

When are rentals relevant and to whom?

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Circular Business Models

The research group advances circular business together with companies and develops the teaching of circular economy in national and international networks. At the forefront in the future is to find new solutions for moving from owning products to producing services and a sharing economy.

Circular Business Models

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Ongoing projects

[Knowledge base for consumers in circular economy](#)

[REDUCES – Rethinking Sustainable Development in European Regions by Using Circular Economy Business Models](#)

[Circular Economy Catalysts: From Innovation to Business Ecosystems \(CICAT2025\)](#)

[BIO-PLASTICS EUROPE – Developing and Implementing Sustainability-Based Solutions for Bio-Based Plastic Production and Use to Preserve Land and Sea Environmental Quality in Europe](#)

[Circwaste – Towards Circular Economy](#)



Circular Business Models research group

- The research group advances circular business together with companies and develops the teaching of circular economy in national and international networks. At the forefront in the future is to find new solutions for moving from owning products to producing services and a sharing economy.
- The expertise of the research group springs up from the synthesis of e.g. business development, sustainable development, environmental technology, service design, communications and pedagogic competence.
- As part of the CE Lab project-learning environment, the research group carries out experiments by companies and students and joint development projects
- https://www.tuas.fi/en/research-and-development/research-groups/Circular_business_models/



Key points today



Key messages today

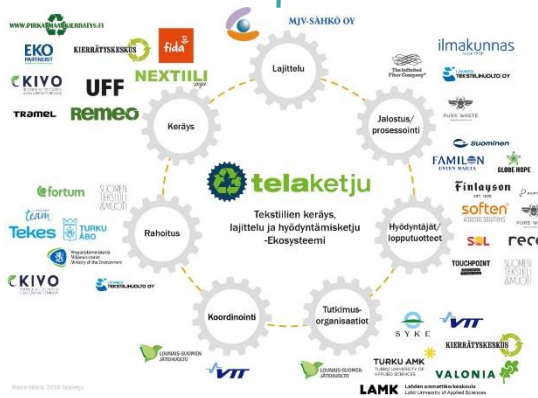
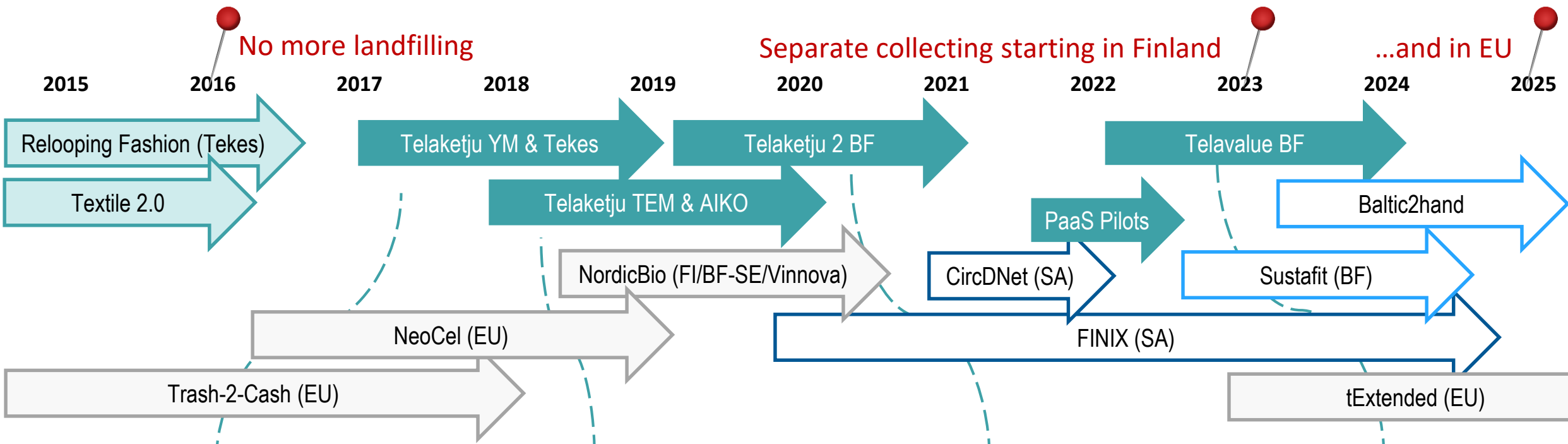
- Models that make life cycles longer are super important in circular economy
- Turku UAS has studied rentals and second hand for a long time
- Tackling increasing consumption is key
- Takeaways from the pilots "workwear as a service" and "casual wear as a service"
- Next steps

