Commitment to sustainable practices:

At the end of the workshop, participants make a commitment to sustainable fashion practices. Such a commitment is consistent with behavioural psychology theories that emphasise the importance of intention formation (Ajzen, 1991).

Ongoing support:

Ongoing support is essential to sustain behaviour change (Lally et al., 2011). Resources such as follow-up sessions, reading materials and access to sustainable fashion networks are provided after the workshop.

In this way, a design thinking workshop, strategically designed with nudge elements and drawing on behavioural factors, offers a promising approach to nudge young consumers towards sustainable fashion practices. Combining empathy, creativity and behavioural science principles, this workshop enables young people to make more informed choices, reduce their clothing consumption and advocate for sustainable fashion that is environmentally and ethically sensitive. Through ongoing community support and engagement, the impact of these workshops can extend beyond the immediate participants, contributing to a cultural shift towards sustainable fashion.

3.3.2 Up-cycling workshop

Organising a customisation workshop in the premises of the second-hand shop Hygge Way in Helsinki was a strategic initiative to draw attention to sustainable fashion practices, building on existing work in the field. During this interactive session, five participants aged 17-20 actively participated in personalising their wardrobes through techniques such as painting on old clothes. Notably, one participant used the workshop to sew decorative patches onto her student overalls as she had not had time to do so before. The use of special textile dyes enhanced the creative process and added uniqueness to each participant's clothing.

Prior to the hands-on activities, participants were introduced to the principles of sustainable fashion, emphasising that the individual work done during the workshop serves as a tangible means of extending the life of expensive items (Gwilt & Rissanen, 2011). This educational aspect aimed to better understand the environmental impacts associated with clothing consumption.

After the hands-on workshop, participants were asked to complete a short survey. The survey assessed the effectiveness of the workshop as a mechanism to inspire sustainability and provided valuable insights into the potential impact of such hands-on activities.

This pilot initiative resonates with the wider discussion on sustainable fashion and aligns with recycling and redesign practices advocated by scholars such as Fletcher (2014). It emphasises the practical application of sustainable fashion principles and the role of workshops in developing skills beyond consumption, echoing the idea that young people benefit from engaging in practical activities such as sewing on patches to extend the life of traditional clothing (Gwilt & Rissanen, 2011).

Picture 27. Pictures from Customization workshop in Hygge Way 29.09.2023. Ethical approval has been obtained for the publication of facial images. Participants are acknowledged for their consent. (Photos by E.Prits)

In conclusion, the clothing customization workshop held at Hygge Way second-hand store was not a transformative experience for the participants and was perceived as an art workshop.

However, the workshop's emphasis on encouraging individuality resonated with the participants, encouraging them to give their old clothes a personal touch and prolonging the lifecycle of clothing. This element of self-expression is a critical component in developing an ethic of sustainable fashion that goes beyond environmental considerations to include a holistic approach to individuality in clothing.

In essence, the Customization workshop achieved its goal of instilling practical skills for upcycling clothing. As participants were empowered and gained a deeper understanding of sustainable fashion, the workshop was a positive step towards developing a more conscious and creative approach to clothing consumption.

After the design sprint and customization workshop, the following conclusions were formed:

1. **Empowerment through Participation**:
   Involving Gen Z in sustainable fashion activities empowers them, turning them into active contributors and nudging them toward eco-friendly practices.
2. **Preference for Innovative and Engaging Nudges**:
   Gen Z is more likely to embrace nudges that are innovative, engaging, and tap into their creative potential.
3. **Community Building Through Co-Creation**:
   Collaborative activities and co-creation efforts foster a sense of community and shared values among Gen Z individuals.
4. **Experiential Learning and Design Thinking**:
   Gen Z responds well to experiential learning. Design thinking workshops provide hands-on experiences that enhance their understanding of sustainable fashion choices.
5. **Tangible Solutions and Visible Feedback**:
   Design thinking often leads to tangible prototypes and solutions. The visual and tangible nature of these outcomes can serve as visible feedback and reinforcement for sustainable fashion practices.
6. **Customization Workshop as a Creative Act**:
   The customization workshop is not categorized as a nudge but is viewed as a creative endeavor. Some participants choose to engage in activities like sewing patches, recognizing the collaborative and creative potential.

3.4 Deliver

3.4.1 Customer journey map with key points for nudge

In the culmination of the study, there is a shift from theoretical concepts to the practical realm, which is expressed in the creation of a consumer journey map. This map serves as a strategic reference point identifying favorable moments for the formation of young people's consumer behavior on the way to the transition to eco-fashion (see Figure 10).

