

Kristiina Soini-Salomaa (ed.)

LAB Design Annual Review 2023

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 **LAB University of
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Kristiina Soini-Salomaa

Foreword

This is the fourth review of the publication series named LAB Design Annual Review, which presents the latest research, development and innovation activities in the context of design written by experts from LAB University of Applied Sciences. This review presents the strategic RDI base of design focus area and some of the latest achievements made as part of our projects to reach the strategic development goals.

In a context where design and other disciplines are facing complex challenges requiring multidisciplinary, strategic design as a discipline comes as a term to showcase how designers can contribute more strategically to organisations and society. The first article by Paulo Dziobczenski looks at definitions of strategic design and how the design role is changing to a more strategic. The author points out how strategic design will be more critical in a society where problems are complex and multidisciplinary is needed. Design thinking is multidisciplinary in nature and relies on a human-centred and sustainable approaches. The second article by Markus Ahola opens how the development of customer experience supports human-centricity in design. The article portrays how experience characteristics could be assorted and how LAB's research projects under experience methods, design, wellness, public impact and education consider space, service and time as a human experience measure.

The next six articles introduce sustainable design from different perspectives. The need

for sustainable solutions is undeniable and more needed than ever. The environmentally responsible business is not only about creating a system to produce the offerings in an environmentally sustainable way. It is also about reducing the environmental impacts of the offering consumption in the use phase. Service design offers suitable methods for environmentally sustainable solutions for these purposes. Mirja Kälviäinen and Aino Vepsäläinen describe the solutions in their article Service Design in a Circular Turn. Helena Kalliomäki and Annariina Ruokamo continue with the sustainable solutions focusing on circular economy business models. The article examines the results of Telavalue - Value chains for sustainable production, use and cycles of Textiles -project from the perspective of product design and the impact of novel business models on design.

Sustainable service housing for the elderly – the KEKO project, aimed to create an ecosystem in the Päijät-Häme region that would develop service housing for the elderly. Sini Roine and Ulla Saarela portray in their

article how the project studied and developed service housing that would increase the wellbeing of the elderly and strengthen the social sustainability in housing solutions. New concepts were created that service housing actors can utilise. Service design was also used in Eden project to facilitate change by gathering understanding on the factors of expected value to be co-created by the service ecosystem and visualizing the partnership needs involved in the process. Milla Mäkinen's article explores how service design could be used to help small family farms transform into eco-socially sustainable service ecosystems. The case study was conducted on a local farm in Päijät-Häme region.

New sustainable solutions can be developed through digitalization, which is driving the fashion industry into transformation and companies must adapt to change. Consumer behavior is constantly changing, and the opportunities offered by technology and digitalization are bringing their own twists to the future of clothing consumption. Annariina Ruokamo and Helena Kalliomäki open up how consumers will be able to have personalized shopping experiences, to wear digital fashion, and to buy digital clothes for their avatars in Metaverse in the future.

On the other hand, more sustainable business requires physical solutions such as reuse of materials. Hair fibre is a material that has been treated as waste even if it contains valuable exploitable features. Paula Nurminen's and Aino Vepsäläinen's article presents the use of hair fibres in product development. It focuses on the development of oil-spill-response products and multidisciplinary cooperation, resource wisdom and the promotion of circular economy through design.

How can design and art be brought to life through an event? Lahti Design Week is an event concept that has taken place for four years to highlight Lahti-based design, each year with a different perspective. In the article by Anniina Harjapää ja Seesam Tsokkinen Lahti Design Week 2023 is widely presented. The week included many events and exhibitions. One of them was an event: Can comfort and courage be designed? In the event design as a tool for well-being work was discussed and the workshop was organized by the Olet Welfare Living Room Working Group. Seesam Tsokkinen and Marita Kotro describe the process more deeply in their article.

The next two articles describe the perspectives of visual and artistic research and development at LAB University of Applied Sciences. The Business Artist concept is a model developed for increasing low-threshold co-operation between SMEs and micro-enterprises and experts in the creative sector. The model was developed by Ville Huhtanen, as part of the Lyckan project where a municipality-oriented Living Lab promoting the business of rural areas was piloted. The author opens up in the article how the Business Artist and the pharmacy entrepreneur implemented the process where creative co-creation methods were used. In the ADRI project, students were developing art-based innovations in graphic design. In the spirit of fostering creativity and exploration, graphic design BA students embarked on a collaborative journey with The Independent Biennial. The case study and design work are summarized by Marion Robinson and Saša Kerkoš.

Finland is one of the top countries in digitalisation, but digital skills vary widely among

citizens and companies. The entrepreneurs in small businesses or the unemployed will not keep up with the development of digitalisation. Digital insights, technological inspirations DITTO project wanted to create introductory courses in digital skills. In the article by Sini Roine the ideas and applications of microlearning are introduced.

I warmly thank all the authors who made it possible to publish this review. I hope that this review gives you some new insights and further ideas for education, research and development in the fields of design.

Lahti, 6 December, 2023

Dr. Kristiina Soini-Salomaa

RDI Director, Design

Paulo R. N. Dziobczenski

Strategic design – A viewpoint about to change

Abstract

In a context where design and other disciplines are facing complex challenges requiring multi-disciplinarity, strategic design as a discipline comes as a term to showcase how designers can contribute more strategically to organisations and society. In this article, I look at definitions of strategic design and how the design role is changing to a more strategic role. This change in the role of designers comes as a response to the more complex problems designers are tackling. I present two examples of frameworks that represent this change of role for designers – Danish Design Ladder and the Design Maturity Model. I also reflect on how these changes in the role of design impact the skillset designers need to have when transitioning from academia to working life. Finally, I point out to how strategic design will be more critical in a society where problems are complex and multidisciplinary is needed.

Keywords: Strategic Design, Role of Design, Design Skills.

While my colleagues here at LAB University of Applied Sciences report their projects in the other chapters of this book, I am writing this chapter just a few weeks after starting as Chief Specialist in Strategic Design Innovations. Thus, instead of reporting the interesting meetings, projects and people I have met recently, I prefer to write my current viewpoint on Strategic design. As the title suggests, this is a temporal viewpoint that (most likely) will change over the next years. As design, and all other disciplines, are in flux, there is no reason to believe that definitions of strategic design will remain fixed in the future.

I divided this article into three parts: First,

I look at past debates on strategic design in design publications (both academic and professional literature). The goal is to cover the discussions on the topic and why strategic design is relevant. Second, I present the challenges of moving design to a more strategic role for design education and practice. Finally, I briefly point out which topics will be relevant when doing research in strategic design.

What do we talk about when we talk about strategic design?

Strategic design comes as a term that encompasses designers' ability to act more strategically inside organisations. In practice,

designers are engaged in the earlier phases of product/service development (e.g., research, business case, problem setting) instead of only delivering products/services outcomes (e.g., interfaces, service blueprints). Among the many definitions for Strategic design found in the literature, I bring two examples below:

“Strategic design is a design activity concerning the product-system; the integrated body of products, services and communication strategies that either an actor or networks of actors (be they companies, institutions or non-profit organizations etc.) conceive and develop so as to obtain a set of specific strategic results”. Anna Meroni in the article *Strategic design: where are we now? Reflection around the foundations of a recent discipline* (Meroni 2008, 31).

“Strategic design is defined as designers' ability to influence decisions and set direction over issues that affect the long-term sustainability and competitiveness of an organization, such as development and communication of a brand's core values, positioning, and creation of new markets”. Pietro Micheli, Helen Perks and Michael Beverland in the article *Elevating Design in the Organization* (Micheli et al. 2018, 630).

These definitions of strategic design cover the changes in the type of work designers do and deliver, from outcome-based (e.g., a packaging) towards strategic design. Many scholars have repeatedly pointed out the fact that design and the role of design is expanding

(e.g., Meyer & Norman 2020). Specifically talking about the graphic design profession, I previously covered how graphic designers are now expanding their contributions from visual outcomes towards more strategic deliveries (Dziobczenski & Person 2017; Dziobczenski et al. 2018a; Dziobczenski et al. 2018b; Dziobczenski 2021; Dziobczenski 2022).

The nature of the problems designers face shapes the changes in the design profession. Problems are complex and require designers to collaborate with a number of disciplines in order to solve them. On this topic, Ken Friedman has listed four groups of challenges that affect the work designers do (Friedman 2019): (1) Performance, (2) Systemic, (3) Contextual and (4) Global challenges. In short, the types of challenges evolve from Performance towards Global in terms of the scale and stakeholders involved in the challenge: while in Performance challenges, designers are building tangible (e.g., interfaces, products) or intangible (e.g., services) outcomes, in Global challenges designers are working together with other disciplines to tackle, for example, the sustainable development goals defined by the United Nations (United Nations 2016). For example, climate change is a current topic that will not be solved by designers (or other professionals) alone. Still, it will require collaboration from multiple disciplines in order to address such a massive challenge.

In a world where problems designers face is becoming more complex and requiring designers to collaborate with other disciplines, the role of design is also broadening (e.g., Micheli et al. 2018; Perks et al. 2005; Ravasi & Lojacono 2005; Valencia et al. 2013; Valtonen, 2005). This expansion of the role of designers

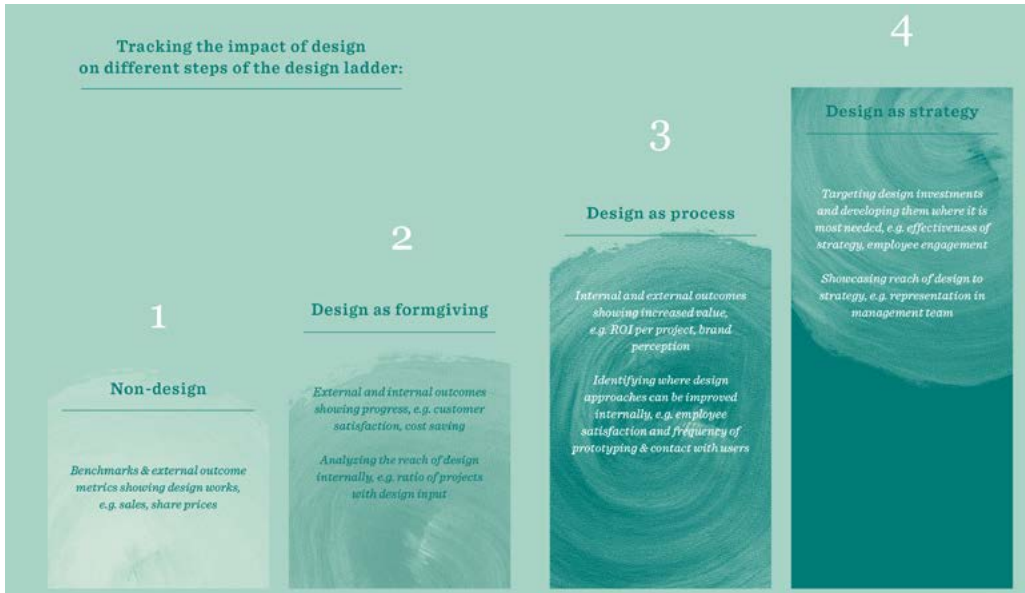


Figure 1. The Danish Design Ladder (Ramlau, 2004). Image source: Björklund et al. (2019)

has been described in frameworks such as the 'Design Ladder' (Figure 1), developed by the Danish Design Centre (Ramlau 2004) and the 'Design Maturity Model' (see Figure 2 on the next page) by the design software company InVision (Buley et al. 2019). Here is a summary of these two models:

- The Danish Design Ladder is a four-step model, which was built by analysing how Danish organisations adopt design practices: (1) No use of design, where other professionals instead of designers do design, similar to what was described by Gorb and Dumas in their classic article 'Silent Design' (Gorb & Dumas 1987); (2) Design as styling, where design is used as an aesthetic add-on at the end

of the development process; (3) Design as process, where design integrated into early phases of the development process; and (4) Design as strategy, where design is a central element for reaching organisational goals.

- The Design Maturity Model classified organisations in five categories: "(1) Producers, where design is what happens on screens; (2) Connectors, where design is what happens in a workshop; (3) Architects, where design is a standardized scalable process; (4) Scientists, where design is a hypothesis and an experiment and (5) Visionaries, where design is business strategy" (Buley et al. 2019).

In sum, strategic design expands the way designers work and impact society: from delivering outcomes only to engaging in earlier phases of product and service development, represented by the expression of 'designers getting a seat at the table' (e.g. Boztepe 2018). This transition represents a significant expansion in the design profession, responding to increasingly complex challenges (see, e.g., Friedman 2019). Frameworks

such as the Danish Design Ladder and the Design Maturity Model further highlight these changes from delivering outcomes towards contributing to strategy. Moving on, I want to discuss what this role change for designers means for design practice and design education. In other words, how do these changes affect the work designers do, and how do we train designers at LAB University of Applied Sciences and other institutions?

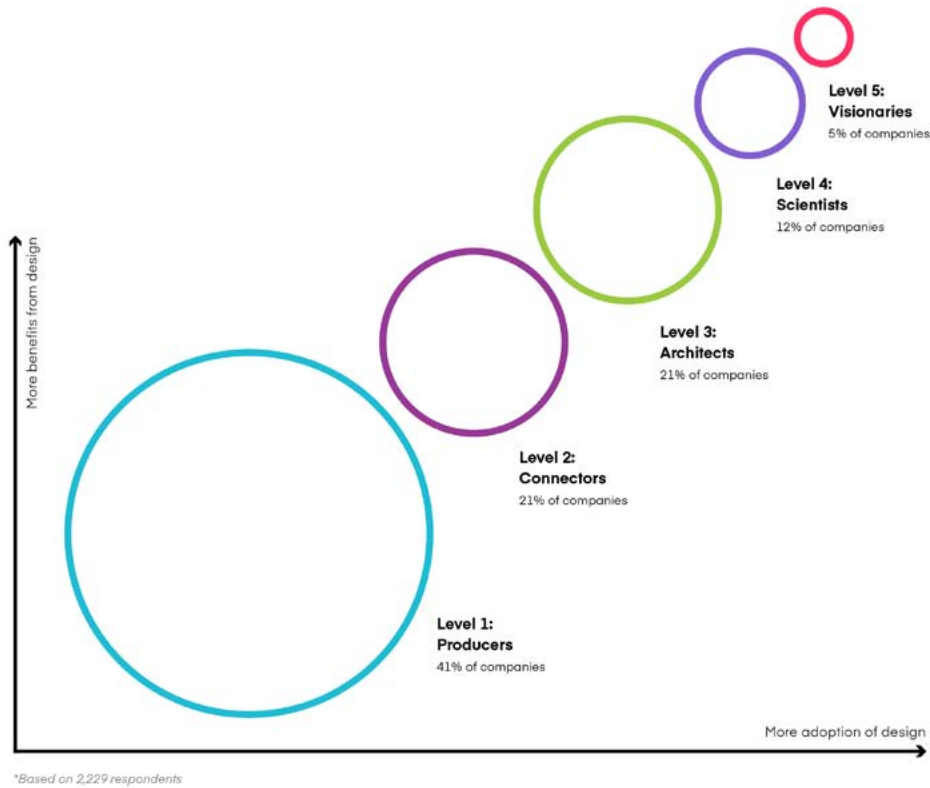


Figure 2: The Design Maturity Model by InVision. Here, the image shows the percentage of organisations in each of the five levels. Source: Buley et al. (2019).

Strategic design in design practice and design education

Designers often start their careers as technical specialists with functional expertise. However, for strategic design to work, they have to be able to join cross-functional teams and act as influencers who champion design. (Micheli et al. 2018, 649)

In the article *Elevating design in the organisation*, Micheli et al. (2018) point out six major practices for moving design towards a more strategic role: (1) top management support, (2) leadership of the design function, (3) generation of awareness of design's role and contribution, (4) interfunctional coordination, (5) evaluation of design and (6) formalisation of product and service development processes. All these practices suggested by the authors present challenges to how designers work and the skills they have. For example, in order to get 'top management support', designers need to expand their argumentation from only design-driven towards business-driven. As recently reported by McKinsey & Company, in the article *Redesigning the Design department* (Cooney et al. 2022), designers often complain that other fields do not understand their roles, but also designers have challenges understanding business and communicating their value properly.

All in all, different practices and roles for designers shape the skills designers have. In my studies on the skills sought by organisations when hiring graphic designers in the UK (Dziobczenski & Person 2017), Finland (Dziobczenski et al. 2018a) and Brazil (Dziobczenski et al. 2018b), I noted that the number of requests in the job advertisements varied from 35 to 40. These requests were then categorised into different types of skills,

starting from design-related skills (e.g. typography) and moving to skills outside the design realm (e.g., business orientation). Figure 3 on the next page presents the requests by organisations in Finland and the percentages of presence in their job advertisements.

This broad and varied list of requirements in the advertisements represents the challenge design graduates face when moving from academia to working in organisations: do they have the skills required by organisations? Is there an 'education gap' (Todd et al. 1995, 20) in design, where the skills graduates have are not aligned with the skills required by organisations? Design educators and institutions are responsible for preparing students for the jobs they will face when graduating from their studies. Also, designers 'should be aware that design is a profession that requires constant learning and, therefore, monitor developments in the profession on a regular basis.' (Dziobczenski, 2021, 132).

What comes next for design and strategic design?

In this article, I looked at how design is expanding towards a more strategic role in organisations. This expansion of the role of design in organisations is documented in frameworks such as the Danish Design Ladder and Design Maturity Report. With this expansion of roles, the skills requested by organisations also expand. For example, in order for designers to be more 'business-oriented', they need to learn about business.

In this environment, where design expands its role and contributions to organisations and society, design education institutions in Finland and abroad have the role of supporting their graduates in the transition

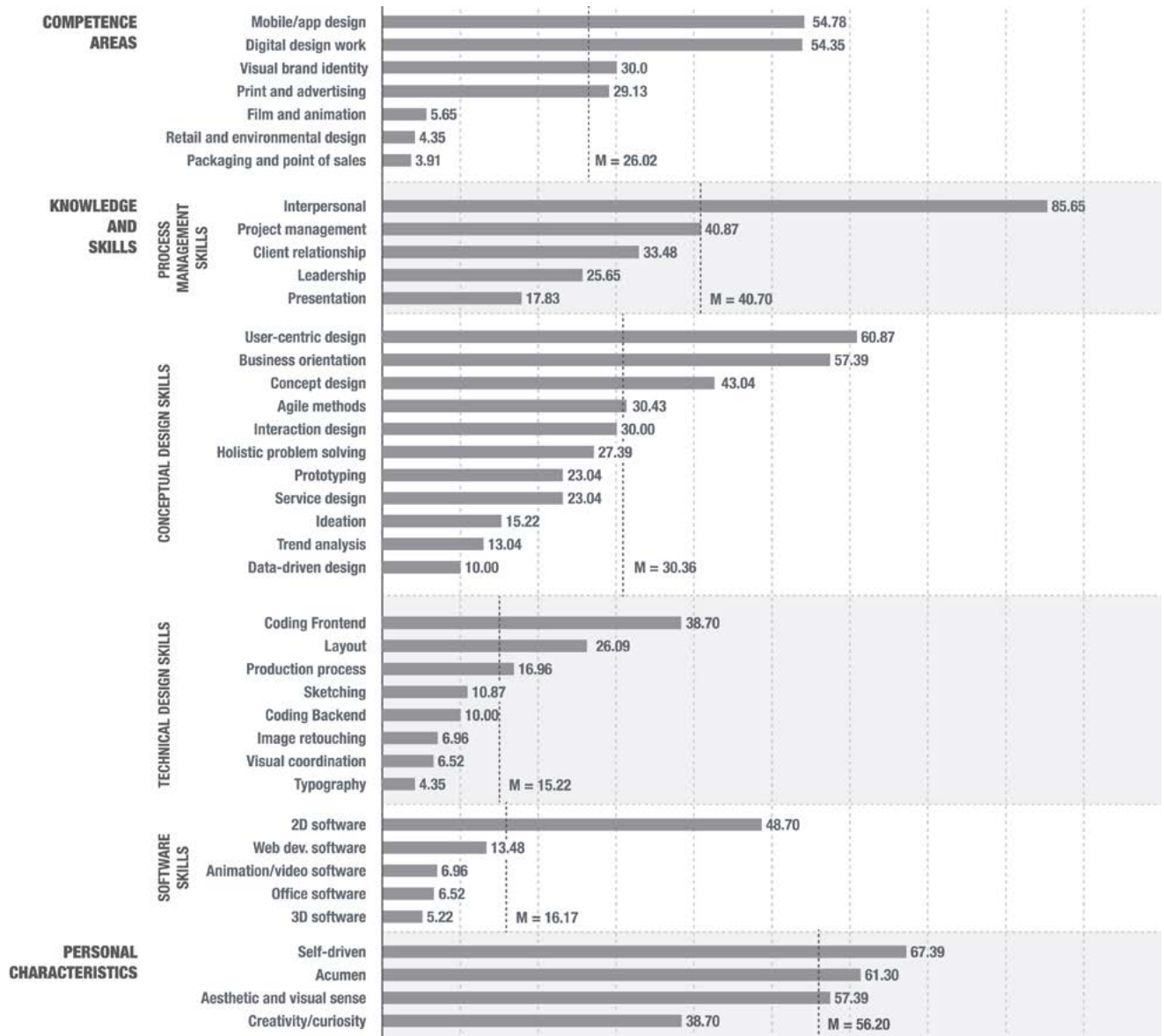


Figure 3. Requirements stated in job advertisements by companies in Finland. Source: Dziobczenski et al. (2018a)

from academia to working life. Students graduating from design educational programmes will face the challenge of tackling complex problems and working in multidisciplinary teams. In order to do that, they need an appropriate skillset. Design practitioners and educators are responsible for reviewing the skills required in working life and dedicating time to develop them.

But then, what comes next for design and strategic design? Strategic design will be more critical in a society where problems are complex, and multidisciplinary is needed. To cite a few examples, climate change and the ethics of using artificial intelligence are

challenges that require the collaboration of multiple professionals and disciplines. Strategic designers have the ability to work not only as strategic problem solvers but also as strategic facilitators for solving complex problems together with engineers, business professionals and a varied range of professionals.

Coming back to the title of this article - Strategic design – A viewpoint about to change – I am curious and excited about how design will change. My work here at LAB University of Applied Sciences will promote strategic design for a more impactful contribution to organisations and society.

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Markus Ahola

Customer Experience Designed And Measured Through Space, Service And Time

Abstract

The LAB Customer Experience Platform has operated for over one year to unite the expertise of different disciplines and to find best practices for improving human wellness with an experience-driven approach. Human experience occurs through an ever-increasing number of different mediums, scattering the experience data and raising the need for data literacy. Human experience is a complex phenomenon that requires a multimethodological research approach and combining of specialized knowledge across disciplines to reveal insights in quality. The insights are an analysis of qualitative and quantitative information describing the characteristics of the experience. Successful identification of the experience ingredients is a good start for designing the optimal human-centric solutions, and emphasis on assessment of the experience design solutions is needed. Research suggests that experiences could be measured through space, service and time. The article portrays how experience characteristics could be assorted and how LAB's research projects under *Experience research methods*, *Experience design*, *Wellness*, *Public impact* and *education* consider space, service and time as a human experience measure.

Keywords: customer experience, experience-driven design, user-centric design, RDI, education, multidisciplinary collaboration

Introduction

The experience can be seen as the ultimate goal for a user-centred approach. Meaningful experiences make life worth living, and to understand human well-being, it is essential to understand human experiences (Ahola & Roto, 2023). From the design perspective, it is natural to make sense of human experiences through designable characteristics of our environment and treat those from the perspective in question. Perspectives are many: user, customer, consumer, and sometimes many simultaneously. The customer experience (CX) has gained popularity in describing human interaction with the organisation in the role of the customer. The CX combines numerous characteristics into one moment, taking place in a particular environment and including interaction between humans or between humans and artefacts. The abstract phenomenon is easy to recognise but sometimes tricky to concretise. Designing for the CX requires understanding the significant characteristics of the intended experience through space, service and time.