In the course of the analysis, it is possible to conclude that the strongest influence on consumer behavior occurs at certain key points in the consumer journey. It is those moments when a young person thinks about buying new clothes, engages in the fitting process, and then brings the purchase home and incorporates it into their daily life that are the most important touchpoints.

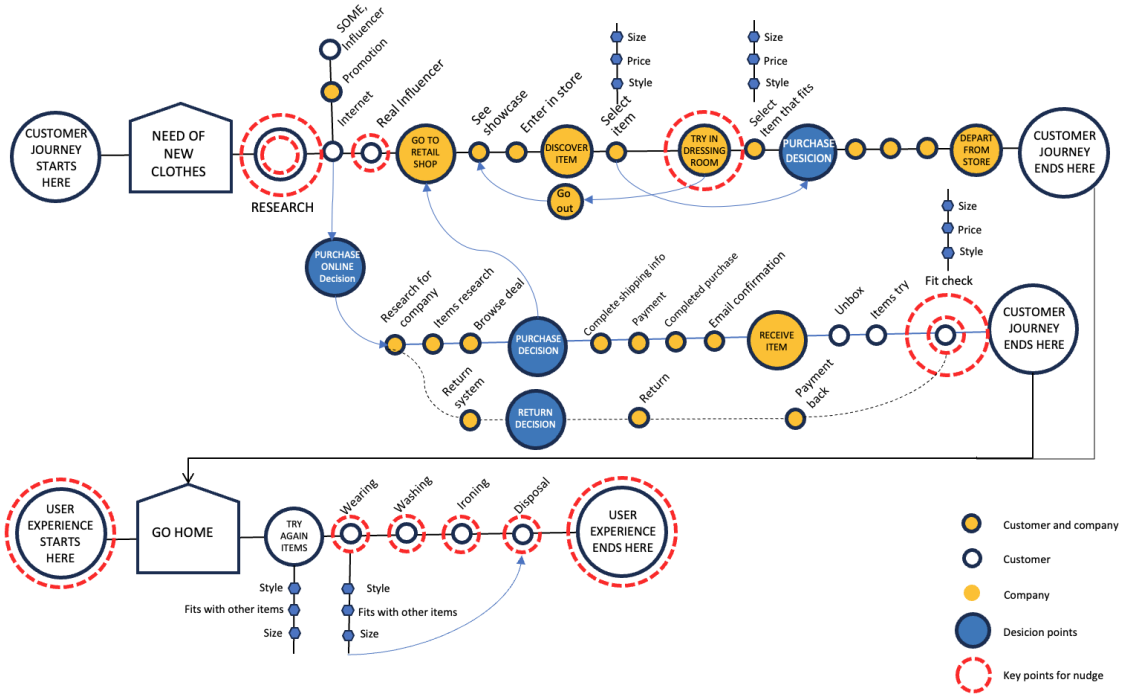


Figure 10. Customer journey map with key points for nudging, by E.Prits

3.4.2 Recommendations for nudges in the buyer's journey

Thinking through the purchase:

In an effort to promote sustainable choices, it is important to use innovative and engaging nudge strategies. One effective approach is to place eco-friendly icons or labels on clothing

items that provide transparent information about their sustainability. This visual cue serves as an easy nudge to incline consumers to make environmentally responsible choices.

In addition, incorporating sustainability messages into marketing campaigns can play an important role in encouraging informed decision-making. Such campaigns can highlight the positive environmental impact of sustainable product choices, raise awareness and influence consumer behavior. By seamlessly linking sustainability and consumer choice, companies can help create a more environmentally conscious marketplace.

Trying on clothes:

Strategic techniques can be used in the physical environment of the store to enhance the eco-friendly shopping experience. One approach is to develop interactive displays that engage shoppers by offering information about the environmental impact of different fabrics. By providing this information directly in the store, shoppers are discreetly nudged toward more environmentally friendly choices.

In addition, organizing in-store events or workshops further strengthens the connection between shoppers and eco-friendly products. These events can showcase the craftsmanship behind the garments and delve deeper into the sustainability practices used to create them. By fostering a deeper understanding and appreciation of the products, such initiatives serve as a powerful push towards a more eco-friendly and thoughtful approach to shopping.

Post-purchase integration:

A commitment to sustainability goes beyond the purchase itself. Encouraging post-purchase interaction is key to an integrated approach. Providing informational materials or user-friendly apps that tell users how to properly care for their clothes will not only extend the life of the products, but also emphasize the importance of responsible consumption.

What's more, integrating loyalty programs into the sustainability process adds an extra layer of motivation. By rewarding customers for environmentally friendly actions, such as recycling clothing or participating in educational activities, companies create a symbiotic relationship with customers who share their commitment to sustainability. This connected approach ensures that a sustainability ethic is not just a one-time solution, but an ongoing and beneficial partnership between consumers and brand.

3.4.3 Recommendations for fashion brands, and educators

Within the framework of behavioral economics and service design, these recommendations for both educators and fashion brands represent a comprehensive strategy for building sustainable practices in Generation Z.

For educators:

Empowerment through Participation:

The recommendations emphasize the possibility of **actively involving students in sustainability activities, such as various workshops, to increase their knowledge and skills**, as well as self-assessment and, through that, influence their environmental awareness. Moreover, knowledge on sustainable fashion practices should be included in the school curriculum.

Preference for Innovative and Engaging Methods of Exposure:

This recommendation, based on behavioral economics and two systems models, is consistent with the understanding that innovative nudges that focus on the **creative potential of Generation Z** can effectively shape decision-making processes in educational contexts. The most effective nudging activities are workshops where students actively participate. In this context, I've integrated behavioral economics with service design to illustrate this synergy.

Experiential Learning and Design Thinking:

Drawing on principles of design thinking, this recommendation supports **hands-on experiences** that allow for a deeper understanding of sustainable fashion choices, consistent with cognitive learning processes.

Tangible Solutions and Visible Feedback:

Using design thinking for real-world solutions aligns with behaviorist perspectives by providing **visible feedback** as positive reinforcement for sustained engagement in sustainable practices.

While the recommendations within the concept of behavioral economics and service design offer a comprehensive strategy for instilling sustainable practices in Generation Z, there are a number of points that require **critical consideration**.
First, the emphasis on empowerment through participation may not take into account the **potential challenges of implementing such activities within the existing educational structure.** Implementing and integrating sustainability workshops into the curriculum may face logistical and resource challenges.

Secondly, the preference for innovative and engaging methods of intervention, while theoretically sound, **may face resistance or limitations in practice**. The success of incentive interventions that rely heavily on student participation presupposes an active and receptive attitude on the part of educational institutions, which does not always correspond to the realities of traditional learning environments.

In addition, recommendations for experiential learning and design thinking, while valuable, may face **scalability issues**. Integrating these principles into conventional education may require significant changes and resources that educational institutions may find difficult to allocate.

Finally, a reliance on tangible solutions and visible feedback, while consistent with behaviorist views, may not fully account for the **different learning preferences of Generation Z**. Some individuals may respond better to less tangible and more abstract approaches, which calls into question the universality of this recommendation.

Overall, while the recommendations provide some foundation, their practical implementation requires careful consideration of the limitations of institutions, potential resistance, and the need for adaptable strategies that take into account different educational environments and learner preferences.

For fashion brands:

Engage Gen Z in Interactive Experiences:

Informed by service design methods, the recommendation to actively engage Gen Z aligns with theories emphasizing **experiential and emotional components** in consumer behavior, fostering a connection beyond mere transactions.

Innovative and Engaging Nudges in Marketing and Product Design:

Rooted in behavioral economics and service design theories, the call for **innovative nudging strategies** resonates with choice architecture principles, acknowledging the influence of emotional and cognitive factors in purchasing decisions.

Encourage Community Building Through Co-Creation:

The emphasis on **community building through co-creation** aligns with the understanding that brands are not just products but cultural symbols.

Incorporate Experiential Learning and Design Thinking into Product Development:

Drawing from principles of service design, the integration of **experiential learning** aligns with the experiential and symbolic nature of sustainable products, providing a deeper connection for consumers.

Offer Customization Options in Product Design:

Informed by the in-depth interview results, offering **customization** options aligns with the understanding that consumers value products catering to individual preferences, enhancing satisfaction and loyalty.

While the recommendations for fashion brands represent a strategic approach based on service design, behavioral economics, and consumer experience, a **critical analysis** reveals potential challenges and considerations.

The focus on engaging members of Generation Z in interactive experiences, while theoretically sound, may face **challenges in implementation**. Implementing such strategies requires human resources and facilitation knowledge on the part of brands, constant involvement of young people at all stages of product development, which may not be practically applicable due to the closed nature of commercial structures. In addition, the practical realization of real co-creation opportunities may be limited by logistical challenges.

The call for innovative and engaging nudges in marketing and product development based on behavioral economics and service design requires a deep understanding of Generation Z's cognitive and emotional triggers. However, the **effectiveness of such nudges can vary**, and a one-size-fits-all approach may not capture the complexity of individual decision-making processes in this diverse group of consumers.