Designable characteristics of the experience

To design for experiences, we should understand how the experiences are built. Let us take an example from a famous song describing one moment inside a restaurant service. The story told in *Tom's Diner* (Vega 1984) describes a few minutes in a restaurant and highlights designable characteristics of the storyteller's experience that morning. If we just concentrate on the characteristics of the story and leave the double-meanings and cultural symbols on the side, in that case, we can recognise five characters (storyteller, server,

another customer, passer-by and person in a memory), interactions (e.g., waiting, pouring and kissing), feelings (e.g., disappointment, happiness and curiosity), characteristics (e.g., rain, reflection and sounds), details of the servicescape (e.g., counter, window and table service), and how different characteristics are placed in relation to each other (e.g., in the corner, at the counter and on the outside). These ingredients build a setup for the experience and should be recognised to develop the CX and measured to understand the impact of the developments. Many of the above-mentioned characteristics can be directly designed.

With this relatively simple example in mind, we can note that today's CX builds from a constantly increasing number of mediums, features and applications (See Photo 1.). Each of them has its own characteristics to be considered and measured. For example, if we knew if the storyteller ended up in the restaurant based on the recommendations or saw tempting videos from the place, both mediums would have amplified the experience with new channels. What if we saw simultaneously the other's shared experiences, like in social media? The experience setting would be extended and require a different research approach. Common for all mediums is that they take place in space (i.e., application or restaurant), require interaction (i.e., service or communication) and time (i.e., morning or moment) to occur. Today's versatility of CX channels leads to scattered CX information, leading to a need for new measures, methods, units and skill sets to make sense of information pieces. This, together with the complexity of human experience, yields a multimethodological research and analysis

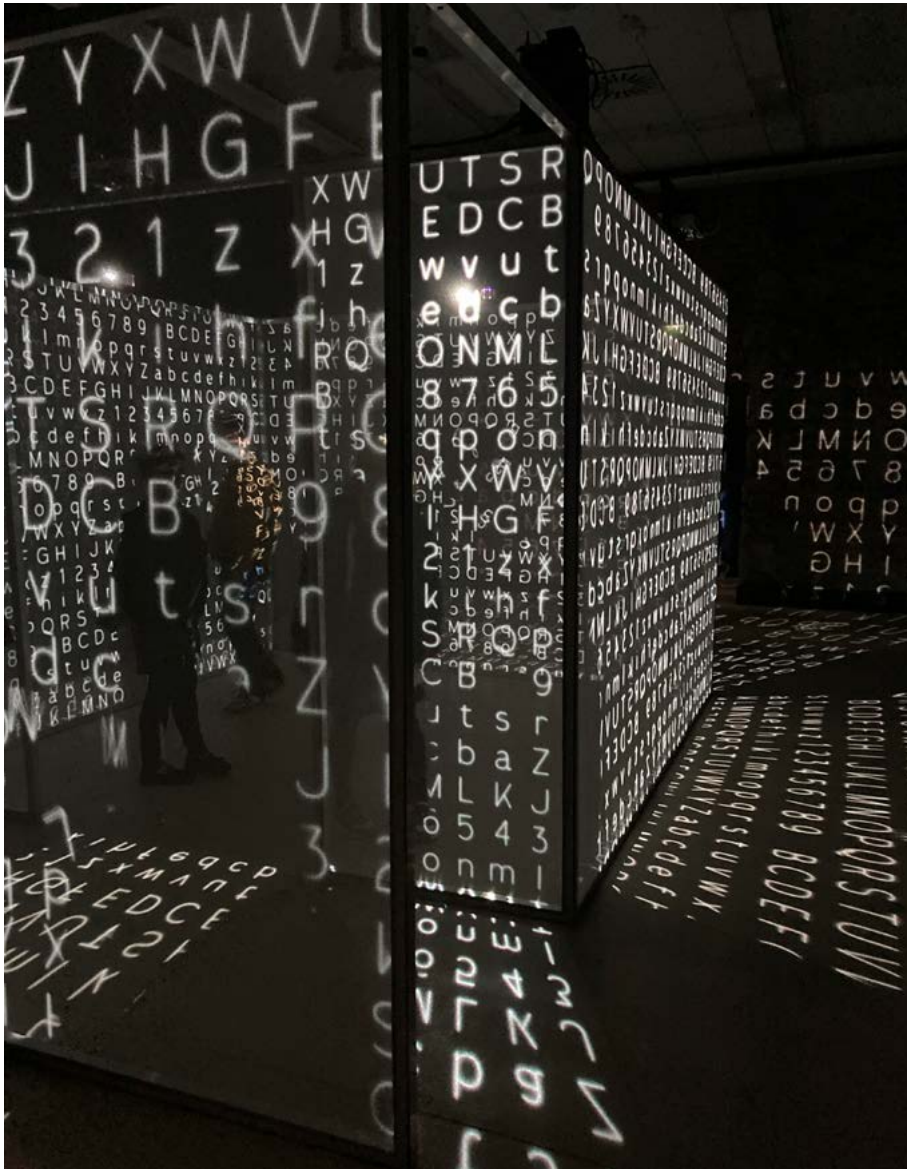


Photo 1. Experiences are built through multiple mediums, such as in this digital art installation by Adrien M & Claire B, exhibited in the Lahti Museum of Visual Arts Malva's exhibition: Adrien M & Claire B: Havens of Light, 12.5.2023 - 1.10.2023. (Photo: Ahola 2023).

approach and combines specialised knowledge across disciplines.

Employing multidisciplinary expertise enables the development of a human-centric future regardless of the industry or business. Unfortunately, there is no research field for experience research on the map of science (Ahola & Roto, in press). To include an experience research perspective in research consortiums, it is important to establish multidisciplinary experience initiatives.

In 2022, LAB's Experience Platform started to foster CX and a user-centred approach within the LAB community and with external stakeholders. During the first year, we succeeded in identifying internal CX expertise and targeted our efforts to instil an experience-driven mindset into the LAB community. We strive to develop the LAB community's CX expertise through research, agile experimenting, innovation piloting and life-long learning (Ahola 2022). Today, thanks to the ambitious work of many, we are in a situation where *Experience research methods*, *Experience design*, *Wellness*, *Public impact* and *Education* give thematic focus to our practical work.

LAB experience-driven project examples representing our thematic focus

Experience research methods and experience design

Experience research methods have a crucial role in developing design-driven solutions. It is as difficult for the researcher to learn the characteristics of an experience as it is for the informant to describe those. Therefore, suitable qualitative and quantitative measures are needed to reveal relevant information about

the characteristics staging human experiences. However, iterative data collection is only a good starting point, and the data needs to be refined to insights with a suitable analysis. LAB's focus is developing multimethodological approaches for collecting CX data and analysing the entity. This expertise is needed to design meaningful experiences.

The evolving methods of customer experience (Asiakaskokemuksen kehittyvät menetelmät in Finnish) -project started at the beginning of the year to research the SME's maturity in customer experience data collection and analysis in the Päijät-Häme region. The project maps companies' current CX management expertise and develops a model to increase CX assets. The increased expertise combines quantitative and qualitatively generated CX data and uses service design and visualisation methods to adduce customer understanding. The project outcome aims to define a practical set of meaningful measurement and situational analytics examples for SMEs. The European Regional Development Fund funds the project.

The Mobile User Experience (MUX) -research project evaluates companies' digital and physical servicescape. The evaluation employs eye tracking and heuristic evaluation to measure the digital and physical experience. The collected numerical data is merged with qualitative data from observations and interviews to provide a holistic understanding of the characteristics enabling the intended experience. Multimethodology enables us to evaluate how different characteristics contribute to the CX, how much people pay attention to certain features, and compare web store and physical store experience. The "hybrid" CX evaluation process is developed

towards LAB's commercial offering for companies to trial their CX. The project is funded by regional development funding (AKKE).

The Life Cycle Concepting -project with the Meyer shipyard explores the practical experience design in the context of sustainability with research through the design approach. The phased process consists of service design defining the general service characteristics (service) and passing the manuscript for interior architecture and furniture design to concretise the manuscript (space). The process is overlooked with strategic design lenses to ensure that customer experience and sustainability information transform between the phases. On top of the project, the design process is illustrated with infographics (time) for effective and accessible communication. Business Finland funds the project.

Wellness

Human wellness is the ultimate goal of an experience-driven approach that requires understanding of the human experiences. To develop services that help human living flourish, we need to understand how people experience these services. This is especially crucial in the healthcare and wellness sector. The UK's patient experiences programme leader, Prof. Sophie Staniszewska, summarises the current need of treating patient experience as evidence on which to base healthcare treatments (Ahola & Roto 2023).

LAB's multidisciplinary research project *AIR4Safety* touches on human experiences in multiple ways and develops novel solutions for improving patient and caregiver safety. The project harnesses artificial intelligence to support treatment by providing situational

and relevant information and community support for the individual. From an experience perspective, the project concentrates on researching healthcare service use cases and designing timely and always correct information delivery in a highly usable virtual space to ensure patient safety. The project builds a consortium around LUT Groups (LAB and Lappeenranta University) with expertise in healthcare, patient safety, data management, user experiences, and AI that relevant industry partners complement. Business Finland funds the project.

Public Impact

We have recognised public impact as one of the key thematic areas of the LAB Customer Experience Platform activities. Under this theme, we work on projects that aim to improve individuals' experiences within participation in public decisions and activities that improve public awareness of experience research and design.

Experience Platform participated in 2023's *Lahti Design Week* planning and organisation. The design week highlighted sustainability in everyday experiences: how product and service design consider sustainability and how individuals can participate in decisions on how their environment is designed. The biannually organised event took place between 11.-17.5.2023 in the Lahti region and collected approximately 3,000 participants over 30 engaging design events.

Education

Under the education theme, we integrate our research results into education and foster an experience-driven mindset among our students. Several project proposals are currently

prepared to research student experience in the digital transformation of education and improve their wellness.

A concrete example of integrating research projects and education and transferring the latest knowledge is a *Customer Experience* -minor studies, launched in 2023. The 15-credit minor studies consist of *service design basics*, *customer experience and artificial intelligence*, and *experience architecture* -courses, five credits each. An online course on service design teaches the principles of service design, basic visual toolset and co-creating. The multimodal course on CX and AI provides a practice-based introduction to a current approach of AI-empowered CX management and design. It teaches the main concepts of the data-analytics, machine learning and CX and the interaction between CX and AI. Students learn to refine data to insights. The Experience Architecture -course teaches a general understanding of applying experience-driven thinking in the design process. It helps to understand why experience is a relevant starting point for the design and how it could be evaluated in terms of space, service and time. The minor is open to all LAB students regardless of the discipline.

Discussions

The introduction portrays that many projects concentrate on defining the experience characteristics of the service (e.g., AIR4Safety and Life cycle project) and space (e.g., MUX and Life cycle project). Finding ways to define the experience ingredients is an excellent start for developing human-centric solutions, but how do you measure the impact of the solution? Experience researcher Jim Gilmore suggests that we could consider time as a currency

of experiences (Gilmore 2022). Services can help people to save time for something else (e.g., cleaning service), whereas other services attract people to spend as much time as possible within the service (e.g., amusement park). From the beginning of the article, the story person is most likely having coffee at Tom's Diner to enjoy good coffee and the service environment, more than saving time from coffee making. The environment is pivotal for the experience and gives a frame for the experience to happen. Space could be considered as a unit of experience (Gilmore 2022). Unit prefers a single thing or a separate part of something larger and to a single complete product of the type that a business sell (Cambridge University Press 2023). In the end, designing for human experiences is a matter of managing the entity of a rich setup and trying to design each experience unit to support the intended experience. What units (or characteristics) are needed to build Tom's Diner service? How many units are needed for the experience? How much time is needed for the experience? Finally, what is the return on experience (ROX) if Tom invests in these service units? Defining Tom's Diner's characteristics helps us understand the storyteller's experience and measure the investments on experience in space, service and time.

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Service Design in a Circular Turn

Abstract

In a Circular Economy, the basic idea is to minimise resource use, design waste out of systems and strive for closed loops in producing material goods. The environmentally responsible business is not only about creating a system to produce the offerings in an environmentally sustainable way. It is also about reducing the environmental impacts of the offering consumption in the use phase, considering the environmental impact from all the tasks the customer needs to do around the offering use, moving the customer away from overconsumption, and making the new, often behaviour-change-demanding, offerings desirable and easy to use for the consumer-customer. Service design offers suitable methods for environmentally sustainable solutions for these last purposes. The customer journey should be even a starting point for the production for considering the sufficiency-based, necessary offerings that can be used with little environmental impact.

Keywords: Service Design, Circular Economy

Introduction

This paper stems from the combination of learnings deriving from the work of Circular Design projects and projects around customer-driven, environmentally sustainable service design. In both development areas, work has been done around SMEs and their requirements for responsible business.

In general, sustainability development in businesses has been traditionally concentrated on the issues around the businesses' resources, production and facilities. It has examined the critical and measurable factors relating to energy sources and use, water

consumption, transportation, production waste, process pollutants and material use. However, the consumption process of the offerings has not typically been the focus of these business-based sustainability efforts. The consumers have been approached by other actors, such as public organisations and researchers, offering calculators of the environmental impact of consumption and advice on how to lower this impact. The activities of lowering the environmental impact of production and consumption have taken place in different silos, and their joint effect has not been fully utilised.

Not only production but also consumption requires redesign

Consumer research has constantly found information about an attitude-behaviour gap, pointing to the phenomenon where consumers have nature-positive attitudes, but they are not able to choose and consume in an environmentally sustainable way (White & Habib 2018). Research has provided information about consumers' barriers to sustainable consumption and that it is possible to find many drivers for environmentally sustainable consumption. Moreover, the consumers would need environmentally responsible

solutions offered as supporting services that integrate well with the time use and places of their busy everyday lives. (Kälviäinen 2022).

When environmental harm, such as carbon dioxide emissions, is measured in developed societies looking at our everyday consumption, it counts for around 70% of these emissions. The environmental impacts of consumption in developed countries should be reduced by 70% by 2030 and 90% by 2050 if we are to stay within the 1.5-degree global temperature rise (Lettenmeier et al. 2019, p. 4–5). Also, the information about the global and national planetary Overshoot Day

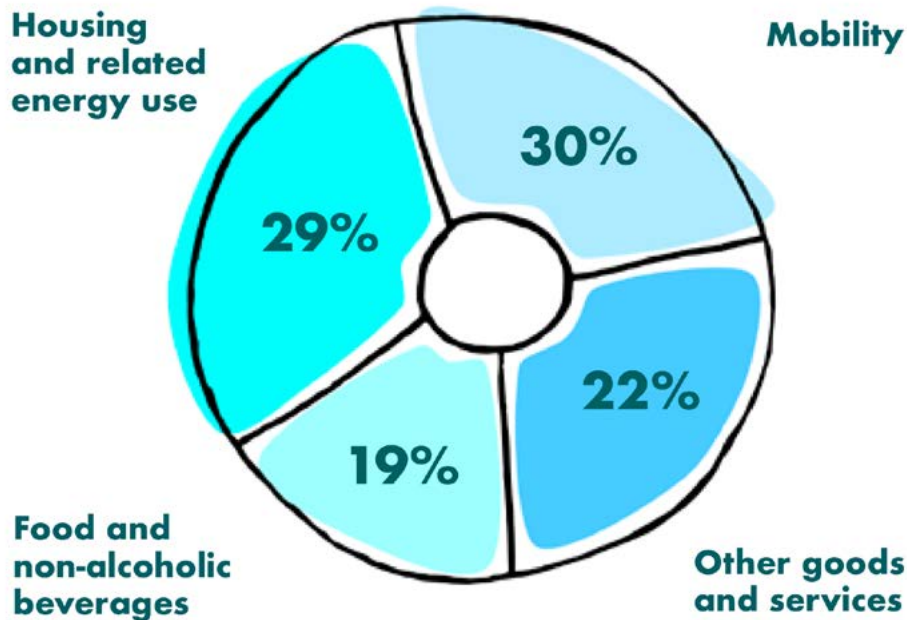


Figure 1. The amounts of the four consumption areas producing carbon dioxide emissions, year 2016, in Finland according to numbers from the Finnish Environment Institute.

stresses the necessity of decreasing over-consumption. In Finland, this means that Finns consume around 3,8 planets per year. (National Footprint and Biocapacity Accounts 2022). The business requirements for environmental responsibility are shifting from merely reducing the environmental harm of production and distribution to including low environmental impacts arising from the customer-user processes. As a difference in production footprint, this is depicted by hand-print pointing to the emissions avoided when consumers use low-impact solutions (Sitra).

Figure 1 presents the four consumption areas in Finland, year 2016, with carbon dioxide emissions, where mobility is the largest. Accommodation and required energy and water use is the second largest area. Food consumption and products and services come last (Suomen ympäristökeskus 2019). All the impact areas come close to presenting one-fourth of the whole consumption emission, so lowering the impact in all of them is relevant. With biodiversity loss impacts, similar new calculations are under construction in the year 2023. The initial results show a big impact relevance especially in food. (Peura et al. 2023).

Since consumption can be seen as the big impact factor of environmental harm, it would be wise to look at the sensibility of the offering, the customer journey required for the consumption and how it can go through with little environmental impact, and then adjust the production accordingly to cause as little environmental impact as possible when the production-consumption silos are put together.

If the planning of low-impact solutions has started from the consumption perspective, it

looks at the possibilities of lowering the consumption's environmental impact around the use phase of this offering. There can also be considerations to construct the solutions so that the rebound effects do not destroy the intended benefits. An environmentally responsible offering might not end up with totally low-impact results if there are savings or a lower price for the consumer; this might also lead to a rebound in getting bigger products or more of them or using the savings for some other unnecessary consumption items. The solutions should try to avoid even these kinds of effects.

In the service solutions, it is important that they do not concentrate only on using a product as the circular models have. When the offering use is designed as a consumer journey, it considers all the other possible consumption actions the consumer needs to do along with the basic product use, such as transportation, storing or eating.

The Circular Economy business models

The research and discussions around Circular Economy business models and value chains connected to design have concentrated on the eco-design of products to serve the circulation of materials. Circular Economy-based development is interested in lowering the impact of resource use typically high in the former linear take-make-waste type of economy. For this reason, the business models concentrate on material products, and the central question has been how to Narrow (Use less), Slow (Use longer) and Close (Use again) resources. (Bocken & Ritala 2022, 184-185.) This emphasis has focused the development work around it on production, and the circulation

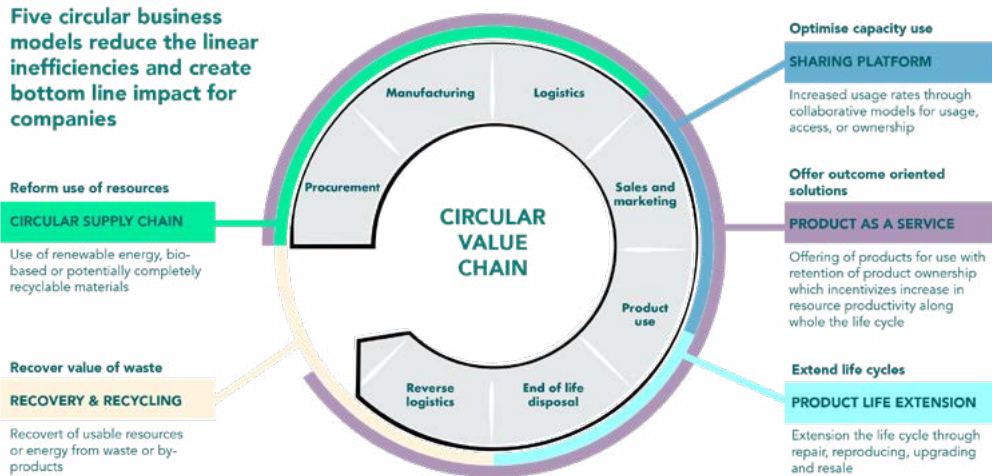


Figure 2. Circular Economy business models (Sitra).

of materials concentrating on products and product design type of approach.

Typically, the Circular Economy benefits emphasise the provider and societal value instead of customer value. The Circular Economy trend has been justified through savings for businesses, economic growth and on the societal level, new jobs, savings in material resources and in this way, advantages with environmental responsibility. (Widgren & Sakao 2016, 573, 575.)

However, if we count the typical business models in the circular economy, three out of five of them actually point out that the offering is a service. In services, the main idea is to bring value to the customer. Figure 2 presents how most of the Circular Economy business models suggest service-based offerings and customer value, although they are based on product-centred business. The sharing platform type of collaborative use models,

product as a service model, and product life extension with repair, reprocessing, upgrading and resale all point to having services or product service hybrids as the offering.

In general, the economies in developed countries have moved rapidly from the turn of the millennium to a position where the majority of Gross domestic product (GDP) derives from services. Also, in Finland, the services portion forms a significant share of the GDP, year 2022 (Palta 2023).

One big question in the move to a circular economy as the solution for the environmental crisis is if the product-entangled design is sufficient in solving the problems, since the circular economy does not fully consider that we overconsume services. The product-based circular design methods do not support re-designing purely service-based solutions.

Economists have also started to doubt whether activating a circular economy will

be enough to tackle the environmental challenges. It will naturally not be enough if the amount of consumption in an overconsumption sense is not decreased, and the growing number of middle-income people globally will take on the overconsumption model instead of a consumption model that stays inside the planetary boundaries.

Even in traditional product-based businesses, responsible growth should come from increasing the immaterial service value, not from increasing the number of physical products. This is important to consider with older companies that started before the current environmental sustainability demands. It provides requirements to include service design activities in the development processes.

The ways service design supports Circular Economy solutions

The common way to integrate Service Design into Circular Design has been by using the Product-Service-Systems (PSS) approaches (Widgren & Sakao 2016). The researchers who have analysed the situation in cases of Sustainable Design using the PSS approach claim that combining Service Design with Product Design brings the service perspective, use context, stakeholder studies, customer value co-creation and user experience interest to designing sustainable solutions. Analysing the PSS-approach research represents it as complex and still rather product-orientated. (Widgren & Sakao 2016; Sierra-Pérez et al. 2021).

There are important differences in designing a product or a service, although the lines between products and services are becoming blurrier. A material product is a one-off item, completed when it arrives in the hands of the

customer. A service is immaterial and co-created repeatedly in interactive collaboration with the customer. Service design demands much more of the mindset of a customer relationship than product design. (Widgren & Sakao 2016).

Even with products, it is important to pay attention to the fact that only part of the environmental impact of consumption stems from products. Services are analysed and developed as customer journeys that demonstrate how consumers are required to go through many different consumption acts and interactions, even while they are involved in the simplest of product purchases, and the use and disposal of this product. The environmental impact of consumption comes from accommodation and storage space use combined with energy and water use, which might all be relevant to consider in the design solutions. It also comes from mobility, when people cannot participate in consumption activities without moving and cannot use such means as walking or bicycling for this. Many offering usages also require eating at some point in the customer journey, and food is one important area of environmental impact from consumption. Only the fourth consumption impact area includes actual products and services.

In trade, for the purpose of closing the loops, it is vital to see the consumer as one part of the process to prolong or intensify the use and to complete the tasks required for recycling the already-made product and the materials in it. Consumer focus means looking at the consumer and customer journey of the circular solutions. With the Circular Economy business models, it is important to notice that many of these require a new

effort (jobs) from the consumer in borrowing, taking back, repairing and recycling. These also need to be designed as services that are easy to use and that support the behaviour change or the extra burdens required.

Circular economy business models have been criticised for demonstrating that they do not necessarily produce environmental benefits, since the promise of business growth is included in the ideas and execution, and there can be rebound effects in the form of growth of use (consumption) when these models are applied in business practice (Whalen & Whalen 2020, 633-634). The starting point from the customer side of planning the services can tackle this problem, since it can look at the possibilities for low and low-impact consumption as the starting point. It is not starting from a circular economy business model that might or, in the worst case, might not produce a decrease in consumption and the environmental impact. This perspective is critical as a starting point, since the societal requirements for moving to the consumption amount within planetary boundaries are urgent.

The customer orientation makes it possible to consider the sensibility of the offering against environmental responsibility and to avoid the rebound effects and unintended consequences typically found when implementing sustainable solutions, such as the lending type of offerings in the circular economy. The possibility of lending products might not decrease the number of products bought by the customers, but they might lend in addition to other consumption activities. The solutions have had no mechanism to guarantee that the consumers would consume less. They might acquire additional

products in addition to using the product as a service solution or purchase and use perused items, and use them only for a short period and then abandon them.

Another case is if the company is producing services and products for sufficiency-based consumption or if the company offering is unnecessary and only part of the overconsumption scene, whatever the business model might be. The pay-per-use service for designer bags might be easily considered unnecessary even when following the Circular Economy business model. A big question remains: who and how should we define what belongs to the sphere of sufficiency-based lifestyles?

In addition to customer-driven development for the service offerings, service design also tackles the service ecosystem co-design activities (e.g., Sierra-Pérez 2021; Widgren & Sakao 2016). Production and supportive service collaborations are often necessary for customer-driven solutions. Collaborative systems are often also necessary for appropriating side streams and waste in circular economy production networks. Service design also applies methods to build and enforce this kind of collaboration, vital in intensifying resource use. This also benefits the service design type of work, since participatory activities in creating the networks of using side streams and waste from different types of production activities require co-design and mutual sense-making. Each participating actor needs to see their role in the system and understand how they can participate and benefit. They must develop their work practices and offerings according to the circular system. At the end of customer use, the collection of reusable material from

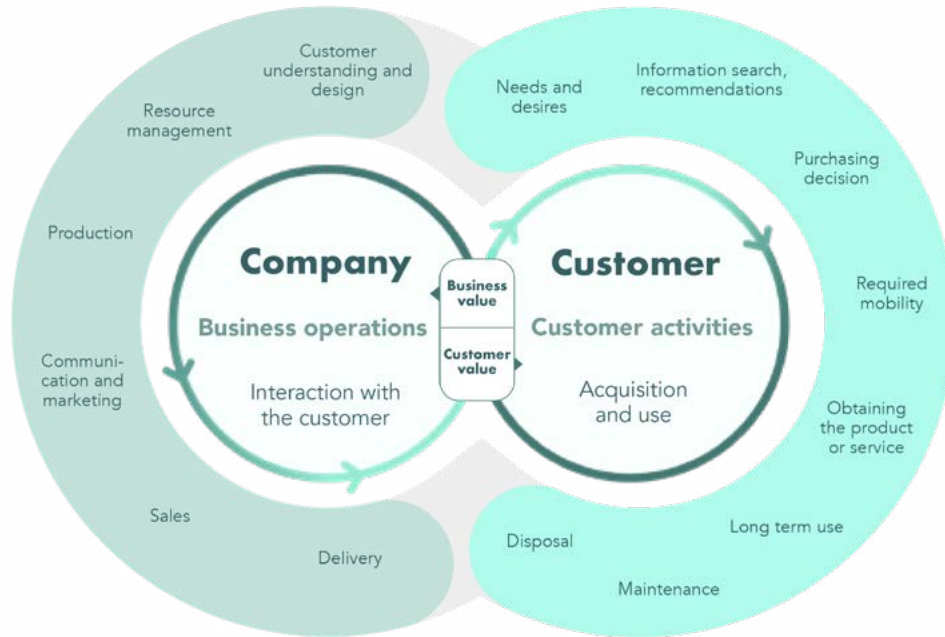


Figure 3. Double loop from the VPK project presents the customer journey alongside the production journey as a tool to combine both the consumption and production impact concerns in the business offering.

the closed loop may require new customer and distributor-collector collaborations.

The customer journey of analysing the service process looks at a service from the customer's point of view. It consists of the customer journey through and before the service stage, including service moments, such as the customer needs, finding information about suitable offerings, and choosing and accessing the offering. Here, it is possible to promote a responsible solution by offering interesting information about it in places of interest to the customer segment. The core service is then concerned with learning to use the offering interactions and how easy and enjoyable it is

if this requires new habits. The post-service stage is also interesting as a place for disposal activities or rewards. All the customer journey stages can include activities that either produce environmental impact or not, and low-impact solutions can be designed into these stages. When combining the consumption-production sustainability efforts, the whole design consideration can start from the customer value side and continue to the environmental sustainability systems of producing the lowest possible consumption solutions (combination presented in Figure 3). The sustainable customer journey often means changes to the production side.

What is also important in using the Service Design approach is the achieved customer loyalty (Widgren & Sakao 2016). This is important to ensure successful adaptation and sustainable behaviour change, since environmentally sustainable solutions might require new jobs to be done, and they require a social-cultural attitude-behaviour change to consumption. What is important to notice is the attitude-behaviour gap, and that the consumers have multiple barriers in their busy everyday lives in finding and using environmentally sustainable solutions and managing the behaviour change they might require. The barriers in the different stages of the customer journey can be solved by service design, and the user can be supported with psychology-based behavioural interventions. For the customer meaningful drives can be integrated into the journey to provide desirability and rewards. (Kälviäinen 2022.)

In a customer journey describing the service, it is possible to integrate drivers and behavioural interventions that support the customer in using the responsible offering and how to make it desirable, which is also required from the Circular Economy service solutions. The customer journey also maps all the different consumption activities that the customer needs to complete, and this makes it possible to consider how the offering can reduce the impact on these in even more ways than the Circular Economy suggests in the product-focused solutions.

Where to from here

More recent demands have shifted environmentally responsible activities from decreasing the harm to more regenerative models, where some good for the planet would be

produced instead of decreasing the planetary well-being. This is a very long-term goal when facing the urgency of an environmental crisis. It is also typically discussed in terms of production, not in terms of changing consumption behaviour. Overconsumption as the biggest harm issue has not been dealt with properly, when the development has concentrated on the less or no harm point of view. Even less harm is failing, as the huge urgency in lowering the overconsumption rate is not the focus of development. Circular Economy requires a customer-driven service focus to reach the promised environmental sustainability goals. The regenerative future models would also require service design approaches to ensure their adaptation and required social-cultural change in a credible and realistic way.

Whatever the environmentally responsible solutions are, there is a need to make them accessible, easy to learn and use, and desirable to consumers. As environmentally low-impact or future regenerative solutions also often require more effort from the consumers, and substantial mindset and behaviour changes, these qualities need to be thoughtfully designed and through customer-driven lenses in addition to the environmental aspects.

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Design variables in novel business models

Abstract

The textile and clothing sector is undergoing a significant complex structural change. The linear economy, which is environmentally and socially unsustainable, has reached its limits. Fortunately, several efforts and initiatives are enhancing the sector's transition to a sustainable circular economy. Environmentally conscious alternatives are also being requested by consumers. New circular economy business models based on product distribution and reuse, such as Product as a Service and other variables, are emerging to meet the demands of sustainable manufacturing and consumption. While novel business models offer a solution rather than ownership and are part of the immaterial economy, the focus of a rental service, for example, is often on a tangible product to be distributed. To ensure that rental concepts and the solutions they offer meet consumer desires and needs, the development of concepts and products requires careful user-centred design.

LAB University of Applied Sciences has been part of the Telavalue - Value chains for sustainable production, use and cycles of Textiles -project, which focused on topics such as sustainable and circular textile business, the implementation of bio-based and recycled fibres in textile products, novel circular economy business models and the recycling of textile materials. LAB worked with a research team studying novel business models from the perspective of economic and social life-cycle assessment and how business models and their variables impact product design, for which the LAB team was in charge. This article examines the results of the study from the perspective of product design and the impact of novel business models on design.

Keywords: product design, novel circular business models, Product as a Service, Take-Back-Reuse, product cycles, Telavalue-project

Introduction

For several years, LAB University of Applied Sciences has been part of the Telaketju cooperation network organisation, which aims to research and to create business through circular economy of textiles. The ongoing project, Telavalue - Value chains for sustainable production, use and cycles of Textiles, is directly linked to earlier Telaketju projects. The vision of Telavalue is to solve sustainability and waste problems related to current textile systems through circular economy. The public research project carried out by VTT, LAB University of Applied Sciences and Turku University of Applied Sciences is funded by Business Finland and 17 companies and other organisations. The project started in February 2022 and ends in July 2024. (Telaketju 2023)

Novel business models – what and why?

The trend in consumption behaviour is undergoing a considerable change. In the future, consumer need for ownership of goods is expected to change. Instead of buying products, consumers are looking for ways to use products for the desired purpose for the desired period. Instead of ownership, the aim is to satisfy needs and desires through services. (Dexigner 2019) Consumers are increasingly looking for environmentally conscious alternatives: to reduce consumption and to impact emissions through their choices.

Novel business models based on circular economy are responding to changing demands and are at the heart of sustainable business practices, with product reuse and distribution as core activities. When products are distributed and reused, the value of materials and products is maintained or

even increased. Novel circular solutions can maximise the use of products by keeping them in circulation for as long as possible. In addition, the life cycle of products can be extended through maintenance, repair and customisation.

According to a study by the Finnish Innovation Fund Sitra 2020, five different operating models can be distinguished in circular economy. These are driven by the change in ownership, but the focus is on the circularity of materials and products: Product as a Service, renewability, sharing platforms, product life-extension, and resource efficiency and recycling. These are complemented by business models for producer ownership, defined specifically from an ownership perspective, whereby ownership of materials and products remains with the manufacturer responsible for the product throughout its life cycle. The business models for producer ownership are defined in Products as a Service, materials as a service, performance as a service and function guarantees. The business models of producer ownership can be based on, for example, the rental of products, but also on their take-back, the reuse of materials or resale. A service or part of it can also be a product guarantee, where a product can be provided with a guaranteed lifetime through various maintenance and repair services. Users and consumers of producer ownership services can be either business customers, B2B or consumers; B2C and C2C and services are mainly facilitated through various digital service platforms. (Orasmaa et al. 2020, 7- 8)

Producer ownership business models, especially Product as a Service, can also be seen as a form of reuse, which is one of the

main principles of circular economy, alongside recycling and reduction. The change in ownership of goods is essentially linked to the concept of the sharing economy, which is based on the principle of a shift, from owning goods to distributing them and using services. According to the Product as a Service -model, the customer is offered a desired outcome rather than ownership. For example, the customer acquires the right to use the products they want through various services, by renting or leasing them, either on a one-off basis or for a desired period of time. In this kind of business model, ownership of the product and its materials remains with the service provider, freeing the customer from the need to store, maintain or repair the products. (Botsman & Rogers 2011, 72) From the perspective of the green transition, the product and related services can be conceptualised as product-service concepts and as part of the servitisation. They are considered as a growing form of business to reduce the use of natural resources and support the transition towards a carbon neutral society. (Valtioneuvosto 2021, 26)

As the Telavalue project research progressed, the team and partner companies selected two novel business models for further analysis. The defining factor was the retention of product ownership by the brand, with the product manufacturer responsible for the product life cycle, recycling and the recycling of post-consumer textile waste. The selected business models are demonstrations of the Product as a Service model, where ownership of the product is maintained by the manufacturer or service provider throughout the product's life cycle through a rental activity (Figure 1), and the Take-Back-Reuse business

model, where ownership is first transferred to the customer once the product is retailed, but when the customer returns the used product back to the manufacturer, the ownership is also returned and the responsibility for the used product, either for resale or other treatment, is transferred to the manufacturer.

It is worth mentioning that there are numerous variables and operational variations in the emerging new business models on the market; so for the research, certain variables had to be locked in, and some variables had to be ignored. From a product design perspective, the business models and their variables chosen for the analysis are relevant and generic, and the results of the analysis are thus applicable to different business variations.

Design leads the way to Circular Economy

The most important aspect of product design in circular economy is to focus on solutions that extend the lifespan of the product and maximise product usage, as they have a significant impact on increasing product value and reducing waste. (Ellen MacArthur Foundation 2017, 41) The design process for textiles and clothing can produce up to 80 % of solutions that enable product longevity, versatility and proper recyclability. Products are designed and manufactured from the outset to be of high quality and long-lasting. Product design solutions aim to increase the durability and longevity of garments through appropriate material selection, construction and sizing, and by designing classic, timeless products and concepts. Careful attention to structural design enables the replacement of worn parts of garments and textiles, the

Product as a Service – Comprehensive solution for B2B customer

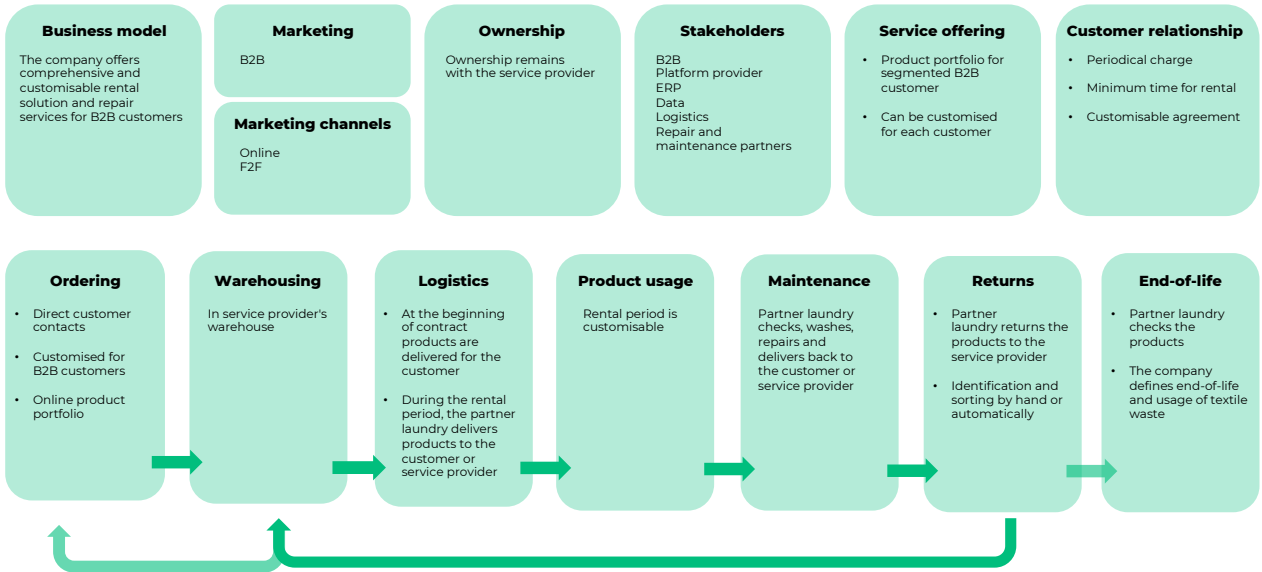


Figure 1. A demonstration of the B2B sector's Product-as-a-Service business model. Models can have several variables that vary according to operation and need. (Figure: Helena Kalliomäki, Mervi Koistinen)

disassembly of structures and the modification of products. Increasing modularity also brings versatility, allowing the garment to be used for a variety of purposes.

Product design must focus not only on structural solutions that support the circular economy, but also on the emotional and social needs of the end-user. Especially in producer ownership business models, where a product may have multiple users, it is important to design products that respond the consumer's requirements and desired usage and to consider how product design can be used to create added value in addition to sustainable solutions, e.g., in rental business models. The approach may involve not only

designing the product, but also developing a service concept solution. In order to innovate these integrated solutions, feedback is needed directly from the end-users of the products and service concepts.

The structure of the study

The variables of the new business models selected in this project were Product as a Service and Take-back-Reuse models. Those were further explored in a co-creation workshop with the research team and Telavalue business partners. In addition to the results of the workshop, findings from the PaaS pilots, Product as a Service Pilots project, where rental concepts were piloted and

explored during 2021-2022, were considered. (Heinonen & al. 2022, 17-18) The main objective of these rental pilots was to study the challenges, opportunities and added value of rental concepts for the service provider and the users of the product and service concept. As the pilot focused on the rental of clothing, the project also provided valuable insights into the product design requirements of rental concepts.

Three themes emerged from the project's workshops for companies and from the findings of the related PaaS Pilots project: **1) criteria for rentability, 2) feedback collection of the user experiences and 3) emotional aspects of a rental product.** All identified themes are also linked to product design: 1) what are the criteria for the functionality of the rental garment in general, 2) how does the information about the user's experience of wearing the garment reach the designer and 3) what are the social conventions of the rental product according to the user's experiences? To summarise the workshops, it can be argued that when looking at the variables of business models, it all comes back to the product. Business models are, therefore, also product-specific, and product categories differ considerably – for example, the requirements for hospital textiles are quite different from those for workwear. Not to mention the differences between casual clothing and workwear.

After the workshops, we interviewed four companies from the casual wear, workwear and childrenswear sectors. As the respondents represented the clothing rental experience, the issues to be discussed, which affect product design, were shaped on this basis. However, the interviews included a discussion on the possible activities of companies

in terms of product take-back and reuse and whether the requirements of this approach differed from those of the rental business from a product design point of view.

The interviews were conducted as semi-structured theme interviews. The interview questions followed the three themes defined through the workshops and earlier PaaS Pilots study. As sub-themes of the rentability criteria, we asked the companies about the life and use cycles of the products and about ways to extend the life cycle of the product, either through design or other activities. In addition, we asked companies for their perspective on what kind of product design solutions are required for rental concept garments. Some of the questions also addressed recyclability, modularity, standards required for garments and other factors affecting product design. The existence and ways of collecting user experience and feedback from companies were also asked. In this context, we also explored what user needs and experiences emerge from the feedback collected. In relation to social conventions, questions were asked about end-user and stakeholder attitudes to product wear and tear, among other things.

Theme 1 Criteria for rentability

The criteria for rentability highlight the importance of the product's lifespan. However, there is no universal numerical definition of the longevity of a garment, as the longevity of a product must always be considered in relation to its product category and its intended use. In addition to the product, companies also perceived the service life to be user-related and affected by, for example, how often and how the user washes and maintains the

garment. In the case of workwear for rent, the number of washings was also emphasised as a more relevant criterion in defining the product life cycle, as washing results in wear and tear on textiles. In terms of service life, products can have both active and passive periods while in the customer's possession, making washing cycles the most reliable measure of product life span. In the workwear sector, the importance of standards is also highlighted, as certain safety standards are valid for a certain period of time, and the company must guarantee that the products are not used for longer than this period.

According to the respondents, the criteria for product design for rental clothing are the same as for permanent collections for retail sale, and none of the companies interviewed had a clothing collection specifically designed for rent, whether it was an existing rental business or a pilot the company had. In the companies interviewed, the general principles of sustainable product design were emphasised: the use of durable materials and accessories, the choice of material according to the intended use, and attention to sizing, for example, in terms of product looseness, so that seams are not overly worn. The importance of modularity came up in one interview, but this was to be expected when it had to do with children's clothing.

Companies widely implemented the encouragement of repair and the emphasis on care instructions, both product-specific and through other brand communication. One B2C company had repair services through a repair partner. In one company case, there was a desire to offer such a service, but the cost and the provider's platform were perceived to make this difficult

and expensive to implement. One B2B company expressed the wish that the customers could repair the product themselves, but for them, this would not be the case for rental workwear. On the other hand, in a B2B company, there was no need for a repair service on behalf of the customer, and the customer itself was responsible and able to repair the products in-house.

Theme 2 Feedback collection of the user experiences

User feedback was collected to a varying extent by the companies, but its impact on product design was limited in each of the companies interviewed. End-user feedback was not perceived to be relevant when the buyer was someone other than the end-user - for example, in the workwear sector, the end-user does not usually make the final product decision. There was a consensus in the companies that feedback is always given when asked, but the consideration of it is constantly being balanced when it comes to final design choices. As a matter of principle, user feedback is taken into account in design by considering its importance, but the user feedback received was perceived as conflicting, which seemed to significantly contribute to its lack of use.

On the other hand, systematising the collection of user feedback was also a source of excitement for some: one respondent was eager to consider how useful it would be to get user feedback, especially for the rental garments. The feedback could then be implemented to design a garment that would be as durable as possible for the rental process. In some cases, collecting user feedback may also fall on the way. This is the case, for example,

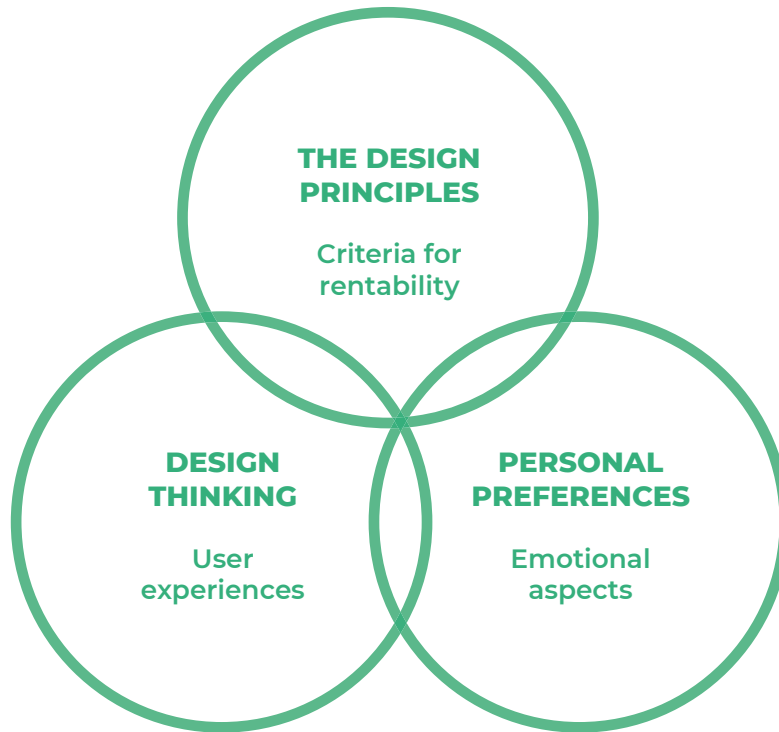


Figure 2. Themes emerged from the analysis of the company interviews. (Figure: Mervi Koistinen)

in a business model where the workwear company's customers are laundries or other entities that rent out the products. In this case, the laundry acts as a platform for the rental business, and user information is easily captured by the laundry without ever being fed back to the product development team.

Theme 3 Emotional aspects of a rental product

On this last theme, the workshops revealed that, in the case of workwear for rent, an employee may wish to have a previously worn

garment after a round of maintenance and laundry. This is rarely possible if the garments do not have any actual tags so that a particular garment can be returned to the same user after washing. For the end-user, the product may also be strongly associated with embodied experience and emotional aspects, so the availability of the same garment may be perceived as an important factor for job satisfaction, for example. A much-loved garment may feel softer on the skin than a newer garment, or it may be associated with other personal preferences.

Wear and tear is also a principal factor when considering the social impact of clothing. In some situations, a worn-looking garment can be a reputational disadvantage, but in others could it also contribute to communicating professionalism? For example, would a stain on a chef's apron undermine or even enhance the chef's credibility? However, in general, wear and tear on clothing is perceived as a socially negative thing and can, therefore, undermine brand image and reliability.

The interviews did not really reveal any narratives supporting the above hypothesis. On the other hand, it was perceived among respondents that emotional aspects on the rental system and its impact on product design is challenging to comment on now, due to the lack of user data and the short time limit for testing business models in the pilot phase. The respondents had mixed experiences regarding the end-user experience of rented clothing. There could be a general sceptical attitude among both the B2C and B2B end-users towards rental clothing, or at least a wish that the price of rented clothing should be lower than the price of new clothing. On the other hand, according to one of the respondents, "For a waiter, for example, it would not matter whether the garment was rented or owned. The user experience was expected to be the same regardless."

Visible wear and tear is also linked to product categories and the performance required of the product. In everyday dressing, the weariness of products and the acceptance of it is strongly linked to personal preferences. For parents, visibly repaired children's clothing can be a status issue, while on the other hand, wear and tear can cause shame, even though repairing products is currently trendy. For

workwear, the need for the garment to represent the employer's brand and to meet its requirements is highlighted. These requirements vary according to the sector: for example, in the rescue sector, workwear is intended to communicate absolute safety, and wear and tear, for example, on reflective parts of the product, does not support this objective.