Finally, offering customized features in product development appears, based on the results of in-depth interviews, to be in line with consumer preferences, can be a good solution but also may be problematic. The **feasibility and cost-effectiveness** of offering customized capabilities should be carefully evaluated, considering the potential implications for manufacturing processes and supply chain management.

4 Conclusions and reflections

In conclusion, this study has successfully addresses the primary **goal** which was to emphasize, define and ideate a nudging activities that effectively encourages and facilitates the adoption of sustainable fashion practices among young consumers in the capital region of Finland.

According to the objectives, the main findings and results of the study are:

A study of consumer behavior of Generation Z:

The study explored the nuances of consumer behavior of generation Z, especially in the context of sustainable fashion in the capital region of Finland. A comprehensive study revealed their preferences, concerns and aspirations related to eco-friendly clothing choices. It is worth mentioning that this study was done in a particular context. However, it can be repeated and reproduced in other contexts as well –for instance, in other regions on Finland or in other countries. or with other age groups.

Application of behavioral economics principles:

The study examined the applicability of behavioral economics principles, including present bias, to understand the factors influencing Generation Z's eco-fashion consumption patterns. The study provided valuable insights into decision-making processes and possible interventions. Indeed, there is bias that can be based on many factors. However, the fact that there is a strong attitude among young consumers towards sustainable behavior means that there is a very good opportunity to nudging them to behave this way.

An application of service design and nudge theory:

The study explored the potential of service design, complemented by nudge theory, in promoting and popularizing sustainable fashion among Generation Z. This multifaceted approach aimed to provide a holistic understanding of how an intervention can be strategically designed to match the preferences of the target audience. The service design appeared to be a very useful instrument that can be utilized together with nudge theory.

The impact of nudging interventions:

The thesis has approached nudges as creative, effective, easy-to-use, subtle and fun way of influencing young people’s consumer behavior. Typically the effect of nudging activities should be measured quantitatively or through experiments. This thesis, however, claimed that service design tools can be one of ways of impacting behavior. Further studies are needed to investigate their effects.

The impact of experiential learning:

The project has found that the activities, based on service design and nudge theory, can be a highly useful tools to promote experiential learning. As a result, thesis recommends to use such activities not only to brands, but also to educators.

4.1 Feedback from VISU project on contribution of the thesis to the project's work

The findings and recommendations presented in this thesis have potential to strengthen the goals and impact of the VISU project, according to the feedback. The thesis was useful for the project in several ways.

First, the focus on engaging Generation Z through workshops fits seamlessly with VISU's mission to build bridges between young consumers, educational institutions, and fashion brands. The hands-on experience gained from the workshops can inform the project's strategy to create interactive experiences that resonate with the target audience. Besides, thesis made a significant contribution to the VISU project, in particular, in deepening the understanding and application of the data collected during the interviews with young people. The empathy workshop held after the interviews was instrumental in clarifying key findings from the interviews. Although the analysis was not conducted in strict accordance with the persona structure, adopting this perspective proved to be very helpful in understanding the multifaceted characteristics contained in the data for the project participants. This, in turn, facilitated the formulation of next steps, such as creating a template for teacher interviews and planning workshops for young adults.

Third, the workshops were also a successful experiment. Notably, it included elements that could be used in the final phase of the project, particularly in the development of a pedagogical toolkit for teachers. The outcomes of the workshops, in which young people formulated their ideas, contain valuable insights that can be seamlessly integrated into the upcoming phase of the company's workshops.

Overall, the thesis has proven instrumental in advancing the VISU project, providing actionable insights, and setting the stage for the project's subsequent phases.

4.2 Reflections on the thesis process

The thesis process became an in-depth exploration of the intersection of behavioral economics, service design, and sustainable fashion practices. From posing research questions to summarizing recommendations, each stage offered different insights and challenges that contributed to a deeper understanding of the complex dynamics of Generation Z's relationship with sustainable fashion.

The initial phase involved a thorough analysis of the theoretical framework that combined principles of behavioral economics, service design methodologies, and findings from in-depth interviews. This phase served as a basis for subsequent practical application in the form of workshops and the development of innovative guidelines for both educators and fashion brands.

The empirical aspects, in particular the workshops and interviews, played an important role in connecting theoretical concepts with real-life experiences. Direct interaction with the target demographic, Generation Z, provided nuanced insights that enriched the analysis and recommendations. The collaborative nature of the workshops, based on service design principles, revealed the viability of interactive experiences in shaping sustainable behaviors.

Summarizing the findings and formulating recommendations revealed the complex balance required to develop strategies for educators and fashion brands. Critical examination of these recommendations emphasized the need for adaptability and a nuanced approach that takes into account the diversity of Generation Z.