An interesting idea that emerged from an interview with a workwear company was the possibility of classifying clothing according to the degree of wear: lower-rated clothing could serve well in more invisible jobs. This would allow the clothes to be used for longer.

Conclusions and the next steps in the study

As a conclusion, the output from the interviews with companies varied widely, both between companies and between product categories. On the other hand, the survey was of a small scale, and thus each company represented itself, and the results were not presented in a broader context.

In general, it became clear that the Product-as-a-Service, Take-Back-Reuse business models and their impact and requirements for product design would require longer-term monitoring. Some companies had an existing and original rental business, while others had only carried out tests or pilots over a brief period of time. The Take-Back-Reuse model is even more uncommon and needs further implementation and piloting on the market. Short-term activities are not yet analysed well enough to provide a complete picture of circular business models, especially where the aim is to extend the product life cycle by means of product design. If the life of a product is estimated in years,

for example 3–5 years, the monitoring period should be at least as long as the estimated life and even longer to get an overview of the entire process.

At a general level, businesses had a shared experience of organising rental activities: the rental service was perceived as a time-consuming manual process, that, according to one respondent, "would require its own logistics and staff". The functionality of the rental platform also emerged as a key element in the rental of everyday clothes, particularly in terms of a smooth customer experience. Based on the interviews, the business model where the laundry acts as a customer of a B2B company, and at the same time as a rental platform, proved to be the most viable model for renting clothes. The challenge in this model was in obtaining user feedback, as although the laundry was believed to be an interactive source of information, there was no process for the flow of information between the laundry and the company's product development team. To provide more relevant user information and requirements for product design in the clothing rental sector, research should be aimed at the laundry industry and study their operating models.

Further research is needed on product design and the requirements that impact it, whether it is a retail or re-use model in a circular economy. In particular, the utilisation of user data collection is a clear area for development in pushing companies' product design development towards circular economy. In this respect, the understanding and knowledge of user-oriented design thinking and the development of the design process is still limited in companies, based on the findings of this project.

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New perspectives for sustainable service housing for elderly citizens

Abstract

Europe is ageing, and it is one of the greatest challenges in almost all European countries. Europe must adapt to the challenges brought by ageing, because the ageing population must be offered a valuable and high-quality life. To solve the challenges, Europe needs to quickly act on many different levels. It is important to promote the health and well-being of the elderly and to create opportunities for social inclusion and an active life. We must ensure that the elderly have access to appropriate services and support networks.

Sustainable service housing for the elderly – the KEKO project, aimed to create an ecosystem in the Päijät-Häme region that would develop service housing for the elderly. The new Social Welfare Act was published during the project, which introduced communal housing for the elderly. With the new Social Welfare Act in mind, the KEKO project studied and developed service housing that would increase the wellbeing of the elderly. The KEKO project worked in close collaboration with students at the Institute of Design and Fine Arts. Students created concepts that service housing actors can utilise.

Keywords: ageing-friendly design, communal housing, service housing for elderly, digital services for elderly

Service housing for the elderly and new legislation

Finland and Europe are facing a time where the number of people over the age of 65 is increasing. When people are ageing, they most likely need more support from society, and that is why the demand for service housing for the elderly is increasing. The Sustainable Service Housing Ecosystem

– the KEKO project, studied and created new concepts for service housing. The main goal was to study things that will increase the well-being of the elderly as they move from their homes to service housing. The aim was also to create an ecosystem of actors who will develop the service housing in the Päijät-Häme region. (Heikkilä et al. 2023.)

The legislation of service housing in Finland was reformed at the beginning of the year 2023. The Social Welfare Act introduced communal housing. Communal housing is a service between home care and 24-hour service housing. Communal housing is a place where the elderly can live their life to the fullest but with all accessibility aspects considered and where all necessary services are near. Communal living aims to be a place where a person can live their life pleasantly even when their physical or sensory capabilities begin to deteriorate. (Olkkonen-Nikula 2023.)

Even though the KEKO project started before the new Social Welfare Act, and the actors in the project talked about and used the term service housing for the elderly instead of communal housing, all the actions were done according to this new legislation in mind.

Ruskorinne

The KEKO project started with the collaboration with Ruskorinne ry, a registered association, whose plan was to build a service housing unit in Hollola, near Lahti Centre. The main idea was to have a service housing



Figure 1. The ecosystem of the KEKO project. (Valkokari et al. 2020, 22, modified by Sini Roine and Siina Sipilä 2023)

unit that implements communal housing in the countryside but is still near the essential services. In the countryside, the seniors would have a place where they can be active and live near nature. They would have their own terrace houses, and on the premises there would be a larger building that has spaces to gather, spend free time and eat.

The idea of the collaboration with Ruskorinne was to give openings for the building plans that would be made a reality in the future. At the beginning of the project, it was thought that Ruskorinne could build a demonstration of one of these terrace houses, but after some setbacks, it was decided that the demonstration of one of the apartments would be built in the LAB University of Applied Sciences Lahti campus. Ruskorinne is a concept that was created during the project and the student work has given ideas also for Ruskorinne to develop the service housing. These student projects are available in the KEKO portfolio <https://kekohanke.myportfolio.com>.

Test apartment as a living laboratory and material library

The Institute of Design and Fine Arts have deep expertise in user-driven design, and the KEKO project wanted to create a testing laboratory where user tests can be held. The first idea was to create a virtual environment that would enable the modification of the apartment according to the user's needs. It became obvious that technological devices need to be updated as their development continues. This is why the KEKO project wanted to build a physical apartment that could be modified and where companies and organisations could bring their products and

services for tests. (Anttonen & Roine 2023.)

The finished apartment is approximately 46 square metres and has a separate bedroom and a terrace. The walls are made of modules, so it is possible to move the walls for example if someone like Ruskorinne, a service house builder, would like to test a smaller apartment and its functionality in the early stages of planning. (Anttonen & Roine 2023.) The physical space is more easily comprehended than a 3D model or a virtual reality because you sense the environment better.

These are examples of the tests that can be conducted in the test apartment:

- User experience tests, e.g., ergonomics, accessibility, use of technology, ergonomics of furniture and assembling furniture.
- Development of services, e.g., emergency care, home care
- Training and simulations, e.g., emergency care, home care, accessibility

These examples have been ideated during the project, but the testing facilities can be modified for the needs of the companies, for example, video shoots, etc.

The material library is a showroom of various materials and equipment related to housing. Physical material samples and models are available for students, designers and users to compare and select their favourites. The test apartment and material library are open to all companies in the Päijät-Häme region and other parties who are interested in service housing on a national scale. (Anttonen & Roine 2023.)



Picture 1. Test apartment on the LAB Lahti Campus (Meri Majlund 2023)

Available samples, e.g.:

- Various colour charts and models
- Wood samples
- Tile models
- Counter materials
- Flooring materials
- Fabric samples
- Carpet samples
- Coating materials
- Cardboard models
- Paper models

The test apartment, together with the material library and concepts created in the project and the information collected on service housing, will remain available for the companies, actors and students. The KEKO project hopes that the test apartment and material library will help further unite the region's service housing providers and strengthen the ecosystem after the end of the project. (Roine & Saarela 2023.) The test apartment and material library together form a superior design environment.



Picture 2. Material library (Sini Roine 2023)

Concepts and workshops

The KEKO project worked in close collaboration with lecturers at the Institute of Design and Fine Arts. The project gave briefs for students who studied and created concepts of the subject.

One of the most successful concepts was Senior-TV. The brief for the students was to create an Android TV app concept that would be an informational channel, activate inhabitants and promote communality in a service housing. The Android TV was chosen

as a platform because it was assumed that the elderly nowadays would more likely want to use the app on their TV than on a mobile phone because TV is a more familiar device. The aim was that concepts would promote security and help seniors use the app on their own. Also, the staff of the service housing needed to be considered so that the app wouldn't increase their workload. (Heikkilä & Tervo 2023.)

The Senior TV concepts were good examples of good design, and the KEKO project

team was pleased to see this level of results. The concepts took into account the needs of the target group. The concepts included texts that were easy to understand with large and contrasted fonts and illustrations were comprehensive and suitable for the environment. (Heikkilä & Tervo 2023.)

One of the actions that the KEKO project had planned was to create a concept of a feedback system for the service housing. The bachelor's thesis conducted for the KEKO project studied how to give feedback in service housing. The main goal was to design an easy-to-use application for the elderly to give feedback on living in service housing. The concept of an app took inspiration from social media channels that are widely used among the elderly. When the logic of use is like the familiar apps it is easier to get to know the app and it lowers the step to start using it. (Lepistö & Roine 2023.)

Service design concepts were also conducted for the KEKO project. Students studying for a bachelor's degree and master's degree were given a brief to develop service housing for the elderly. Bachelor's degree students studied service housing from the spatial service experience point of view, and master's degree students gazed to the year 2040 and thought about what the needs of the elderly in the future will be. All these concepts emphasised the wellbeing of the elderly. The spatial service experience studied how the common spaces in the service housing unit would work for the inhabitants, their relatives and friends, the neighbourhood and seniors who are not currently living in service housing (Haarnio & Viitanen 2022). The brief of service housing in the year 2040 produced ideas from different aspects. There

were concepts of service housing chains, where inhabitants could change their living environment for a certain period; a place that is similar to a youth centre; dissemination of service housing and finding the right place for the one who is looking for service housing in the future and a concept called forever village, where different generations can live and move from one life stage to another smoothly. (Roine 2023.)

Interior design architecture and furniture design students made concepts of 26-square-metres apartments that were planned to be in Ruskorinne. These concepts paid attention to accessibility and comfort. Students also made concepts of a communal kitchen, where inhabitants would be able to cook together if their own apartment wouldn't have a full-sized kitchen. The other communal spaces that were designed by students were the canteen, library and reception area. (Anttonen & Roine 2023.)

Students started with research that helped them understand the target groups. Some of them also visited service housing for the elderly, and they were given an opportunity to test an AgeMan suit which simulates the feel of being 75 or older (Roine 2022). The research increased their knowledge of the needs of elderly citizens and their empathy towards them. Because of this, these students produced excellent concepts for the needs of future communal housing and the rapidly growing number of ageing citizens in Europe.

All student projects with pictures and information about the authors are gathered in the KEKO project's portfolio, which is available at <https://kekohanke.myportfolio.com/>, also in English.



Malliasunto/ Test apartment

2023



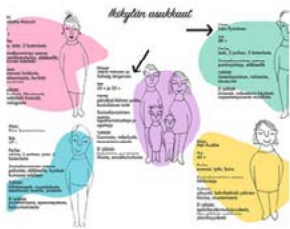
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2023



Materiaalikirjasto/material library

2023



Persoonat/Personas

2022



Palvelusuminen vuonna 2040/Service housing 2040

2021



Sisätilakonsepteja/Interior space concepts

2021



Ulkotilakonsepteja/Outdoor space concepts

2021



Tilallinen palvelukokemus/Spatial service experience

2021



Seniö TV/Senior TV

2023

New international projects on the way

The increasing number of elderly is not only a Finnish phenomenon. The same phenomenon is also occurring throughout Europe. This creates new needs for solutions for public and private service housing.

Development of the ecosystem that was started in the KEKO project will strengthen and grow in the future through the regional ecosystem's united efforts as well as new international projects and networking activities (Roine & Saarela 2023).

While the KEKO project was running, the Institute of Design and Fine Arts started to run a project called sUser - Introducing User-Driven Design and Agile Development Skills in the Case of Sustainable Service Housing in the Elderly. The key in this Erasmus + is to develop students' competencies and skills in the green sector. The Institute of Design and Fine Arts has project partners from three European countries: Austria, Netherlands and Serbia. All partners bring their unique expertise to the project. (Mäenpää 2023.)

While the sUser project is already running, the KEKO project has resulted in new contacts and preliminary collaboration opportunities. The Institute of Design and Fine Arts is discussing a new project plan with KEA - Copenhagen School of Design and Technology, on future solutions for service housing for the elderly. (Mäkilä & Saarela 2023.)

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From Farms to Eco-Socially-Sustainable Service Ecosystems – How Might We Do It with Service Design?

Abstract

Students from the LAB University of Applied Sciences Institute for Design, B.A. Service and Experience Design, asked themselves how we could use service design to help small family farms transform into eco-socially-sustainable service ecosystems. The task is certainly easier said than done. Service design was used to facilitate change by gathering understanding on the factors of expected value to be co-created by the service ecosystem and visualising the partnership needs involved in the process. The students carried out user research with 162 stakeholders, using as methods a questionnaire, interviews and co-design workshops, within the research, development and innovation project Eden 2.0. The Eden 2.0 project was carried out by LAB University of Applied Sciences in cooperation with the Niipala family farm from the Finnish municipality of Hollola, during autumn 2022 - spring 2023. The project was funded by AKKE, the national fund for sustainable regional growth and vitality.

Keywords: service design, service ecosystem. Transformation design, sustainability, farms

The Context: Transforming Family Farms in Finland

There are almost 45,000 agricultural and horticultural enterprises in Finland (Luonnonvarakeskus 2022). This represents about 7% of the registered enterprises in Finland (Patentti- ja rekisterihallitus 2023). Of these farms, 85% are family farms. While the vast majority of agricultural and horticultural

enterprises remain crop and livestock farms (Luonnonvarakeskus 2022), they are under pressure to diversify their business models and services in order to remain profitable. At the same time, the demands of the fast-changing, unpredictable world around agriculture are forcing farm owners to reflect on the role of farms in the global struggle for eco-social sustainability. Farms, like other businesses,

need to consider how they can operate without compromising the ability of current and future generations to meet their needs. Globally, it is recognised that agriculture contributes to the degradation of the resources on which it depends through damage to the land on which farms stand. Farm diversification is complex systems change.

In the Finnish municipality of Hollola, with a population of 22,000, change is already underway at the Niipala family farm. Niipala Farm describes itself as "a community-based organic farm that produces vegetables and tourism services and provides opportunities for rural businesses" (Niipalan tila 2023). The farm aims to "provide people-oriented and sustainable rural services that contribute to the well-being of nature and people". According to Mikko Niipala, the third-generation owner of the farm, the farm's ideology is based on eco-social sustainability. The eco-social sustainability approach includes the idea of people's interconnectedness with each other and with the nature around them. However, growing a profitable, small-scale, family-owned, eco-socially sustainable farm is easier said than done. Fortunately, Niipala Farm is not alone.

International policy supports Niipala's idea of transforming the farm into an environmentally and socially sustainable business. The European Commission's Farm to Fork Strategy encourages European farms to find ways to "have a neutral or positive impact on the environment; contribute to mitigating climate change and adapting to its impacts; reverse the loss of biodiversity; ensure food security, nutrition and public health by ensuring that everyone has access to sufficient, safe, nutritious and sustainable



Picture 1: The Farm to Fork Strategy. (European Commission 2023)

food; and maintain food affordability while generating fairer economic returns, fostering the competitiveness of the EU supply sector and promoting fair trade". (European Commission 2023.) Picture 1 describes the Farm to Fork Strategy.

Setting the Design Problem

To frame Niipala's quest for business diversification as a design problem, the question is as follows: how might we transform small family farms into eco-socially sustainable service ecosystems? The Institute of Design at LAB University of Applied Sciences addressed this question through the research, development and innovation (RDI) project Eden 2.0 - Rural Economic Ecosystem of the Future, which was carried out in cooperation with Niipala

Farm from October 2022 to May 2023. The project was funded by the Finnish government's fund for sustainable regional growth and vitality, AKKE. The aim was to use service design to explore the foundations of an economic ecosystem that would enable the building of a vibrant community to serve the needs of consumers and entrepreneurs in the rural environment of Hollola.

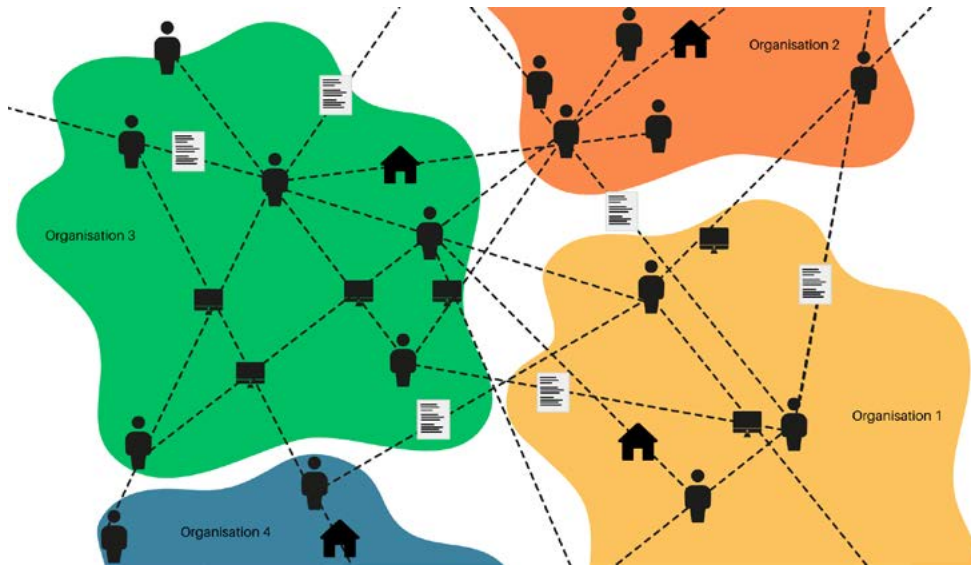
The transformation from a farm to a diversified service provider is a classic example of servitisation, a process in which a company transforms from a product-centric to a service-centric business model and logic. This also involves a cultural change from a transaction-centred production culture to a relationship-centred service culture (Vargo & Lusch 2004). In the case of Niipala Farm, the servitisation process also involves a shift from an individual service mindset to a service ecosystem mindset.

Service refers to an interaction in which help is formed. In a service interaction, something useful, commonly referred to as value, is co-created between two or more interaction parties. The main interaction parties are a customer (or someone representing the customer) and a staff member of the service provider. Often, the interaction happens through artefacts, such as forms, physical spaces, websites, chatbots, apps, service robots, etc. These are commonly called touchpoints, which work as interaction connectors between the customer (or someone representing the customer) and the service provider. The value co-created in the interaction can be, for example, knowledge, information or positive emotions, such as surprise, relief or joy.

Service ecosystems can, in turn, be defined as “relatively self-contained,

self-regulating systems of resource-integrating actors linked by shared institutional arrangements and mutual value creation through service exchange” (Lusch & Vargo, 2014, 161). A service ecosystem is always composed of multiple parts, the connections between them, and the qualities of these parts and connections. As an output, a service ecosystem produces value that is co-created by all its actors and artifacts that support the interaction between them. All people who become part of the service ecosystem are also its actors. Picture 2 below illustrates how a service ecosystem is formed.

Like individual services, service ecosystems are made up of different touchpoints. Unlike individual services, in service ecosystems, the touchpoints are spread across several different organisations. In practice, a service ecosystem is a network of people working in different organisations that form the service ecosystem, their customers and other stakeholders, and the artefacts (digital and physical) that these people use. For example, a health service ecosystem may have as touchpoints people and physical and digital artefacts, not all of which are introduced into the ecosystem by the same service provider. The customer service agent who answers the phone may work for a company that specialises in telephone-based customer service; the receptionist in the lobby of the health centre may have a contract with the main health service provider; the social robot that greets people in the lobby may be rented from a company that develops service robotics; the doctor who sees the patient may work for a private subcontractor; and the digital forms, chatbots and apps may be bought as a service from a local startup. Meanwhile,



Picture 2: The Form of a Service Ecosystem. (Milla Mäkinen 2023, adopted by Milla Mäkinen)

the post office takes care of the paper mail sent by the health service to the customer or patient. To the customer, the service may look like an all-in-one individual health service, but in reality, it is created by a complex network of different actors.

As touchpoints spread across different service providers, so does the customer journey, the experience and customer reviews. The relationships between touchpoints are no longer the concern of just one company, but of the entire service ecosystem. Local legislators and policy makers can also become active parts of the ecosystem. Service ecosystems can be divided into their macro, meso and micro levels. At the macro level, decision-makers influence the value created by the service ecosystem through legislative and policy decisions on issues such as land use, urban planning and project funding.

Shared institutional arrangements are an important feature of service ecosystems. They can be seen as the "glue" of service ecosystems, holding together the value co-creation and potentially leading to innovation (Vink et al. 2018). Vink, Edvardsson, Wetter-Edman and Tronvoll refer to the assumptions and beliefs of actors in a service ecosystem about how something works and how to act based on this understanding as 'mental models'. These mental models form the cognitive basis of institutional arrangements. Service design can shape the mental models of these actors by creating a sense of surprise, broadening perspectives, and providing an opportunity to embody alternatives. Diversity among participants, an open and safe atmosphere, the use of visual and tangible artefacts and methods, such as role-playing and experimentation, accompanied by skilled facilitation in a

service design process can enhance these. (Vink et al. 2018.) In other words, even small acts of service design can potentially change the mental models of actors in the service ecosystem and thus help to glue the service ecosystem together.

Indeed, it is characteristic of systems that very small changes can become much larger than their size. A carefully designed, small-scale co-creation intervention has the potential to drive change within a service ecosystem. However, it is not a given, nor can it be controlled. The changes may also be unpredictable. Design can be used as a tool to make the very abstract concept of a service ecosystem tangible and understandable. The first step in adopting a service ecosystem mindset is to understand and map the ecosystem.

Service Design Students' Insights on the Design Problem

Transformative Service Ecosystem Design blends the ideas of both Service Ecosystem Design and Transformation Design. The Design Council (Burns et al. 2006) defined transformation design already in 2006 as "a human-centered, interdisciplinary process that seeks to create desirable and sustainable changes in the behavior and form of individuals, systems and organizations". It is a 'multi-stage' and 'iterative' process in which design principles are applied to large and complex systems. Transformation design can be described by six characteristics: 1. defining and redefining the design problem, 2. facilitating multidisciplinary collaboration, 3. using participatory design methods, 4. building capacity (not solutions), 5. shaping behaviour by applying systems thinking and 6. helping to create fundamental change. Thus, a key

aspect related to the design of transformative service ecosystems is the understanding of systems and complexity. Essi Kuure emphasises that designers facilitating co-design processes must not only acknowledge complexity, but embrace it (Kuure 2020, 4). Another key to the process is to build capacity and shape behaviour so that shared institutional arrangements can be created. Niipala Farm's service diversification project was an excellent case to present to service design students. Two groups of B.A. students from LAB University of Applied Sciences worked on the design problem with Niipala Farm from autumn 2022 until spring 2023.

Understanding and mapping a service ecosystem requires the use of an ethnographic approach and design methods. The methods used by the students in the Eden 2.0 project included field visits and observation at Niipala Farm, benchmarking, documentary analysis, netnography and Facebook surveys, semi-structured interviews and co-design workshops. According to Kuure (2020, 108), co-design workshops can be places where "dreams, hopes and ideas for and about the future can exist before they are implemented and applied in the real world". Co-design can facilitate constructive interaction between people and lead to collective creativity and learning (Sanders & Stappers 2008, Hakio 2023). It can also contribute to the creation of shared institutional arrangements within a service ecosystem, as seen above. Therefore, co-design workshops were seen as an important tool for the project. Participants in the student projects included the farm owner, local small-scale entrepreneurs and potential and current customers of Niipala Farm. All participants were potential or current actors

of the service ecosystem related to the transformation process of the Niipala family farm.

First, the students identified the key actors in the ecosystem. These include the farm owner, local decision-makers, local small businesses and supporting businesses, the citizens of Hollola and potential customers from other regions of Finland, and the natural environment around the farm. In fact, in service design projects trying to promote eco-social sustainability, it is crucial to include the natural environment as one of the most important stakeholders in the service ecosystem.

One of the students' insights, based on a benchmarking of 22 different agricultural enterprises in Finland, was that it is relatively easy to get local small producers committed to a local, farm-initiated, eco-socially sustainable service ecosystem, while it remains a great challenge to get committed customers to become part of it (Hautamäki et al. 2022). This insight echoes the research findings on the transition to a circular economy, where it has been recognised that while customers are committed to the value base of eco-social sustainability and services that reflect this, they may not be willing to change their consumption patterns just because of these values.

The first group of students looked more closely at community gardening and short-term cottage rental as potential new services offered by Niipala Farm. As the benchmarking had suggested, many potential customers were supportive of the eco-socially sustainable value base of the farm but were not ready to become part of the service ecosystem. The potential customers defined as important value factors of the service ecosystem an increased sense of belonging to an active

and caring community, the possibility to live an ecological, healthy and self-sufficient life, the therapeutic impacts of the surrounding nature and gardening, the opportunity to combine work and leisure while staying on the farm and to use the farm facilities and services all year round. The services expected from Niipala Farm included a learning centre providing events, courses and workshops on sustainable, healthy, self-sufficient and ecological lifestyles; human resources-sharing services (such as a shared caretaker, cleaner, gardener and cook); tool-sharing services; vehicle-sharing services (car-sharing, bicycle-sharing); circular waste and upcycling services; and environmentally friendly basic services (laundry services; food truck services; a shop; and a café and a restaurant serving organic and local food). Potential customers also wished for more activities for families with children, and activities with animals. Communication was seen as important. The suggested communication channels included WhatsApp and Facebook. (Hautamäki et al. 2022.)

The students' research suggested that Niipala Farm could offer three different memberships to its end customers. The first membership option could offer the cheapest price for those looking for simple service content. The package includes only the essential features, plus the option to rent or buy a garden and a cottage on the farm premises. The second membership option could offer reasonable basic services (such as tool sharing and learning centre services). The package lacks the most advanced features, but the customer could easily upgrade to a more comprehensive service package if they felt the need. The third option would offer a

comprehensive package including gardening advice, discounts on learning centre events and courses, the possibility of renting a stall for harvesting, a discount on plot hire and many other benefits. The last membership option is the active supporter, an occasional tourist, student group or simply curious person who wants to support local ecological food production and contribute through this to the fight against climate change. These members are welcome to participate sporadically in events and activities on the farm, without any commitment. (Hautamäki et al. 2022.) The user research and ideation of the students shows that diversifying Niipala Farm's business model into a service ecosystem-based business model would clearly require a significant effort to diversify services, in addition to a shift

in the management model from managing a single unit business to coordinating a complex business ecosystem. Picture 3 summarises the value map of potential customers based on the conclusions of the user research of the students.

The second group of students focused on the small-scale entrepreneurs who are, or could potentially be, actors in the service ecosystem. Some of the key touchpoints of the service ecosystem in the making that were discovered included the Niipala Farm website, the Niipala Farm social media (Facebook and Instagram accounts), the farmer's personal phone number and email address, the farm facilities, and the existing partners and their facilities. In terms of creating a service ecosystem, some critical but missing touch



Picture 3: Value Map of Potential Customers. (Milla Mäkinen, based on Hautamäki et al. 2023)

points were also identified. These included a partnership agreement between the entrepreneurs becoming service ecosystem actors and a common, interactive calendar for the entrepreneurial service ecosystem actors. As a small farm, Niipala has limited human resources. In this context, the farm owner becomes the main or only touchpoint between the farm and the other actors of the entrepreneurial ecosystem. This was identified as an obstacle to the process of building the service ecosystem and as the main risk to the value co-creation process of the service ecosystem. (Grahn et al. 2023.) The transformation from a product-oriented enterprise to a service ecosystem requires more than one person, especially in the context of small farms, where just running the farm itself takes up all the owner's time. This can be a vicious circle for many stakeholders who want to diversify their business model.

Indeed, farm diversification requires time, new skills and co-creation. According to Mengyi Lin, Fu-Yuan Li and Zhe Ji (2020), transforming a traditional farm into a rural tourism service, for example, means diversifying the farm's service offering into travel planning, logistics and transport, accommodation, food and beverage, and various types of leisure services. In Finland, for example, service diversification of farms has meant new services, such as welfare and care services, energy production, food processing, equine activities, mechanical contracting and fur farming (MTK 2023). In the context of the transformation to leisure farms, Lin, Li and Ji point out that the transformation also creates a need for farm owners to develop new business skills and business management structures in order to remain competitive in

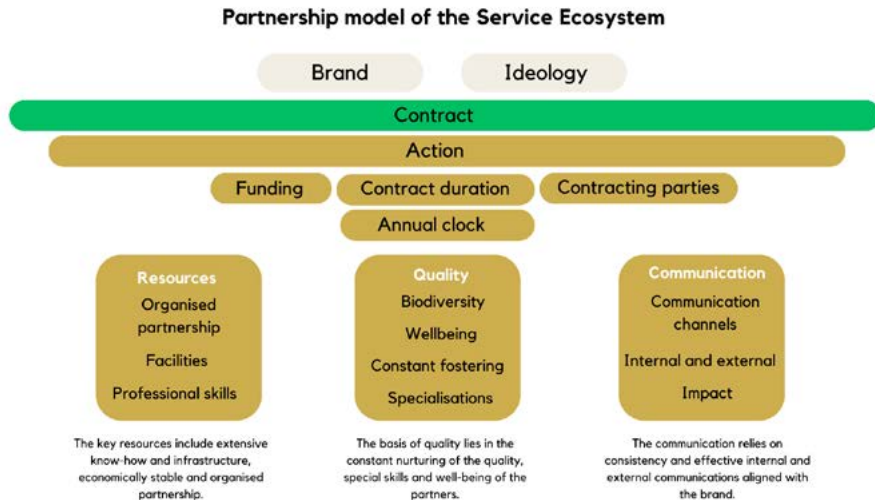
the markets for the new services (Lin et al. 2020). Transformation requires "collaboration and combination of local and expert knowledge, the ability to build and extract value from networks, and personal motivation and adaptation to achieve business goals" (Lin et al. 2020). Research by TTS, an independent Finnish company that aims to improve economic efficiency and work safety, indicates that the main internal barriers to diversifying agricultural productivity in Finland include factors related to management and cooperation skills (Lätti & Tuure 2019). In other words, in the context of the servitisation of farms, a lot rests on the shoulders of the farm owner, who therefore cannot manage on his own. The students in the LAB project pointed out during the Eden 2.0 project that the most critical resource needed in the transformation from a traditional farm to a service ecosystem is a project coordinator or manager who is in charge of the transformation process. The farm owner simply does not have the time for this, as the traditional farm business must be run alongside the transformation.

As another concrete output of the service ecosystem design process, the students created a partnership model for Niipala Farm, which defines the minimum requirements for the shared institutional arrangements and value co-creation process of the service ecosystem. The basis of the partnership model is a shared idea of the brand and ideology of the service ecosystem. Together, they form the shared value base of the service ecosystem, which is the core that holds the ecosystem together. In practice, the service ecosystem becomes real through a partnership agreement, which is the critical touch point of the ecosystem from the point of view of the

entrepreneurs who become part of it. The partnership agreement formalises the cooperation between the entrepreneurial actors and defines the arrangements for the shared economy that is formed within the ecosystem. The key value factors of the ecosystem for its entrepreneurial parts identified in the co-design process include shared resources (how the ecosystem is organised in practice and how shared facilities and knowledge are shared within the service ecosystem), shared definition of quality (eco-social sustainability, systemic maintenance and specific know-how of the partners) and shared marketing and communication (shared internal and external communication, communication channels and impact). (Grahn et al. 2023.) The student partnership model is described in Picture 4 below.

A Service Design Nudge towards Transformation?

Service design is a useful approach for making complex, abstract service realities visible and thus more understandable and communicable. As the example shows, service design can be used to identify the critical value drivers of service ecosystem actors. It can also identify the bottlenecks on the way to transforming small family farms into ecologically and socially sustainable service ecosystems. As the experience of the B.A. students at LAB University of Applied Sciences has shown, small co-creation interventions can nudge large transformations. It remains to be seen whether Niipala Farm will take its place among the pioneers of eco-social farm ecosystem creation in Finland. The groundwork has been laid.



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Digital & Sustainable Fashion Showroom summarises the state of digitalisation in the Fashion sector

Abstract

Digitalisation is driving the fashion industry into transformation, and companies must adapt to the change. Consumer behaviour is constantly changing, and the opportunities offered by technology and digitalisation are bringing their own twists to the future of clothing consumption. In the future, consumers will be able to have personalised shopping experiences, to wear digital fashion and to buy digital clothes for their avatars in the Metaverse. The potential of digitalisation is almost limitless; but on the other hand, the threats it brings are not entirely avoidable either.

In the project Digital & Sustainable Fashion Showroom, the state of the fashion industry's digitalisation has been researched by reviews, company cases and finally, creating the concept of a virtual showroom. This article dives into the results of the two-year-long project ending in August 2023.

Keywords: Digitalisation, digital fashion, fashion industry, digital strategy

The current state of the digitalisation in the fashion sector

In Digital & Sustainable Fashion Showroom, the scoping review of the state of the fashion sector's digitalisation was published in May 2023. The publication, titled *E-commerce growth, virtual fitting, or a flying start to the Metaverse? Perspectives on the current state of digitalisation in the fashion industry*, summarises the current state of Finnish fashion and clothing companies in relation to global

digitalisation developments. (Ruokamo 2023)

There were also three Design Sprints arranged for the selected companies in Spring 2022, facilitated by the software and application development company Kuuki. The first step of the Design Sprint concept is an overview of the company's current business. By looking at the current state and the future visions, the second step is to outline the future target. The next step is to map the actions that need to happen to achieve the

defined goal. Then a problem or the possibility will be identified and selected, and a solution is developed. Finally, the solution is tested by an external test group. All the arranged Design Sprints followed this path with very different outcomes. Interestingly still, all the sprints were coping within the similar bigger theme: customer engagement and customer experience.

Next, we will dive into the highlights of the publication and present the company case concepts created during the project:

Change in consumption

Global clothing retailing is the largest sector of e-commerce. We have been witnessing the shift of fashion sales to online for a few years now, but the pandemic completed the online shopping boom (Suomen Tekstiili ja Muoti 2021a). People's need for ownership is expected to change. In the future, consumers will seek access over ownership, meaning that instead of owning large quantities, the focus will be on fulfilling consumer desires. (Dexigner 2019)

Personalisation of the shopping experience is becoming the future. This means, for example, personalised product recommendations, tailored marketing, and tailored search results to match customer shopping interests. Personalised marketing strategy will not only increase customer satisfaction, but also boost brand loyalty, consumer engagement and overall marketing effectiveness. Personalised pricing is speculated to be one answer to the problem of online shopping return ratio: the less you return, the cheaper you can buy. (Fashion Finland 2022) Personalisation can work as a competitive advantage too.

Company case for improving competitiveness in e-commerce

Consumers have the right to receive professional service also online, so their choices and purchasing decisions are accurately targeted. The importance of product information is highlighted in online shopping from a few different perspectives:

- How is the customer served in the best feasible way to find the right size or fit?
- What kind of sustainability information is available for each product?
- How is the price-quality ratio of a product justified in the context of increasing competition in e-commerce?

Company case A had the following starting points: increasing online sales, highlighting customer experience and customer service, and figuring out digital solutions and developing tools for justifying product price and quality in the online store in relation to the e-commerce competitors. Communicating and justifying the quality and price of the product was selected as the development target to be solved. In this case, a lifetime calculator was developed to justify the longevity and quality of the product as a purchase criterion. The calculator explains the quality and price in terms of cost per use to extend the lifetime of the product and affect consumption habits.

Testing the calculator with test customers confirmed the changed attitudes towards consumption. Testers clearly understood the importance of their own choices in terms of the price per use and their impact on emissions. The possibility to use the counter was perceived as a brand reinforcement and created a positive image of quality. Some test



Picture 1: Company case A refined and implemented the lifetime calculator in their online shop. This calculator, called impact scale, expresses the product cost per use. The aim is to validate the price in relation to quality that enables longer life for a garment compared to low-quality clothing. Screenshot from company webstore.

customers wondered whether it was worth buying new clothes if there was no real need, because the calculator also showed the emissions from the manufacturing process.

Company A's feedback:

“A positive and opportunity-generating idea for your business. For further development, data on emissions and assumptions on the frequency of use and expected lifetime by product and product group are needed. From a sustainability business point of view, it should be tested whether the calculator improves conversion and/or reduces the return rate.”

Immersive experiences as a high value in branding

Just as the fashion industry was beginning to recover from the turmoil of the Covid-19 pandemic, some of the signs of recovery in the fashion industry faded as 2022 progressed. Inflation and geopolitical tensions are expected to significantly weaken the fashion trade. In a difficult economic situation, brands will have to work hard to remain attractive to consumers. (Amed et al. 2022)

Changing consumer behaviour emphasises experiential shopping - the fashion industry of the future will increasingly sell experiences. One factor of attractiveness will be immersivity that can be created in simple

ways - through XR (Extended Reality), for example. Extended Reality includes Virtual Reality (VR), Augmented Reality (AR), haptic elements, holograms and an increasing number of sensory augmenting tools. By enhancing the immersive experience, a more intuitive relationship between reality and the virtual world can be achieved. (Hännikäinen 2022)

Company case for improving brand image and commitment to the brand

Company B wanted to develop and strengthen the brand's sense of community by communicating the brand story and values to its core customers. One of the main questions was: how can you store sentimental value in a rental garment? Only the utility value is seen, which might reduce the value of the experience.

The development focus was to strengthen the sense of community through a digital solution, and the result of the collaboration was a digital closed map application, where brand customers and product users can add a photo of themselves wearing the brand's clothing and other content using location tagging.

Immersive experiences can be one way to engage customers to a brand. Experiences can also be built around products through social solutions, apps and events: for example, a social image library maintained by the brand's customers and clothing users.

Company B's feedback:

"I think we succeeded in creating a brilliant concept of building a global, interactive brand community. I plan to implement this tool into the company's operations in the future."

In the future, customers will be seen as active actors and influencers, instead of passive consumers, seeking added value and a sense of meaningfulness through, for example, community. The test customers felt that the map application enhanced their sense of community and provided added value, as well as interest and engagement with the brand. Test customers commented:

"The map app increases the sense of community between users and clothing owners. Someone from NYC posted a shot of the same garment that I have."

"This would certainly work in combination with Instagram, if I'm considering a garment, I'd like to see it on a person, in different environments, etc. Then I can decide if I want to identify with the brand. It's nice to see different models and bodies, not just product shots on professional models."

From a commercial point of view, the map application should also be developed with easy access to online shopping, as commented by test customers:

"Using the app makes people more willing to buy when they see interesting shots and products."

Customer experience is at the heart of digital environments

For growth, brands are likely to need to diversify their channel range, get to know their customers better and find new ways to reach them. (Fashion Finland 2022) Omni-channel offers customers an integrated shopping

experience and allows them to shop in the way that suits them best, with a seamless shopping experience. Today's customers expect brands and retailers to integrate digital features with physical services, such as the ability to pick up or return e-commerce orders in-store. Innovative store formats are essential in the future. (Amed et al. 2022, 72)

Company case to improve internal operations and the engagement of a disappointed customer

Company C's starting point was to improve the customer experience in its online store, where problems include product matching, customer and seller communication through multiple channels, and efficient and customer-friendly handling of complaints. The development of the complaints process was chosen as a development target, and the result of the collaboration was a digital automated complaints form.

As technologies evolve, they can be used to improve the customer experience and enhance the entire retail lifecycle. A seamless customer experience can also be built around the different operations of a business. What does a seamless customer experience in the reclaim process look like?

For example, as a customer, you make a reclaim at home or in the brand's store via a smart and automated complaint form. Through the app, you will receive direct instructions on how to move the complaint process forward: return, replace or send the product for repair. The service is first class, seamless, and despite the unpleasant experience of a need to make a complaint in the first place, you will continue to remain the customer of a company that has served you well.

The development of the complaints process and product return practices is also strongly seen from a sustainability perspective. When sufficient and relevant data on the product being complained about is available, the product is primarily redirected for repair, instead of automatically sending the customer a new product to replace it. This extends the life cycle of the product and reduces post-consumer waste. The product can be covered by a customer guarantee of performance, whereby the manufacturer and / or reseller of the product is effectively responsible for the repair and maintenance of the product. The complaints process developed will also provide valuable information for the design of more sustainable products, so that potential sustainability problems identified in use can be eliminated already at the designer's table.

Company C's feedback:

"After a couple of years as a micro company, we're getting to the point where we're not such a small company anymore. As you need to do things bigger, better and faster, automation and a good user interface will certainly be needed in the future. Such so-called invisible functions will become increasingly common in our company's activities in the future. Through this kind of activity, sales will eventually increase; because as it is a premium product, customer service cannot be like in a larger market. In our company, the customer must be able to reach a person and must receive answers quickly. This is not what the customer expects in a larger store, but in the case of premium products, this is more important."

The time-consuming complaints process for businesses will be streamlined: complaints will be directed into a single channel and unnecessary complaints will be eliminated. Everyone wins when implementing the developed tool in business: the entrepreneur's business becomes more efficient, sustainable efforts are enhanced, and the customer is satisfied with a smooth process – and will remain a customer.

Digital strategy is the cornerstone of business resilience

The fashion industry needs to go digital across its entire operations. This will affect every step of the value chain, from design to delivery and sales. A holistic digital transformation is the most effective way to address the key priorities for fashion businesses in the coming years. (Hämmerle et al. 2020) The digitalisation of the value chain will have wide-ranging benefits for both the sustainability efforts of the company and the marketing and sales of its products. For example, once a product has been digitally modelled, it is then easy to scale up, e.g., to different showrooms – only in digital form. This saves resources significantly and allows the company to sell its product in a digital format in the future. (Murphy 2022)

Also, with the focus on customer centricity at the heart of design, digital technology helps to bring the consumer closer to the design professional. With the help of technology, designers have access to data to support their design choices. (Hämmerle et al. 2020)

Digitalisation has a major impact on ensuring transparency all the way from the producer to the customer. Transparency in global textile and clothing supply chains can be achieved, for example, through blockchain



Picture 2. Design Sprint was the method used in working together with Kuuki and company C for creating digital solutions to help the company's everyday operations in customer complaints.
Photo: Annariina Ruokamo

technology. A key feature of blockchains is that trade or contracts are documented in multiple independent locations, making it impossible to change or falsify information afterwards in an undetectable way. (Rahkola 2019, 5)

For example, with NFT, information about the previous owner of a digital garment and where it has been worn travels with the garment. The NFT is a digital certificate of authenticity, where the owner of the digital product is identified on a blockchain. (Suomen Tekstiili ja Muoti 2021b)

The steps to digitalisation

Where does your business stand?

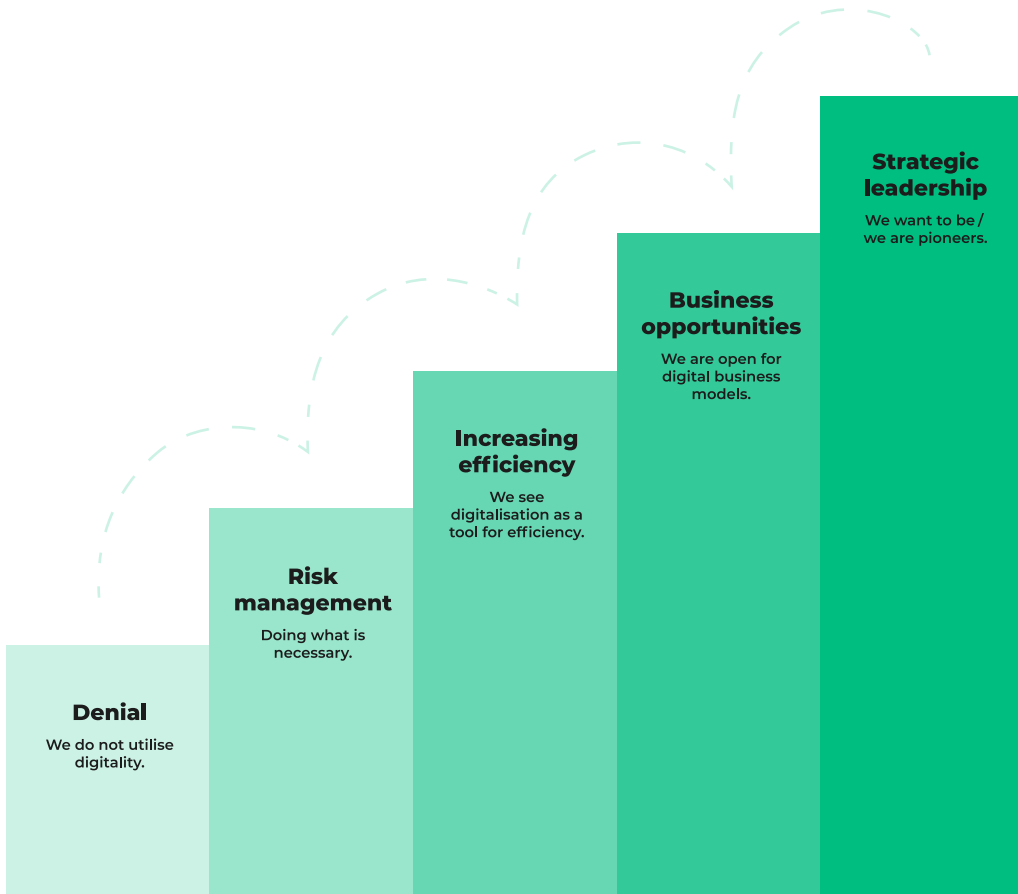


Figure 3: The steps to digitalisation. Companies have different starting points and statuses to approach digital possibilities. (Figure: Ruokamo 2023)

NFT allows the creation of digital twins, which would make it easier to trace the life cycle of a garment. (Murphy 2022) In clothing, a digital twin is a digital version of a physical garment.

Visions for the future in digital fashion

As digitalisation goes much deeper than just e-commerce, new business models arise. In a rapidly changing global environment, digital and virtual opportunities are helping businesses to transform towards more agile and sustainable operations.

The metaverse will be a key arena for future trading trends. In late 2021, Facebook changed its name to Meta. Meta's vision is to build the metaverse, a seamless fusion of digital and real life, with virtual reality tools at its core. (Fashion Finland 2022) The shift from product-centric to experience-centric shopping is setting the stage for the growth of digital fashion. Digital clothing is foreseen to bring new opportunities for Generation Z and millennials to experience a sense of novelty. The metaverse will provide a new marketplace for digital goods.

For example, digital fashion is expected to be transferred to user-generated avatars on various social media platforms. The earning logic of digital clothing is validated by the fact that a company can create a single garment and reproduce it for sale repeatedly. This business model is called direct-to-avatar (D2A). (McDowell 2022)

The metaverse is predicted to take years, or even decades, to become a reality. However, it can also be faster than predicted. (Fashion Finland 2022) While it is important for companies to be aware of these developments, the metaverse should not be a priority

for small companies at this time. Small companies can first follow what larger players are doing and in which direction the phenomena are developing. (Muukkonen 2022)

The future threats – Who manages the data?

At the heart of the digital economy is who controls the data, technologies and platforms, how secure they are and who decides what content is or is not shown to us. Also, as companies become increasingly vulnerable to cyber-attacks and misuse of data, they must therefore manage their cybersecurity. (Suomen Tekstiili ja Muoti 2022)

In the rush to digital transition, the industry needs to pay particular attention to the environmental impact it generates. Emissions from devices, the Internet and supporting systems are predicted to double by 2025. But information and communication technologies (ICT) can also help mitigate climate change, including using smart systems to make industrial processes more efficient. (Aalto-yliopisto 2021)

Digital fashion creates opportunities for the increasing speed triggered by fast and ultra-fast fashion. What is preventing the emergence of digital fast fashion and how do we ensure that digital and technological opportunities are primarily harnessed to promote sustainable business models? (Ruokamo 2023)

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From hair waste to oil-spill-response products through design

Abstract

Hair fibre is a material that has been treated as waste. However, it contains properties that are difficult to replicate in synthetic materials, and it can be used for many purposes. This article presents the use of hair fibres in product development. The Hiukka and the Hiukka 2.0 projects developed new innovative solutions for stormwater management, oil spill response and growth mediums. The article focuses on the development of oil-spill-response products and multidisciplinary cooperation, resource wisdom and the promotion of circular economy through design.