The integration of behavioral economics and service design, while promising, revealed some tensions between theory and practice. Challenges such as scalability, feasibility, and institutional constraints emerged, necessitating a pragmatic approach to complement the theoretical framework.

In retrospect, the process of working on the thesis was a co-creative one, involving many actors to realize the tasks. In concluding the research, I leave room for further exploration and application, recognizing that the path to sustainable practice is an ongoing collaborative effort that is beyond the scope of this thesis.

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Figures

Pictures

Tables

Appendices

Appendix 1. Guide for an interview with young consumers

Hello, thank you for finding time to participate in this interview! The estimated time of the interview is approximately 45 minutes.

I'm a XXX [researcher, assistant, expert] at Laurea University of Applied Sciences/Suomen Tekstiili ja Muoti. I work on the project on young consumers' clothing behavior in Finland.

In the interview, I will ask you questions. All your answers will be confidential and anonymous and will only be used for the sole purpose of this scientific research and project developmental work. The interviews are recorded, and the recordings are transcribed so that names don't appear in transcription. The interviews and transcriptions are stored safely.

You can stop the interview at any time. You decide what you want to answer to the questions and how long the answer should be. There is no right length. If you feel that you do not understand the question, feel free to ask to explain it in other words. Every view, opinion and comment are important to us and there is no right or wrong answer.

General info and introduction

Age
Gender
School (lukio / ammattikoulu)

General information about clothing

What's your favorite piece of clothing?

Are clothes important to you? Why yes/no?

Do you know Finnish clothing brands? Name a few.

What are your favorite clothing brands (Finnish or international). Why these brands?

Awareness of fast and sustainable fashion

Is fashion important to you?

Do you know what fast fashion is? Sustainable fashion? What do these terms mean to you? How do you feel about them?

Have you noticed or do you know about attempts of clothing brands to become more sustainable? Give us some examples. What do you think about it?

Acquisition of clothes

How often do you get new clothes? How much money do you spend on them / who pays for the purchases?

Where do you usually get clothes from? Could you describe where you got clothes from last time(s)? What is your favorite place for shopping for clothes? Do you prefer to buy clothes online or offline? Why?

Do you make clothes yourself? If yes, on what occasion? Where do you get fabrics and sewing supplies? What do you think about the sustainability of self-made clothes? Could you explain?

What is important to you when you buy clothes? (Brands, price, personal style, etc.)

Do you use secondhand stores for selling or buying clothes? If yes, what ones? Could you describe your last experience? If not, why?

Do you use digital platforms for buying or selling second-hand clothes (such as Emmy, Facebook market, Zadaa, Tori.fi)? Could you describe your last experience? If not, why?

Do you often return clothes that you bought online and/or offline? Why?

Does social media affect your choice of clothes? Do you discuss clothes on social media overall? Tell us about this.

Use of clothes

Do you prefer to keep clothes longer or change your wardrobe more often? Why?

How do you take care of your clothes? Do you read laundry instructions?

Do you have clothes that you have never worn? What do you plan to do with them?

If a clothing item goes out of fashion, what do you do with it? Give an example.

If a cloth is broken or has a spot, what would you do with it? Give an example.

Do you borrow clothes from family or friends? What do you think about sharing clothes? Tell us about your last experience.

Discard of clothes

Why do you usually get rid of clothes? Tell us about your last experience.

When you don’t need or want clothes, what do you usually do with them? Tell us about your last experience.

Services and co-creation with companies

Have you ever bought customized clothes? Or have you customized your clothes yourself in some way? Tell us about this experience. If not, why? Would customization be important for you in the future?

Have you ever rented clothes from rental services or clothing libraries? Do you know about them? (Vaatepuu). If yes, for what reason? (For instance, for Vanhojen tanssit). Tell us about your last experience. If not, would it be important for you in the future to rent clothes?

Have you ever used ompelimot or other ways of making or fixing clothes? (Vaatelaastari?) If not, would it be important for you in the future?

Have you heard of or take part in Repair cafes? Will they be important in the future, what do you think?

What kinds of services would you like to use, but they do not yet exist?

Civic communication with clothes <-> with companies

Are you satisfied with the existing clothing culture – why yes/ why no? How should it change in the future, if it should?

Have you shared your views or experiences about clothes and brands on social media? Or have you given evaluations and feedback to companies about your purchases? Could you give an example?

Have you communicated your opinions directly to the companies? (For instance, wrote review or complain). Give an example. Was it beneficial?

How do you think companies should communicate their sustainable development measures?

If you were a teacher, how would you bring up sustainable clothing themes in your classes?

Thank you very much! We're very grateful for your time and opinion!