Keywords: Waste reduction, Replacing fossil materials with organic fibres, Oil spill response, Resource resilience.

Utilisation of hair waste in product development at LAB University of Applied Sciences

The upcycling of hair fibres into a valuable material with special properties started in Lahti, Finland, 2021 by LAB University of Applied Sciences and the Hiukka project. The starting phase of the project was one of the activities during the European Green Capital Year and was funded by the city of Lahti.

At the beginning of the project, the possibilities of recycling organic fibres into new material were mapped, and a felting machine suitable for hair fibres was acquired from the United States. The felting machine had a

crucial role for the development, and it was provided by the Matter of Trust organisation, an ecological public charity established in 1998 that has been developing a network for oil-spill-response materials and has satellites worldwide. While the project has touched on a wide range of uses for hair fibre, the development of oil spill response products has been at the heart of LAB's development work during the project. (Hiukka Hyvä 2023, Matter of Trust 2023)

Miila Hyökki, artist and hairdressing entrepreneur, was the initiator of the use of hair fibre in Finland. Hyökki and her company, Kuutio Galleria, have been an important

partner in LAB's journey in the development towards resource-wise products that replace fossil materials. To create the new material out of hair, the starting point for the development was to establish and design a collecting system. Thus, the Hiukka project, together with Miila Hyökki and Kuutio Galleria, started networking with hair salons across Finland to collect hair waste for upscaling the material into new material and products.

In the first phase, during the European Green Capital Year 2021, alongside the development of the material, the first prototypes of oil-spill-response products were designed, and the material's performance in stormwater management was also tested. (Hiukka Hyvä 2023)

The first Hiukka project received good results, and new possibilities for utilising hair fibres were recognised. Accordingly, the project was followed up in 2022 with the Hiukka 2.0 project, funded by The European Regional Development Fund (ERDF). The implementation period of the Hiukka 2.0 project was 1.9.2021 - 31.8.2023.

The Hiukka 2.0 project explored the potential of organic fibres to replace plastic-based materials. During the project, research, product development, product and material testing were carried out on hair and animal hair materials and other organic fibres. The project helped improve the understanding and knowledge of circular economy business in the region through training pilots. Utilising fractions currently treated as waste, demonstrating their good properties, and testing and further processing them according to circular economy principles created new skills and a basis for a new business sector. Material and product development focused on three

different areas, each tested in collaboration with the municipal and business sectors. The project has demonstrated that products made from organic fibres can replace plastic products in water treatment, growth mediums and oil spill response. (LAB 2023)

Under-exploited valuable material

Although hair has great properties, it has been under-utilised and treated as waste. There has been a lack of information, and attitudes towards using human material have been negative. The use and barriers to the use of hair materials were examined in the ISPIM Innovation Conference scientific paper "Obstacles and beliefs in using hair for design", which was written in a multidisciplinary collaboration with chief specialists from the faculties of Design and Fine Arts and Business at LAB. LAB University of Applied Sciences' projects related to hair fibres have aimed to remove these barriers and develop new solutions that generate both business and environmentally sustainable results. (Nurminen et al. 2023)

Despite the pilots in Finland, and some other projects in other countries, a wider scale of hair waste is not recycled nor further processed comprehensively at a global level. Hair is an organic material, but it decomposes slowly, which makes it a problematic waste. Despite it being categorised as a waste, it has many valuable qualities: for example, it absorbs water, chemicals and oils many times its weight. Hair is not a material that is worthless, nor sensible to throw away. Instead, its properties make it ideal for many absorbent products, such as oil-spill-response products.

Along with these projects – Hiukka and Hiukka 2.0 – to utilise this valuable material,



Picture 1: Product prototypes made from hair and animal hair fibres (Kettunen et al 2022)

LAB University of Applied Sciences has been researching hair fibres and developing new products to replace fossil materials by utilising human hair and other hair fibre (sheep wool and dog hair). The development of oil-spill products using design methods has been the focus point in the projects. (Hiukka Hyvä 2023, LAB 2023)

Oil-spill-product development

More recently, oil-spill-response products have been made from plastic; the hair fibre oil-spill-response products developed during the project will help reduce the use of fossil materials. These products also support resource wisdom and promote resilience

from different perspectives. Oil spills have significant negative impacts on our environment and natural ecosystems. Oil-spill-response products made from hair fibres can help in critical actions to protect our environment and support biodiversity.

Design students at the LAB University of Applied Sciences prototyped different types of oil-spill-response equipment as part of a product design course during the Hiukka 2.0 project, 2021-2023. The selected prototypes were tested at Kotka in an oil-spill-response basin in cooperation with the University of Applied Sciences of South-Eastern Finland (later Xamk). Xamk operated the oil-spill pool and user tests were conducted with the

volunteer oil-spill teams of the World Wildlife Fund (later WWF). The oil-spill research team of Xamk conducted a scientific absorption test in autumn 2022. The research problem of the first test was how well the hair material absorbs different types of oil from the water and whether the oil can be drained from the hair material between absorptions. (Kettunen et al. 2022)

The first test was done in a smaller water tank, where oil was poured into it. When cleaning an oil spill, it is crucial to wear adequate safety equipment so that the testing is done as if it was a real oil spill. The oil-spill experts in Xamk have developed a mangle that can drain oil from the products after absorption. The mangle removed oil from the hair material effectively. Using the mangle makes it effortless to drain heavy, wet hair material. Draining the material between uses enables the product to be used multiple times. In the first test, there were different combinations of organic materials and different shapes and sizes of prototypes. The result of the test day showed that the combination of human and dog hair was the most effective. The hair material's oil absorption was better with heavier oil types, like crude oil. Hair material also absorbs water, but water can be easily drained out. It was shown that many rounds of absorption and draining didn't affect the quality of the hair material or its absorption capacity. The material appeared to be long-lasting and resistant to repeated use. (Kettunen et al. 2022)

After tests and the design development process, an organic oil-recovery product made from hair was given the right shape, size and material combination. The absorption capacity of the hair fibre mats was compared

with that of polypropylene absorption sheets. In this comparison, the hair mats appeared to be more efficient than their synthetic counterparts over repeated use. Hair mats can also be reused more frequently than their synthetic counterparts. The hair mats proved to be particularly useful for onshore oil recovery. (Kettunen et al. 2022)

Oil-spill-response tests showed that oil-spill-response products made from hair fibre have competitive properties compared to



Picture 2. User test day with WWF and creative problem solving in oil spill response (photo: Paula Nurminen 2022)



Picture 3. Hiukka 2.0 in operation at oil spill response on Lake Saimaa, before and after pictures of water treated with the hair oil-spill product (Photos: Totti Toiskallio) (Nurminen 2023)

fossil materials. They were even more absorbent and could withstand more uses while maintaining and increasing their absorbency. There are many benefits of using hair fibre for oil-spill-response products. Hair fibres, a valuable material that would otherwise end up as waste, are being recovered and replacing fossil materials. (Kettunen et al. 2022)

The developed oil-spill-response mats and products made of hair and hair fibre were also tested in a real-life accident on Saimaa in the spring of 2023, where a transformer oil spill from a lye plant in Joutseno was tackled for several weeks. This was complicated by the ice conditions and the characteristics of the oil in question, which could not be absorbed in the usual way by the cloths and mats now

in use. The oil-spill cleaners reported that the polypropylene sheet pushed the oil away from the water surface on its own rather than absorbing it as it does with other oils. Organic mats were felted from hair, dog hair and wool, and tests with products from those showed that the transformer oil adhered to them and cleared the water surface. (Nurminen 2023)

New work and business opportunities for the female-dominated sector

The research and development work on hair fibre has brought many dimensions and meanings to which the project has provided solutions. In addition to oil-spill-response products, numerous new ideas were also

generated and business potential was identified. New innovations created from hair waste can generate new business opportunities for sectors and professional groups looking for new forms of business and work.

The main target group of professionals of the project were hairdressers and hairdressing entrepreneurs. New business opportunities offer the female-dominated hairdressing sector a chance to renew and prepare for the future. By collecting hair, they can contribute to the sustainability of their business and be part of the circular economy development. This will also have a positive impact on increasing social responsibility.

The project has involved more than 100 salons that collect and deliver previously discarded hair for use in a product development project. Hairdressers have also participated in project training sessions to increase their understanding of the potential of hair reuse and the circular economy in their sector.

One of the key activities of the project has been to develop the logistic system for collecting hair material, in cooperation with Miila Hyökki and her Kuutio Galleria, making the felt carpets for oil spill response and the hairdressing industry. The collaboration has increased the sector's sense of doing meaningful work and supported the companies' efforts to develop sustainable business. One activity to support the industry renewal was the Circular Economy Training Pilot, that the project organised for hairdressing and trimming salons to help them tighten up the future use of human and dog hair as part of their business. This raised awareness of the potential uses of hair material while supporting sustainable development. These female-dominated sectors are also low-wage

industries. The oil-spill-prevention products developed in the student project can also create new business for the hairdressing and grooming sector. With new circular economy products, this sector can also contribute to the well-being of our society and environment.

The new global environmental challenges in the oil spill response

Global challenges, such as climate change, must be on the common agenda for all of us and cannot be ignored. The destruction of the environment by human activities causes a wide range of problems, which often accumulate, causing more damage than could have been imagined.

The systemic solution to oil spills would be to abandon internal combustion engines and hence, the fuels they use. However, this does not seem to be our answer as a human race to the climate challenge. A partial answer is to switch from mineral-based fuels to bio-based ones. This will help, but on the other hand, it will create a new problem. It is more challenging to prevent potential accidents involving bio-based oils than mineral-based ones. Bio-based oils mix with water and, like mineral-based oils, do not remain largely separated from it. On abandoning internal combustion engines and creating a solution for dealing with bio-based oil spills is bio-based oil-spill-response products; these could work better than synthetic ones, which are mineral oil based.

Renewable resources are constantly consumed more than our planet can regenerate. On a global scale, it is calculated that the Earth's renewable resources are used up in August, so almost two Earths would be needed to produce enough resources to

cover our consumption. (National Footprint and Biocapacity Accounts 2023) However, there are no more in reserve to be wasted. A more accurate use of all resources, including those that are currently categorised as waste, is more important than ever. Hair is waste with good technical properties; it should not be thrown away. Moreover, hair is generated all the time and in many nearby places. Hair exists on humans, dogs, cats and other animals, and it is being cut and trimmed anyway. Using the valuable properties of hair, such as its oil absorption capacity, in products is an important environmental act.

The role of design in developing resource-wise products for environmental well-being

The development of hair fibre products has drawn on various scientific and knowledge areas, including future thinking, systems thinking, design thinking, product development, circular economy, logistics, oil spill response, technology, waste management, recycling and textile technology.

Design has been, e.g., a tool to gather background information, develop products and make value chains visible. Design thinking was utilised in participatory processes, creative workshops to build a common understanding of circular product design, material development, resource wisdom and oil spill response. Design offered meaningful tools also for oil-spill-response product development and manufacturing, and as part of the process, it helped to select the best products based on the workshops and testing. The design process and the development of value chains and ecosystems have been promoted through research and development with

experts and professionals in design, engineering, oil spill response, logistics, waste management, recycling and textile technology. Scientific material testing helped to make visible the potential of organic alternatives compared to synthetic counterparts. The testing and publication of the results were carried out in collaboration with the maritime, oil spill response and logistics sectors.

Without the multidisciplinary cooperation and the ability to work creatively and without prejudice, the new materials and solutions developed in the project, which were initially difficult for the general public to accept, could not have been developed, deployed and adopted.

As a result of the project's activities, knowledge has increased and attitudes towards using human material have changed for the better. The project aimed to reduce barriers to the use of hair through product development and by giving oil-spill products a more ethical and usable, as well as ergonomic, form. The project has raised awareness of the environmental benefits of hair use and raised awareness through various design techniques, such as storytelling. Hair is respected when it is on our heads, but when cut off it is considered as waste and discarded. During this project, design has been used to elevate hair as a valuable material that can also contribute to the circular economy and resource wisdom. By making useful, aesthetic and purposeful products, we can also change people's attitudes and achieve sustainability in different contexts.

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Bringing design and art to life through an event

Abstract

How can design and art be brought to life through an event? There is no one right answer or way to do this, just as there is no one kind of art or design. Lahti Design Week is an event concept that has taken place for four years to highlight Lahti-based design, each year with a different perspective. Every year, however, one thing never changes: all art and design is welcome. Helping companies through design hasn't been forgotten, but it has expanded year by year. These days, there is a wide range of cultural and art events, both in Finland and abroad, and they showcase creativity in different ways. They can be from individual exhibitions or performances to large ensembles. Many examples of different events can be found both nationally and internationally. Lahti Design Week has had a different theme each year.

Keywords: Design, Art, Events, Lahti Design Week

Examples from Finland and around the world

Helsinki Design Week is the largest design festival in the Nordic countries. Founded in 2005, the event aims to showcase new elements and phenomena of design in collaboration with various operatives. The festival offers its participants around 150 events, ranging from main events to partnership events and satellite events. There is something to experience for both the general public and professionals in the field. The programme also includes Children's Design Week. (Helsinki Design Week 2023a.) Helsinki Design Week hosts, among other things, the House of Architects evening, where architects present a building

of their choice that is not their own design. The purpose of the evening is to broaden your thoughts on good and high-quality design and its significance. (Helsinki Design Week 2023b)

The Night of the Arts is an annual city-specific event concept that takes place in several dozens of municipalities of different sizes in Finland, including Helsinki, Hämeenlinna, Turku, Lapinlahti, Kouvola and Oulu. In Helsinki, the Night of the Arts is part of the Helsinki Festival's event programme. The Night of the Arts is aptly described as a "city-sized performance" in which various events spread throughout the city. The programme of the event will be built together with the



Picture 1. Helsinki Night of the Arts 2023 Urban AI Art - artificial intelligence artwork at the Musiikkitalo media wall (Anttila 2023).

city residents, and anyone can sign up for anything, from the biggest installations to small art projects. (Helsinki Festival 2023.) City residents can also be involved in creating art as part of the event. At Hämeenlinna Night of the Arts, visitors were involved in making community art at the “Hälyä Taiteiden yössä” -event. The result was a colourful wind chime that was entirely assembled from recycled materials. (Hämeenlinnan taiteiden yö 2023.)

A major international example is the Fringe Festival in Edinburgh, which is the largest art and cultural event in the world. The festival takes place every year in August and lasts for almost a month. Fringe Festival has long roots that start as early as 1947. This year,

the Fringe Festival in Edinburgh collected works from 67 countries, with performances from 17 different countries. They were joined by 500 artists from around the world and sold 2.5 million tickets to the events. (Edfringe 2023.) The concept of Fringe Festival has taken off from Scotland to all over Europe and the cultural festival is held in countries such as Denmark, Estonia, Iceland, Sweden, Norway and Finland. In Finland, Fringe Festival takes place in Turku and Lahti. (Lahti Fringe 2022.) Accessibility has become more prominent every year, and it is important to take this into account also as an event organiser. At the Fringe Festival in Turku, the hearing-impaired have been considered, for example, with a



Picture 2. At the Lahti City Hall in Fellmannia, environmental acts from Lahti are on display as a continuous exhibition. (Picture: Estella Laasonen)

sign-language theatre performance. At the same time, the work is entirely in four languages, as it includes both Finnish-Swedish and Finnish sign language, as well as spoken Finnish and Swedish. (Finfringe 2023.)

History of Lahti Design Week

Lahti Design Week is an art and design event held every two years in the Lahti region that showcases design in Lahti in all its dimensions. Over the years, the organiser community has remained pretty much the same, but

each year the event has gained new dimensions and increased its status as a permanent event in Lahti.

Lahti Design Week was first held in 2017, and the organiser community consisted of Lahti Region Development LADEC Oy, Design Foundation Finland and Lahti University of Applied Sciences Institute of Design. The first Design Week was held during the Lahti2017 World Ski Championships and as part of centenary of Finland's independence programme. The red thread of the first Lahti Design Week was Lahti-based design competence, and the programme included exhibitions, boutiques, pop-ups, a seminar on design for professionals "Finland 100 – Design 30,000" and the students' 24 Hours Challenge, themed Design or Die by Sitra. (LADEC 2016)

The second Lahti Design Week was held in 2019 as part of the Design Venture programme. In 2019, the week was again full of exhibitions, seminars and workshops for both city residents and businesses, and the red thread was the intersection of design and entrepreneurship. The event was coordinated by the Lahti University of Applied Sciences Institute of Design in cooperation with the City of Lahti and Lahti Region Development LADEC Oy. (Lahden ammattikorkeakoulu 2019.)

The third Lahti Design Week was held in 2021 in the middle of the Covid pandemic and was, therefore, mainly an online implementation. The theme was Green Design Week connected to the environmental capital. The event and theme highlighted, among other things, the diverse design expertise of the area through various educational institutions and operatives. The flexibility of event



Picture 3. Feedback on exhibitions should be collected as soon as the thoughts are fresh in the mind. (Picture: Estella Laasonen)

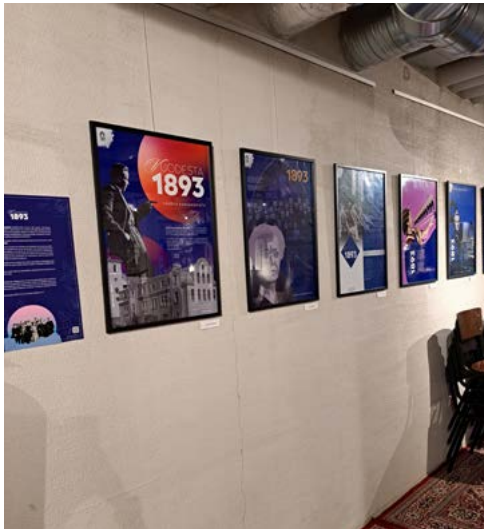
organisers and the need to adapt to virtuality also enabled a successful event online. The week included, among other things, interesting webinars, a virtual exhibition, an urban design day that aroused a lot of interest and a lecture series for wood industry students. The organiser community again consisted of LAB University of Applied Sciences, the City of Lahti, Lahti Region Development LADEC Oy and Design Foundation Finland. (Montonen & Saarela 2021.)

The fourth Lahti Design Week was organised in 2023 by the same team as two years before. The theme of the fourth Design Week was Renewing design: how and where can

design be found, and what does it mean to be responsible in design and business? After the COVID-19 pandemic, there was a desire to be seen as widely as possible around the Lahti region and to organise things to see and do for all target groups around design and art.

Lahti Design Week 2023 offered a wide range of events for all target groups

Lahti Design Week 2023 offered a large selection of exhibitions during the week, and there were diverse exhibitions for all target groups around the Lahti city centre area. During the event week, the Lahti Museum of Visual



Picture 4 (left). Lahti Academy of Liberal and Fine Arts Exhibition at Kahiwa Café. (Picture: Anniina Harjapää)



Picture 5 (right). Paper pulp birds made by 2nd graders in an exhibition on the responsibility of children and youth at the Shopping Centre Trio. (Picture: Anniina Harjapää)

Arts Malva opened an exhibition by international artists Adrien M. & Claire B., in which they created interactive, spatial and digital installations (Malva 2023). In addition, the LAB Institute of Design's spring exhibition opened in Malva in 2023 on four different floors, which featured students' work from a wide range of design departments. On the walls of the Kahiwa café was a poster exhibition for students of the graphic design line of the Lahti Academy of Liberal and Fine Arts.

The Lahti campus of LAB University of Applied Sciences had several exhibitions during Design Week. The Digital & Sustainable Fashion Showroom project showcased the interface between physical and virtual fashion in the Visions for the Future of Fashion exhibition at the Luja Gallery. In addition, the

Develop by Experimenting exhibition was on display on campus: the What RDI? exhibition, the Fashion Shop scale model exhibition, and the Institute of Design's entrance test simulator exhibition. Some of the exhibitions were arranged for students as a part of a Design Appro event.

Lahti Design Week wanted to engage children and young people during the week and bring them out in a positive light in the Lahti Centrum. Exhibitions were held in spaces that are usually empty and were filled with art made by children and young people. The exhibition spaces were two free spaces on the ground floor of the Shopping Centre Trio, which were curated for the Lahti and Lahti citizenship photo exhibition and the Children and youth sustainability exhibition.

The exhibition was open to all children, young people and students in the Lahti region.

In the Lahti and Lahti citizenship photo exhibition, secondary and tertiary students showed how they see their hometown. The responsibility exhibition for children and youth highlighted responsibility from the children's own perspective and how they understand it. The works were brought up by children and young people of different ages from the age of 4 to upper secondary level students. Among the exhibits were costumes by Salpaus textile and fashion students themed "Vesijärvi" and "birds" made from paper pulp by Art and Design School Taika's 2nd graders. There were 249 visitors to the Trio exhibitions during the week. The feedback from the exhibitions was almost entirely positive. Based on the feedback, people were delighted with the use of empty business premises and especially the artwork done by children. The exhibition of children and young people caused a wide range of emotions: wonder, admiration and amazement. Some visitors were even moved by the artwork done by the youngest children. Many artists attended the exhibition with their families and were immensely excited when their work had been made publicly available.

Lahti Design Week and MIO, the student association of the Institute of Design, decided to try the spring version of the popular Christmas sales at the Shopping Centre Trio, as they fit the theme of the week well and at the same time gained visibility for the students. Thirty-five vendors from current and former students of the Institute of Design participated in the sales. The sale was a great opportunity to buy a Mother's Day gift or "Käärjä"-themed jewellery for the Eurovision

finals of the same evening. However, the event-filled Saturday left something to be desired for: a larger number of visitors. (Honkanen 2023a.)

Bringing the topic of design up for families on an important day

For the first time, Lahti Design Week organised its own Children and Youth Design Day on Mother's Day, Sunday, 14 May 2023. The venue was the Pikku-Vesijärvi event area, where there was plenty to do for the whole family. Salpaus, Idea Karhu and Puine held their own points and Kariniemiseura organised a Mother's Day concert, which has already become a tradition. Lahti Design Week's student group planned the event and the programme for the day, as well as getting the entrepreneurs involved in the event. Glitter face paintings were made on the Idea Karhus stand, the Puines stand was used to work on a communal work of art from the wasted pieces of plywood, and at the Salpaus stand, you could play with giant furry dices and take pictures on a photo wall with animal characters. In addition, there was an opportunity to tour the Lanu Park statue tour in a guided manner.

The event was completely free of charge and did not require any pre-registration. The event reached a lot of random passersby who were not aware of the event beforehand. The weather happened to be sunny, so there were plenty of outdoor people in the harbour and Pikku-Vesijärvi. Overall, the event attracted 90 to 110 participants during the day. This was helped by the placement and lively location of the physical signposts.

According to feedback from the participants, the event was successful and nice that the



Picture 6. In the WOW-responsibility exhibition, everyone got to participate in origami art work. (Picture: Estella Laasonen)

children had been noticed at Lahti Design Week. It was felt that for the visitors, the time of the event on Mother's Day was good, but especially challenging from the point of view of the organisers. The event was marketed in Vappurieha, Lahti Design Weeks' and partners' social media channels, in addition a newsletter about the event had gone to kindergartens and primary schools in the Lahti region.

A map of design for use by city residents

In the Lahti Design Week 2023, it was decided to experiment with a map concept that collected people's favourite design objects from

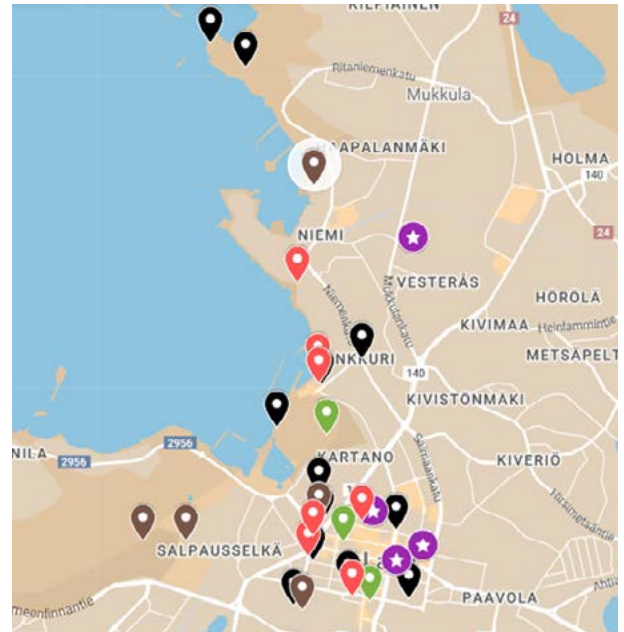
the most mundane park benches to the top design (Honkanen 2023b). It started from the idea of how art and design could also be brought out in Lahti outside of Design Week and without time-boundness. The goal was also to highlight the great variety of design, you don't always realise how everything around us highlights design. The map is made on Google Maps and can be easily utilised on all devices. The possibilities for using the map are unlimited, and the City of Lahti should definitely invest in maintaining the map from the point of view of tourism as well. Visitors arriving in Lahti can explore Lahti's interesting and surprising design destinations on their own time and schedule, as

well as getting more information about them. There is also a possibility of productisation on the map, for example, for a guide in the Lahti region, as it is freely available for everyone to use. The map could also be used for student and school groups or for introducing new students to Lahti. Link to the Lahti region design sites map.

Checkpoints were collected on the map by interviewing design operators at the LAB University of Applied Sciences campus in Lahti, and at Vappurieha, organised by the LUT University Student Union (LTKY), at the Lahti Market Square on 29 April 2023. Lahti Design Week was part of the event by marketing the upcoming Design Week and collecting residents' favourite destinations on a digital map. The city residents' responses repeated the targets of Pikku-Vesijärvi and the harbour area, including the Sibelius Hall and the statues of Lanu Park. The ski jumping hills and Radiomäki masts were also mentioned. They did not emerge with their fineness, but rather were seen in a symbolic way and as objects depicting Lahti. The church park and Malski area received a lot of praise, especially the recently created Lahti Museum of Visual Arts Malva was considered a successful entity and a fresh breeze to complement Lahti's cultural offering. The map was enthusiastically received by city residents, as there are sights that might not be thought of themselves, such as the park bench. The saying "beauty is in the eye of the beholder" applies here as well; therefore, there may be some surprising sites on the map in addition to the traditional sights.

The map was piloted in the 2023 event, but its development should continue in future events. There is clear interest in the

map, as the map has been viewed almost 6,000 times so far. Currently, the spectrum of the map is just a view of a small group of participants and should be expanded to make it comprehensive. New works of art and design items are also constantly appearing in Lahti, so updating is necessary. As one new example, a pair of works of art, "ostrich and ostrich egg", designed by Sculptor Villu Janisoo in honour of the Environmental Year 2021, has come to Lahti, of which not many are aware unless they have passed by. The Laune ostrich is made of used car tires, and the ostrich egg's lace-like shell is made of recycled rooster. (Lahti 2023.)



Picture 7. The design sites in the Lahti region can be found on the map in a wide variety of locations. (Picture: Anniina Harjapää)

Productised maps are an emerging trend, and for example, there are several different routes on the Museum Card pages in different cities, where the perspective is just art and design (Museot 2023). Link to the museum card cultural tour map.

The future of Lahti Design Week

Lahti Design Week is scheduled to be held again in 2025, and it will gradually establish itself as a tradition. Once the residents are aware of the event and adopt it as their own, the focus on the event's visibility will be more at the national and international levels. Efforts will be made to keep the city's discussions involved in Design and its importance. Lahti is known as an environmental capital and a sports city, but Lahti also has an important place nationally and internationally as a city

of Design. During Design Weeks, information about Lahti-based design spreads, and its various forms are made visible.

A large part of the Lahti Design Week's events has been held in the Lahti city centre area, but the venue is worth expanding as well. In 2023, Nastola showed an interest in participating in Design Week, and the experiment was a success. In the next few years, there could be satellite events for the municipalities around the Lahti region.

Getting university students to participate in the events of Lahti Design Week proved to be a challenge due to the timing, as most of the students have already finished their academic year and moved to work for the summer. If Lahti Design Week's dates will also be in May, events for higher education students will be considered.

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Can comfort and courage be designed – the deep meaning of socks

Abstract

Wearable outfits and accessories can create emotional bonds, evoke images and hide memories. They can be personal, they can be relied on, comforted or supported. Designers from different fields brought up the topics listed above at the 2023 Lahti Design Week. Can comfort and courage be designed? -event, where jewellery, wool socks, church textiles and clothing serve as examples. A case example is a psychotherapist's order for comfort socks that would bring courage and comfort to the client during the therapy journey. As a result of the design process, three socks with different meanings were selected for production: travel socks, courage socks and comfort socks. Each of the socks have its own texture and they can be used to travel a different kind of journey.

Keywords: Wearable design, Lahti Design Week, Therapy, Design process

The designer enables the product to be meaningful

Can comfort and courage be designed? This question was discussed on the 11th of May, 2023 in Lahti, Malski, where an event on gentle design as a tool for well-being work was held as part of the Lahti Design Week programme. The event was organised by the Olet.fi Welfare Living Room Working Group.

The discussions were initiated by textile designer Helena Vaari, Riitta Huuhtanen, from the Design Foundation, Heli Kauhanen, from the Arts Promotion Centre TAIKE, and textile designer Mili-Mona Salokannel, who

participated in the event remotely from New York. The discussion was facilitated by designer Riikka Salokannel and psychotherapist Marita Kotro. The event dealt with the subject through a variety of wearable examples, such as jewellery, bishop' robes, and wool socks.

Heli Kauhanen opened the event with her own performance, where she brought up jewellery she had designed and opened up a discussion about how jewellery often involves great emotions. Jewellery is often given as a gift on anniversaries or may be purchased on its own to remind you of meaningful

moments. Often a piece of jewellery is relevant to its owner but may also be relevant to the person who gave it if the piece symbolises a shared and important event in life. (Kauhanen 2023.)

Jewellery is often very personal, after all. It is often directly against the skin or at least in the immediate vicinity on top of layers of clothing. You may feel naked if you've forgotten to wear the necklace or if it disappears. A person may consciously or unconsciously use a piece of jewellery as a substitute, for example, in a stressful or distressing situation by touching their necklace or rolling their ring. Touching jewellery also happens in positive situations, and there may not be any negatives associated with it. (Kauhanen 2023.)

The textile artist Helena Vaari brought into the discussion the perspective of her own work on the design of various church textiles and bishops' robes. Priests and other church personnel always dress appropriately for the occasion, and the dress may differ from weddings to funerals or baptisms. Jewellery brings courage and comfort to the wearer, while church textiles and church staff outfits bring comfort and courage primarily to churchgoers. (Vaari 2023.)

The client's brief for the designer

Marita Kotro has grown into, first, a psychotherapist in the world of creative therapies, and then in the midst of theories related to the neuroscientific framework and emotionality and relationship. Since the beginning of her professional career, embodiment has been an area of interest to her and thus the basis of all professionalism. Safety and connection have been important trends in all therapy work. On the other hand, presence and authenticity are

equally relevant as internal compasses and key values when doing therapy work.

In her brief, the designer of Meaning Socks, Mili-Mona Salokannel, was given these basic starting points as design drivers for her work. At the same time, Kotro presented the philosophical reflections with which she wants to convey to her customers and perhaps to people in general something about the dignity of humanity and life. How important it is to be with each other: to dare to surrender, to face and to feel. One can speak of the beauty of incompleteness, the roughness of life, the security and space of aesthetics, the hope. Relevant inspirations for the project include the essays of architect Juhani Pallasmaa and the writings of philosopher John Dewey on aesthetics, as well as many other themes related to corporeality. Wool socks are important to many, including Marita, and link the wearer to traditions, being anchors in everyday life. In the briefing, Kotro was asked to design socks just for herself and customers, to fit for her reception and be as unique as the customers and their stories are. Socks are meant to be used in therapy and at the end of therapy to be given to the client as a souvenir and taken home.

Sock design process and prototypes

Instructions for a pair of woollen socks were ordered from Salokannel, and the end result was three different socks. The young designer's approach to the assignment was impressive: sharing one's own feelings and experiences, grasping the project on a personal level also brought more to the socks and the assignment than expected. As a woollen sock person herself, the designer knew that



Picture 1. Riikka Salokannel and Marita Kotro presented prototypes of the textures of meaning socks. (Picture: Marita Kotro)

socks were much more than just socks. She understood well the intimacy, personal and bodily nature of the therapy process as well as the atmosphere of the office space as part of the overall process. Moodboard summed up and brought into visual form the discussion about socks, and along with it Salokannel knitted different structures for the samples. In knitwear, patterns or playing with colours were not part of the development of the client's wish, although often with the help of colours, moods may be expressed. The client felt that the haptics and shapes were

important when the colours were very earthy and natural. With the different meanings of this hapticism and structure, Salokannel reached out and also started to consider the effect of different surfaces on emotions in model pieces. The client and Salokannel together jumped, felt, laughed and became serious about the moods and sensations created by the different patterns.

The choice of colours for earthy things is due to a few different reasons: first, the idea of human nature, the existence of humans as part of nature, the grounding relationship of the feet to their platform, the rooting. Second, the idea of the space and support created by the socks: the person themselves with their life story is colourful, even if life sometimes feels grey or black, let the socks bring the person visible with their meanings, let them carry or bring comfort. The colours come out of the person. And third, "brand socks" should be suitable for the rest of Kotro's brand's visual appearance.

Inspiring models with different structures took the ideas to flight, and the 'brand socks' began to form into socks with emotional meanings. This reflection led to the idea of thinking about the therapy process as being on the journey: how there are different stages along the way, how to peek through the different windows of the world of experience, how to go in a stream of emotions or bends, how to walk according to the signs of goals, or how to just linger in being. It is also important to consider the feelings experienced in the therapy process: the excruciating moments of pain that life has brought, the important points when you reach comfort or support, when you become petted and all the experiences of being hurt are met, caressed in a



Picture 2. Mili-Mona Salokannel presented the socks' design process and socks' sketches remotely (Picture: Marita Kotro)



Picture 3. Finished wool socks. (Pictures: Päivi Pihlajamäki)

new way. In the process of therapy, it is brave to become visible as yourself, to bring out the hidden sides of yourself, the ones that have been left on the wrong side or have become defined as the wrong kind.

With the different structures of the model pieces and the related shared reflections, the only possibility was to implement three different socks. One for the journey, the other to bring comfort and the third to remind you of courage. The idea arose as to whether verbal messages could also be included in the socks, or other symbolic messages or reminders that came with the therapy process. We

ended up making use of the phrase “You are, fortunately you are” in all socks with a note attached to them separately. The socks also have places where needles can be embroidered or otherwise attach a meaningful message of their own.

Socks in use by customers

The socks have only been spotted by a very small group. It has been touching to watch the customers' reactions around the sock drawer. Some people introduce socks without any complications, as a natural part of entering a therapeutic space and without any

special stopping around the socks: socks are socks, and nothing more. Some stop to study shyly, watching and not using. Someone asks if the socks are for sale, or what they are for. They may pause for a moment over the socks, stating what a great idea the meaning socks are. You can almost hear the reflection on which sock would be most useful to you a travel sock, a courage sock or a comfort sock, or whether there would be a need for some other sock that manifests itself.

These stops at the socks feel meaningful, affectionate to Kotro as a therapist, and the customer becomes especially appreciated. After all, she pauses to reflect on herself in that very moment, to relate in her mind something that the other person cannot know. There is something beautiful in the moment. As a therapist, Kotro gets to witness something very unique in those moments: the client's way of stopping to explore, to take in, to touch or to ignore, to ignore what is outside of oneself. Gestures, expressions, reactions, all the nonverbal body language that relates to the idea of being on the way, to the idea of courage or comfort, but that is not necessarily directly related to a particular experience or need of one's self.

Particularly touching are the moments when the customer realises something new. An insight into what the appearance of the reverse side is and what it means to oneself. The straightening of the back and the shining eyes and the rooting of the feet on the platform, the direct gaze and the words "true, it's brave" and "this is what I need" or the proudly said "I dare" or "I am...!". What is touching is the point where there is a softening in the body, a sigh and teary eyes. Holding your breath and ironing or squeezing your socks: as if you were



Picture 4. Finished socks on the model. (Picture: Päivi Pihlajamäki)

holding a loved one in your hands and squeezing him into embrace, knowing that that loved one is yourself. All the stories about wool socks and their connection to one's own life are connection-building, links between past, present and future, between generations.

Even at this point, the experience of socks is what I wanted from them in the first place: encountering. Encounters in nonverbal interaction, shared stories outside of an active therapy session. As the client's internal



dialogue, between the client and the therapist, or between the client and the person important to him or her. Socks are the emotional aesthetics of everyday life, functional and warm, touching to the body and soul. The publication of the meaning socks instructions hopefully gives new dimensions: everything can be handled in knitting, everything can be hidden in the loops! The woollen sock project is still going on. However, with the experience to date, I already dare to say: comfort and courage can be formulated.

The design changes shape

The discussion event on gentle design as a tool for welfare work at Lahti Design Week – Renewing Design wanted to highlight the aspect of social sustainability in addition to ecological and financial sustainability. According to the Kuntaliitto (2022), social sustainability is comprehensive well-being, including psychological, physical and social

sustainability. These enable good everyday life and a meaningful life. In the discussion at the event, it emerged that physical things can support an individual's psychological well-being, such as a therapy trip with comfort socks.

At the end of the discussion, we will consider the differences between generations in the field of design and how design has changed over time. The time of designer heroes is over and these days the focus is on the holistic side of design instead of individuals. Consideration of a person's comprehensive well-being has increased, and through service design, it has become a part of all design. All the discussants looked positively at the methods of contemporary design and their development as part of a larger whole. For example, empathy as a tool gives encouragement about the direction of contemporary design. One of the discussants summed up our thoughts well: "good design is the good treatment of people".

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Business artist – case description of the piloting of the artist-developer concept

Abstract

Emotions, images, impressions and stories are made in the playground of culture and art. During the pre-scientific era, these elements of human experience have played a key role in creating an impression of the world. Is it possible that, as we drift towards the era of increasingly complex operating environments, these mythical building blocks are increasingly important as the building blocks of our coherent experience?

The rapidly growing potential of creative industries in the development of business and other sectors has been identified for a few years now. Operators in the creative industries have unused resources in the value creation of even small companies and in supporting changes. Petra Tarjanne, who is responsible for developing the creative economy at the Ministry of Economic Affairs and Employment, has stated that new models for co-operation between the creative sector and other business are needed as the operating environment changes and the demand for creative competence increases (Grön 2022). Companies are under increasing pressure for change, and as operating environments change, the challenges faced are also new. The potential of creative competence and the creative sector in solving these challenges has been identified (Ala-Soini 2012, 8).

The Business Artist concept is a model developed for increasing low-threshold co-operation between SMEs and micro-enterprises and experts in the creative sector. The model is intended to promote co-operation by presenting resource-saving methods for tailored planning of business co-operation. The model was developed by visual artist and LAB Lecturer at the Institute of Design, Ville Huhtanen, as part of the Lyckan regional development project. The Lyckan project developed a municipality-oriented Living Lab operating model to promote the business of rural areas through co-operation between sectors and operators. During the project, the Business Artist model was piloted at the Lapinjärvi pharmacy. In this pilot, a Business Artist and the pharmacy entrepreneur planned a period of co-operation between the Business Artist and the pharmacy using creative co-creation methods. During the period, the Business Artist worked with methods based on their own creative expertise to support the pharmacy's business.

Who is a Business Artist?

Any creative professional who has knowledge of generic creativity skills, such as the production of ideas, creative problem-solving and open-mindedness, can act as a Business Artist. Business Artists work together with the company on a fixed-term basis, drawing on their expertise in the creative field and by implementing the Business Artist model process. Business Artists may have their own company through which they invoice the target company or they can work as light entrepreneurs.

What is Business Artistry?

The Business Artist concept is an artist-developer activity in which artistic interventions are implemented in the organisation and processes of the company. The artist-developer is a work role established a few years ago, in which an artist, art educator or artist-researcher works in development tasks or organisations outside the arts sector (Lehikoinen & Pässilä 2016). Such activities are referred to as artistic interventions when art is used to intervene in an organisation or its process. Artistic interventions may bring creative sector expertise to other fields, but they also develop the artist's own competence and the opportunities and definition of art. In other words, artistic interventions create new ways of producing and viewing art, i.e. a new kind of art.

What was done in the Business Artist pilot at Lapinjärvi Pharmacy

Perhaps the most visible part of the project was the "Woollen Sock Exchange" ("Villasukkapörssi") artwork. The visible portion of the participatory and communal work

consisted of the exchange of woollen socks. Anyone was free to take a pair of woollen socks from the stand at the pharmacy, and they could also bring one or more pairs of socks for others to take. In addition to the exchange of woollen socks, the work also engaged the audience and staff in active discussions. Roberto Casati's theory of art focuses primarily on the role of art as a topic of discussion (Casati 2003). The amount of attention received by the work was surprising, and it caused a small phenomenon in Lapinjärvi, a rural municipality with just over 2000 inhabitants.

The natural theme of interaction between pharmacy staff and customers is exchange of well-being products and money, but the artwork offers an opportunity to expand interaction outside this theme. The work of art forms a common problem for the participants, which they need to solve together, and with which they form a common relationship. Such a process may create shared trust and the channel will deepen the relationship between the participants.

The participatory Woollen Sock Exchange artwork also made visible the values included in the pharmacy's customer relationship but hidden in everyday life. According to pharmacist Suvi Savolainen, Lapinjärvi Pharmacy, which serves a small community, strives to achieve in its values and activities a human-centred approach, with caring and warmth at its core. For the customer and the pharmacy, the Woollen Sock Exchange opened up opportunities for making visible and expressing emotions and empathy included in the customer relationship. Through the actions built into the work, the values become visible.



Picture 1. Woolen Sock Exchange – participatory community-engaged art piece in Lapinjärvi pharmacy (Picture: Ville Huhtanen)

Finland's first pharmacy gallery

During the Business Artist work period, Finland's first pharmacy gallery, Galleria Villasukka (Gallery Woollen Sock), was developed. The gallery was established at the Lapinjärvi pharmacy. Suvi Savolainen, who is responsible for the gallery operations, describes the focus of its artistic line as emotional guidance. The work collections to be presented are selected by carrying out curation co-operation with visual arts professionals. However, the pharmacists' knowledge of the local community and customer base serve as the basis for curation. The gallery strives to present interesting artists and hopes to offer its customers touching and thought-provoking art experiences. Through pharmacy gallery activities, there is also a desire to communicate the pharmacy's positive attitude towards art and culture. The new pharmacy gallery concept also aims at opening discussions on the possibilities of the pharmacy sector for more comprehensive communal business. When the pharmacy sector is part of a change in the structure of the social and health care sector, small pharmacies can compete and make their existence meaningful through a communal and human-oriented service approach. Gallery activities can be seen as part of the same sense of community. The pharmacy aims to serve the local community comprehensively by offering not only medical products but also advice and cultural well-being.

According to the definition made by Turku University of Applied Sciences, cultural well-being stands for:

1. the individual's experiences of the links between art and culture and their own or others' health and well-being,
2. a phenomenon in which art and culture are linked to health and well-being,
3. a field that studies, develops and educates skills and operating methods related to this,
4. the well-being impacts of art on happiness, quality of life and the experience of a good life,
5. arts activities can increase social capital in the community by increasing trust, defining standards and building or strengthening social networks,
6. communal impacts work, for example, by increasing people's experiences of inclusion and belonging to the community.

(Houni et al. 2020.)

Siv Enqvist's photo exhibition was the opening exhibition of the gallery. Siv retired in the summer after a long career at Lapinjärvi Pharmacy. The exhibition included ambitious photographs of Enqvist's nature themes, from which Ville Huhtanen, an entrepreneurial artist, curated the exhibition for Galleria Villasukka. Huhtanen was also responsible for producing the exhibition, such as information materials and exhibition architecture.

The Gallery Villasukka also featured a large installation compiled of rugs crocheted by Susanna Savolainen, which was put together by a Business Artist. Savolainen is a passionate and productive crocheter. The combination of colourful rugs changed the atmosphere of the pharmacy vestibule. The way in which the rugs were presented seemed to turn them into art, and through their surprising nature, also into a subject of discussion. The comment "is this what they call art, then" was

heard in connection with the installation. This question raises the central issue raised by art - art always redefines itself through works, and according to Alva Noë, this strangeness is an organic characteristic of art. According to him, art aims to challenge thinking, confrontation and revolution rather than satisfaction. This makes it a tool, and strange tool for people or communities (Noë 2015).

The role of a Business Artist in a company may be located in such areas of influence through art. The company's processes, operating culture and interaction can be examined by means of art. Information generated as art content may be in a form that gives members of the organisation new perspectives or guides them to examine it in new ways. In her 2005 book, Karen Armstrong describes the meanings of mythology and mythological thinking. Myths work in the area of imagination, and information about the organisation produced through art can support it in its development and renewal by feeding imagination. The contents of art can crystallise or suggest new ways of seeing, thinking, being and acting. Myths outline the relationship between individuals and the world, and in the case of organisations, for example, an employee's relationship with the organisation and the organisation's relationship with the customer base or operating environment.

A Business Artist organised a workshop for Lapinjärvi pharmacy staff, where they composed experimental electronic music together. The music was created with a modular synthesiser system built by Ville Huhtanen. Each participant implemented one sound in the composed song, and one staff member mixed the song live. The song was recorded with a few takes, and Huhtanen

processed the song afterwards.

The composition process was carried out during the working day, and the staff described how the experience opened the social dynamics of the work community. Suvi Savolainen described how the work community felt confusion but also self-excelling experiences as they went beyond their comfort zone during this new kind of creative process. Shame could be experienced in together in a safe space, and safety was created through trust and laughter. Interaction through composing renewed the division of roles within the work community. Victor Turner describes this moment with the concept of liminal space - in the liminal space, the definition of the roles of the group is loosened, which makes it possible for social roles to be self-organised in a new way (Turner 1966).-

During discussions with staff and other work, plenty of time was given for the mapping out of the participants' own creative orientation and for becoming familiar with it. Creative processes in which activities or works of art were developed were also given time to develop in peace. The pharmacy staff described the Business Artist period as revolutionary in many ways. The staff explained that they had experienced a deeper insight into the fact that an employee may be themselves within their working role at the pharmacy, and that this is also encouraged. Pharmacist Savolainen said that she had received confirmation of a creative approach to work and the utilisation of creativity in company management. According to her, caring, human-orientation and warmth was a concrete part of the company's operations and everyday life as a result of the Business Artist project. The inclusion of creative content as part of the company's operations

and everyday life was also seen as a strongly positive aspect. According to Savolainen, the experience was revolutionary in the sense that the company found operating methods and channels during the Business Artist period to implement the values and attitudes that it had built up, and the company's identity was given a concrete form. She estimates that the period has increased clients' commitment to the company and that employees' well-being at work has increased. These issues were seen as having a positive impact on the company's finances.

Pilot progress

I worked as a Business Artist in the Lyckan project pilot. My competence as a visual artist is in areas such as painting, colour, place- and situation-specific art and performance art. In addition, my production has recently also included robotics in art and the application of game art. Experimental electronic music and performance art are also my forms of expression.

Working method of the Business Artist concept

1. The creative professional outlines their competence

Competence in general creative skills, such as creative development techniques and the production of ideas, creative problem solving and open-mindedness, plays a key role in the competence of creative experts acting as business artists. As I have worked as a visual artist for a long time, I found that my competence extends to these skills. Working as an artist accumulates the competence of creative

processes in a versatile manner. But I noticed that I had not fully internalised the naming or specification of the general, generic creativity skills mentioned above, even though I recognised that I had plenty of practical understanding of those skills. I propose that this is the case for a large proportion of experts in the creative industries. For example, the contents of creativity skills as disaggregated theoretical studies seem to be often missing from the curricula of visual artists or design and communication experts. As creative experts have competence in processes that often include creativity skills, however, they can be learned or adopted with relative ease.

2. An expert in the creative sector reaches out to the target company

The target entrepreneur is approached in the Business Artist model by presenting the concept to the entrepreneur and by exploring the basis for possible co-operation. The resources used for this are a half-hour telephone call or an email. The aim is to build trust and examine, in a targeted manner, the opportunities for building a joint project. Efforts will be made to avoid wasting time, and target companies that have already developed a previous trust base locally will be selected.

3. If the target company is interested in developing co-operation, a co-creation workshop will be scheduled together. The duration of the workshop is two hours.
4. The workshop maps the company's situation and identifies the development potential from the perspective

of the creative sector expert. Forms of Business Artist activities and co-operation will be formulated.

In the Business Artist model, co-creation starts with creative methods. First, the current state of the company is analysed using creative tools. Development targets and the strengths of creative experts are mapped and ideas for combining them developed together. Ideas are refined in the workshop using creative development methods.

Creative development methods can be found in the card deck of Creativity Skills produced in the Lyckan project.

5. Maturation phase

During the maturation phase, the creative sector expert develops a proposal for a work period in the target company. The work description of the work period is based on a workshop carried out by co-creation, in which a professional of the creative sector refines the work description for the work period they offer. At this stage, an offer is formulated for the target company. The tender includes: price, schedule, measures and expected results

When submitting an offer, it should be stressed that the offer concerns a creative process that may generate unexpected results. The results are often also relatively horizontally measurable. The creative professional invoices the target company as an entrepreneur or a light entrepreneur. There are many different models available for light entrepreneurship that can be easily utilised.

6. Business Artist's period of work with the company.

The dimensions of the work period may vary, but a good starting point for working with a small company may be, for example, one month, or 160 working hours.

The working methods are preferably entrepreneur-oriented and based on the expertise of an entrepreneurial artist working as an artist-developer. From the perspective of one's own competence, simple and basic-level creative methods may also appear revolutionary from the entrepreneur's perspective when they are incorporated into the company's operations. The process should be open and creative, and interaction between entrepreneurs and business artists should take into account as many resources as possible. Communication keeps the common creative process alive and provides input to it. Communication is also used to create transparency and trust – these are important when the creative process appears to the entrepreneur as potentially unfamiliar and perhaps even threatening in many ways.

7. Utilising the results of the work period in company processes

The Business Artist period may have:

- strengthened the creative competence of the company's personnel by offering creative tools for the work
- strengthened the company's culture-friendly brand
- developed internal communication within the company
- deepened customer relationships
- increased well-being at work through promoting grouping

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Case study: ADRI project and the open-ended brief

Abstract

The graphic design students of LAB Institute of Design and Fine Arts answered a brief by the Slovenian contemporary illustration biennial, The Independent Biennial. The task was to design a visual campaign for the ADRI artistic research in illustration project. The methodology was based on an open-ended brief and challenged the students to push their imagination and previously learned processes in favour of a more intuitive approach.

Keywords: Graphic design, open-ended, visual campaign design, pedagogical methods

In the spirit of fostering creativity and exploration, third-year graphic design BA students from the LAB Institute of Design and Fine Arts embarked on a collaborative journey with The Independent Biennial (Bienale Neodvisnih) in Spring 2022.

The student designers were tasked with crafting a visual identity and marketing campaign for an upcoming artistic research project, ADRI initiated by the Independent Biennial. The brief was part of the Working Life Simulation Course, aiming to develop the student's professional practice in a real-life design task. The brief was to rethink the connection and difference between artistic and design research methodologies and approaches.

The Slovenia-based, internationally recognised Independent Biennial is a platform for contemporary illustration, founded in

2006. The biennial invites young illustrators and gives them complete freedom to express themselves. The biennial is funded by the Slovenian Ministry of Culture and has co-produced events and projects with various partners, such as the Center for Urban Culture Kino Šiška in Slovenia or Aalto Media Lab in Finland.

The course brief was co-mentored with the Senior Lecturer in Graphic Design Marion Robinson and Saša Kerkoš, the initiator of the biennial. Kerkoš works at the University of Ljubljana, Academy of Fine Arts and Design and has always been fascinated by the open-ended creative process and often conflicting 'art vs design' methods and has used them freely in her practice. The collaboration with students seemed to be a perfect opportunity to understand how young designers understand the methods.







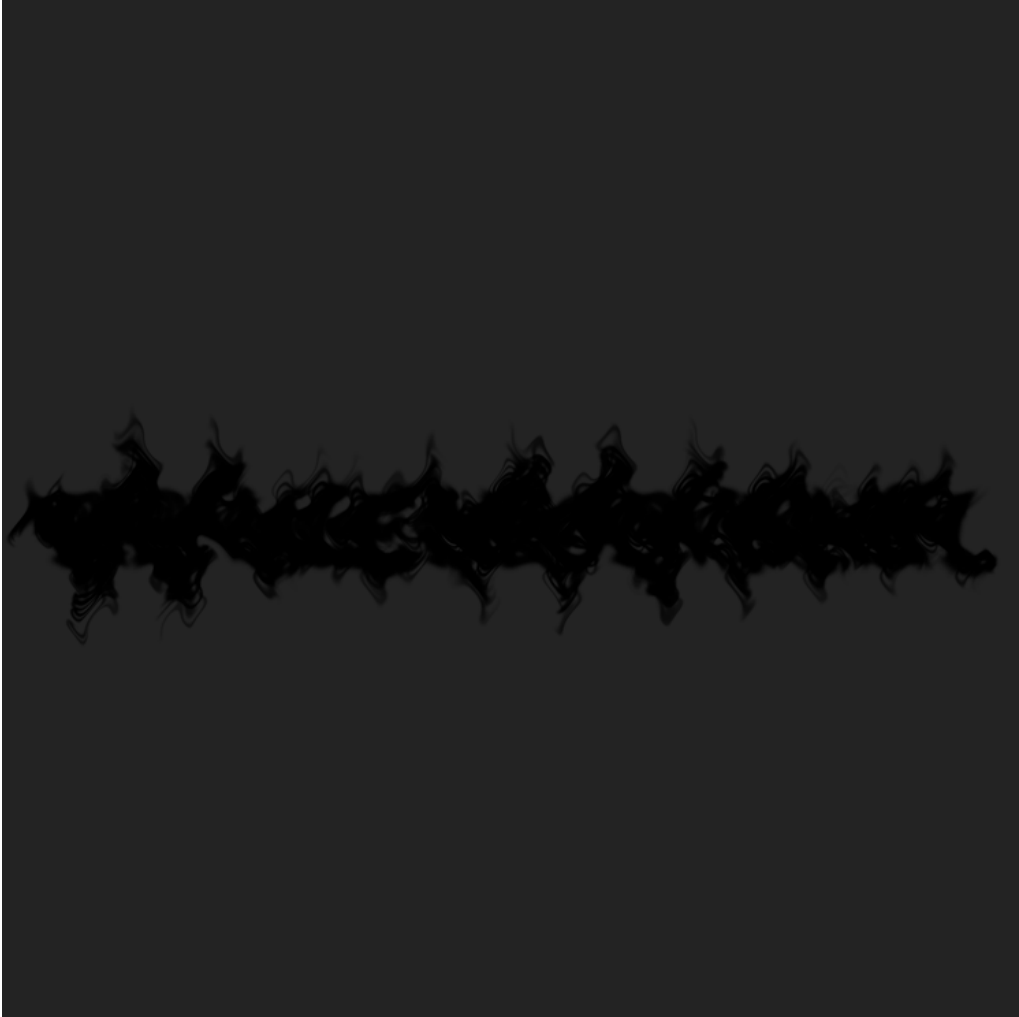


Aino Kyllönen & Aurora Ferm

The project unfolded in two phases: research and design. First, immersing the students in artistic research, they explored the nuances of artistic research methodology in illustration, contrasting it with the more structured design research approach. While design research adheres to established methods and data, artistic research embraces intuition and empathy, allowing these elements to guide the exploration and creation process, switching to the interpersonal artistic approach.

The second phase was a design task. In alignment with The Independent Biennial's ethos of artistic freedom, the students were given an open-ended brief for an open call visual identity, centred on the themes of

Openness and Well-being. They were challenged to express the openness of illustration as a visual language. An open-ended brief meant the students had to create the boundaries of the task themselves, and they also needed to develop their methods. This process was very new to the students. It lays heavily on the notion of trusting the process. It can follow the well-narrated path of a basic design process or take an entirely new direction. It was a challenge the designers needed to face to find their inner voice in future briefs in the commercial world. The challenge seemed to lie heavily in not being given the exact guidelines. Students had a hard time diving into open-ended processes primarily based on not



having hands-on experience with the method in design practice at this point in their studies. During the mentoring sessions, they were freely allowed to explore, make mistakes and get lost in the process; they started gaining more creative confidence to go into places of visual and contextual exploration far off their usual ways of creating and towards 'unsafe interpersonal places'.

The students' interpretations of the themes were as diverse as their creative minds. Some embraced the concept of unfinished work, while others sought inspiration from the optimistic visions of the Solarpunk movement or simply from the inherent joy and humour of life. Others delved into the

visual representations of un-wellness, exploring the impact on our planet and ourselves. The theme of 'otherness' also emerged as a recurring motif in their works.

The in-between stages of the process were the most curious for us who were mentoring the project. The otherness may manifest as uncomfortable feelings when not fully understanding what to do. If the designers don't trust the process, they may feel detached, floating, searching for answers. One student poetically called it 'entering the fog'. One collective stated, "Letting these feelings go (of perfectionism) would open a door for honest, raw and unpredictable work."



I SAY
OPEN
ROLL OUT
MARK IT
ADRI



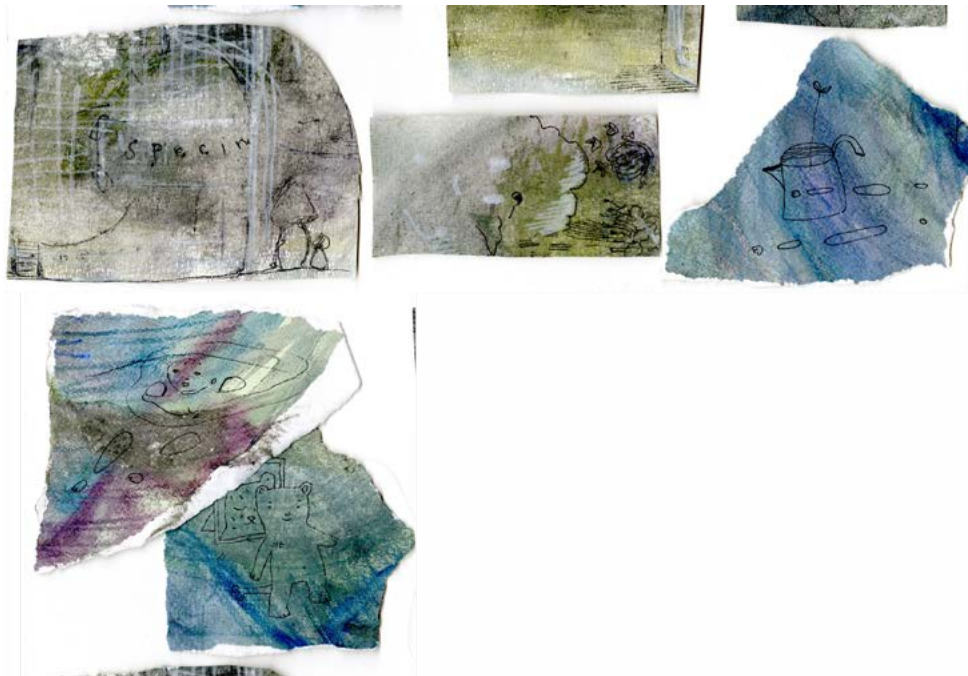
The way the students approached openness and well-being were at two ends of the spectrum. The exciting space exists between the extremes of a bright, happy place, when discovering and sharing, and the potential darkness of an artist's soul. One proposed concept explored what may happen if you express yourself in the grey, safe zone. Does this 'grey, safe zone' of expression lead to mundane outcomes, or does it hold hidden potential for creativity? Is artistic exploration with in-depth soul searching even possible without going into the darkness of the same mental and emotional, deeply personal source? Can an open-ended process that allows intuitive

explorations enrich design processes and add value beyond commercial manifestation?

The project results were published at the Independent Biennial IX retrospective exhibition, opening on 23rd October 2023 in the Kino Šiška Centre for Urban Culture in Ljubljana, Slovenia. Here are glimpses of the creators' work as they developed their 'un'-final ideas.

List of participants in alphabetical order:

Aurora Ferm, Nadja Frantzén, Aurora Johansson, Ida Guev, Pinja Kangas, Noora Karstila, Kiia Kostet, Aino Kyllönen, Maija Laukkanen, Susa Lesonen, Maija Tasala, Henri Tevajarvi, Juhana Tuominen, Johanna Välinoro



Pick the raisins out of a bun – micro courses!

Introduction

Finland is one of the top countries in digitalisation, but digital skills vary widely among citizens according to Digibarometer 2020 by ETLA Economic Research (Mattila et al. 2020). The fear is that entrepreneurs in small businesses or the unemployed will not keep up with the development of digitalisation. That is why the Digital insights, technological inspirations (DITTO) project wanted to create introductory courses in digital skills for the South Karelians. DITTO has published web courses that teach free of charge and widely used applications, for example, applications for remote meetings, project management and website publishing. The web courses are open to everyone by registration.

Keywords: Digitalisation, digital skills, web courses, micro courses, branding.

Digitalisation in Finland

Digibarometer 2020 showed that Finland was in second place when measuring how countries utilise digitalisation. When taking a closer look at the statistics, it is noticed that Finland's ranking was weakened in the business sector. The Digibarometer asked what would happen to Finland if the ranking continued to fall. The Digibarometer emphasised that digital development has been fast and is not slowing down. Digital platforms have been one of the main keys in this development, and Digibarometer reminds us that Finnish companies should keep up with the development so that Finland has a bright future. (Mattila et al. 2020)

According to the Digital and Population Data Service Agency report "Yritysten ja

yhteisöjen digiosaaminen – digituen tarve 2020 (authors translation: Digital competence of companies and communities – the need for digital support), small and local businesses have a high need for digital support. The support needed is in basic skills, for example, how to set up a remote meeting. It is seen that even though small and local businesses would like to develop their digital skills, it might not be possible due to a lack of resources. There also may be motivational challenges; it may seem that there is no need to change the current situation, or it may feel that the business doesn't have the skills to learn new software. (Digi- ja väestötietovirasto 2020)

Companies and organisations are not just objects that have or do not have digital skills.

People form companies and organisations, and the digital skills of citizens in Finland vary widely (Digi- ja väestötietovirasto 2020). It must be considered that citizens will have at least basic digital skills when they enter working life, and they have opportunities to develop their skills.

The Work and Employment office also writes that it is essential to have basic skills in digital services and products, for example, remote meetings are widely used in today's work life. Also searching for a job requires mastering different digital platforms and channels. (TE-toimisto 2021)

DITTO helps South Karelian businesses train their staff

According to Yritysbarmetri-report by Suomen Yrittäjät (2020), South Karelian businesses saw that one of the most important development targets is in training the staff in the year 2020. The situation was the same in the year 2022 (Suomen Yrittäjät 2022), which is a good sign for the DITTO project. Companies may be willing to take courses and encourage employees to develop their digital skills. The will to invest in ICT appliances has increased since the year 2020 in South Karelia (Suomen Yrittäjät 2020 & 2022), which also supports the thought that it was the right time to launch the web courses.

The aspects introduced above were the base, while starting the Digital insights, technological inspirations (DITTO) project. DITTO wanted to focus on South Karelia and to help small businesses update their digital skills in basic applications but also to introduce new applications that could boost work. DITTO produced web courses of basic free of charge applications with the target

groups (small businesses, entrepreneurs, the unemployed and people thinking of starting their own business) in mind. Even though these target groups were set at the beginning of the project, the courses are open for all South Karelians, and from the beginning of September 2023 to all Finns across Finland.

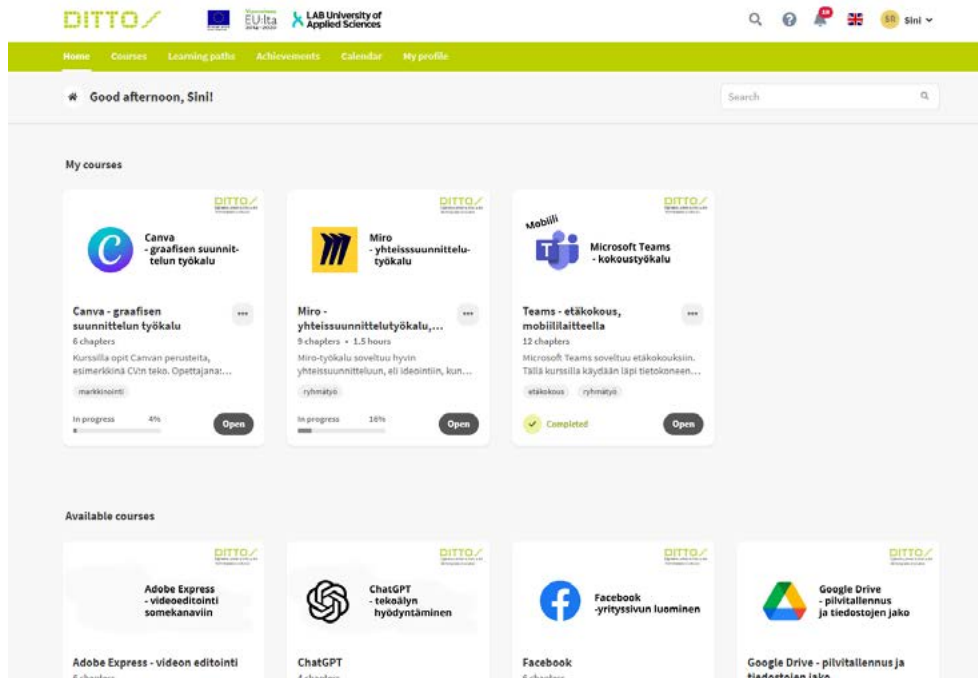
The DITTO project didn't set a specific target group but focused on South Karelian small businesses and the unemployed. The range of digital skills might vary among South Karelians, so it was important to create videos that teach the application from the beginning.

Benchmarking and choosing the platform

The project started with benchmarking. It was necessary to see how other organisations and educational institutes have conducted web courses. Open course platforms were tested and analysed: what worked and what could be utilised in DITTO courses. The most user-friendly platforms had easy access, logical user interface and multiple-choice course tasks that gave feedback on the answers.

One of the biggest challenges was to find the perfect platform. Web course platforms were also benchmarked and tested with free trials. The main selection criteria for the platform were that it needs to be available in Finnish. DITTO wanted to have all materials in Finnish so that all native Finnish-speaking Finns have access to the courses, and it also helps to use the platform. Another criterion was to have an intuitive user interface for the admin team.

After testing and numerous pros and cons -lists, the DITTO team selected the Vuolearning platform that met almost every



Picture 1. DITTO web courses on the Vuolearning platform. DITTO brand colours are shown on the platform. (Screenshot: Sini Roine)

criterion. Vuolearning is a Finland-based company, and all the support is available in Finnish. Also, the platform and the administration settings are available in Finnish. The platform is easy to use for the admin and for the person completing the course.

Microlearning and MOOCs

DITTO wanted to offer short, quick and basic courses that summarise the main skills of the widely used applications. All DITTO courses are built in a similar format: courses start with an introduction to why this application is useful. After the introduction, participants can move on and read more about the

application; for example, if an application has a free version and a premium version, the features of these versions are introduced.

Videos create the main course content. The videos are short, and they teach one action or feature of the application at a time. These short videos form a wider entity, which leads to learning the basics skills of the current application. This is why DITTO courses might be categorised as micro courses. In micro courses or microlearning, knowledge is broken into short pieces, such as a short video that teaches a specific skill or objective. Short videos can also be part of a wider course. (Chai 2020)

DITTO courses don't have any mandatory sections or videos that the participant needs to go through, so it is possible to pick only the videos that are interesting. If a participant wants to have a course diploma, then he/she is required to watch most of the videos and complete the course tasks.

Courses have been designed as MOOCs, (MOOC = Massive Open Online Course). MOOCs offer students a chance to learn skills in their own time, when it is most suitable for them. It also allows education faculties to have more students than would be found in traditional classrooms. MOOCs also allow automation of teaching and especially course tasks. (Kamaja et al. 2019) There is no limitation on how many students can join DITTO courses. The course tasks are mostly multiple-choice questions, where students get feedback if the answer is correct or not. After completing the course, a student will have a course diploma. The DITTO project had an objective to create at least one course in five different categories.

The categories were:

- Collaboration and remote meeting
- Project and process management
- Marketing and social media utilisation
- Data and online security
- New boost from Design

The applications and courses in these categories are visualised in Figure 1.

DITTO collaborated with the Design, New Technologies, and Lifelong Learning (DUTE) -project. Course materials were exchanged and modified according to the needs of the project. While working with DUTE and ideating useful courses to add to the platform, it



Figure 1. The six categories and all web courses. (Heikki Nuutinen & Sini Roine)

was noticed that there is a sixth category. The sixth category was named "Show your talent". The Show your talent -category includes tips to take better photos and how to do Podcasts and web pages.

These six categories are also in the course platform, in Vuolearning, only with a few changes. This way a person entering the course platform can browse courses through these categories. If a person picks at least one course from each category, he/she will have good basic skills that will help in daily life. This applies to both entrepreneurs and the unemployed. Entrepreneurs will learn how to use basic applications in their work and thereby increase efficiency. The goal of the project is also to increase the digital skills of



Picture 2. DITTO marketing materials (Sini Roine)

the unemployed and after completing the courses they will have a better position to enter working life, where these applications are most likely in use.

Pick out the raisins!

DITTO branding got its inspiration from microlearning. Heikki Nuutinen, a branding expert working in DITTO, created a brand with this fun image of a bun that represents how you pick your favourite, or in this case, needed skills – pick the raisins out of the bun!

The brand has a powerful light green colour that is vibrant and visible, and it inspires people to learn. The images of buns and raisins raise a question in the viewer's mind: Why should one pick the raisins? What is this, and how are web courses related to this? The answer lies in the platform, where a person finds short courses and he/she can pick the courses and course videos that are relevant to his/her needs.

The brand also wanted to spread a safe and comfortable feel to participants. Digital

tools, especially learning new ones, can be intimidating if a person has little experience with digital devices. DITTO wants to welcome everyone to learn and feel comfortable learning new skills, and to have a bun and a glass of milk while learning.

Few design methods to help entrepreneurs

As an educational institute, the Institute of Design and Fine Arts wanted to emphasise the importance of design and give a couple of tools to all South Karelians who study on the DITTO platform. DITTO created a design process course that includes the Design Sprint -method.

Design process and Design Sprint can be helpful tools for all regardless of what field or profession a person represents. The basics of both the design process and the Design Sprint -method are taught through short videos. The videos show the main steps in the design process and the Design Sprint and tell how these methods can be utilised in work.

In addition to the videos, there are a few examples of how the design process and Design Sprint -method have been utilised in real life. This will make these methods more understandable, and students can get ideas on how to use them in their own work.

Summary

DITTO created web courses to help South Karelians update their digital skills in basic applications used in work life. Web courses are a dip to the basic skills, and course tasks help students check their knowledge, but after completing the course, the work starts. It is essential that web courses encourage students to sign up and use the application.

After using an application, DITTO hopes that the urge to learn more grows and these web courses have been just a start for lifelong learning in the field of digital skills.

DITTO courses are available for all, not just South Karelians. Sign up in ditto.vuolearning.fi

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