**What topic are we
talking about?**

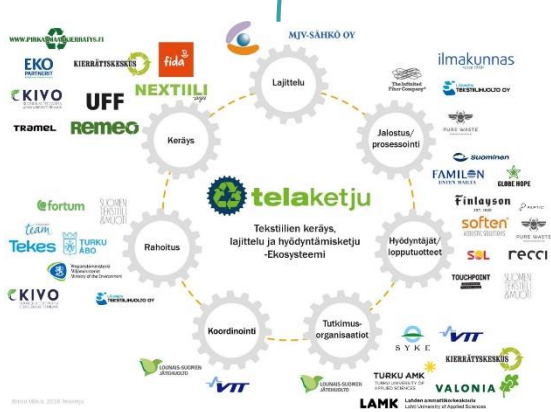
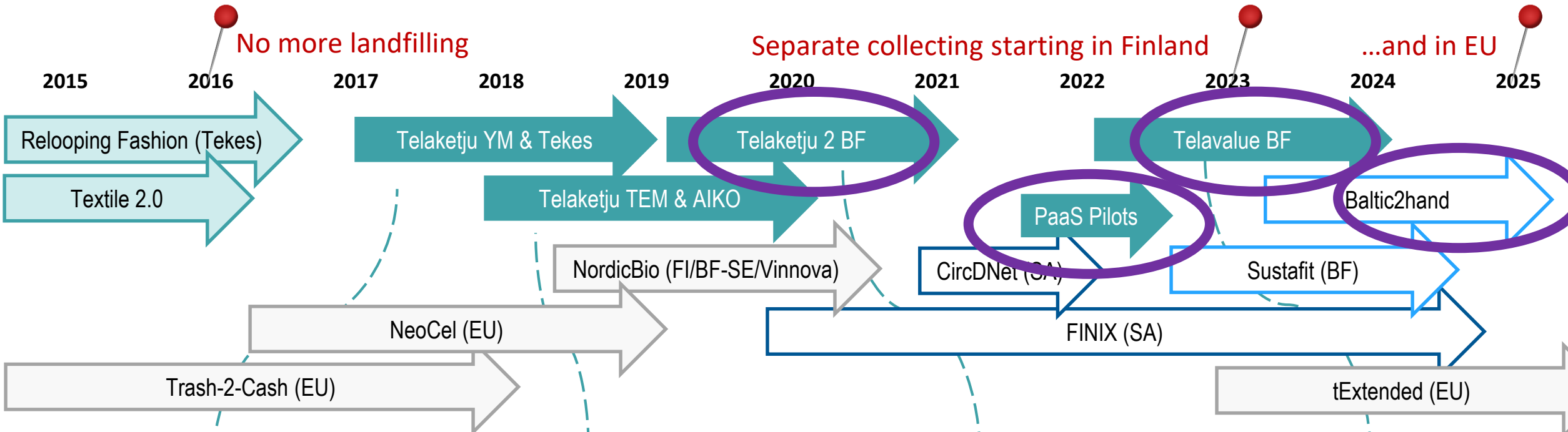
In rentals, customers buy access to the product, not the actual product. Ownership stays with the company offering the rental. Also name “product as a service” also used.

Our work on the topic

ACTIVE RESEARCH CONTINUUM



ACTIVE RESEARCH CONTINUUM





VALUE CHAINS FOR SUSTAINABLE PRODUCTION, USE AND CYCLES OF TEXTILES “TELAVALUE”

CO-INNOVATION PROJECT FUNDED BY BUSINESS FINLAND
3 RESEARCH PARTNERS AND 17 FINNISH COMPANIES

<https://telaketju.turkuamk.fi/en/front-page/>
Years 2022-2024



Interreg



Co-funded by
the European Union

Central Baltic Programme

<https://balticsecondhand.eu/>
Years 2023-2026

Baltic Second-Hand Project

As good as new:

Enhancing the behavioral and business change of the second-hand textile industry in the Central Baltic region.

baltic2hand

**LAU
REA**

AMMATTIKORKEAKOULU
University of Applied Sciences



Sustainability
InnoCenter

TALLINN
CREATIVE INCUBATOR

TURKU AMK
TURKU UNIVERSITY OF
APPLIED SCIENCES

Product as a Service Pilots project

- Aimed to find out the features that make product as a service model attractive to customer and challenges concerning the implementation of such features.
- The project was carried by Turku University of Applied Sciences, VTT and LAB University of Applied Sciences and funded by Finnish Innovation Fund Sitra.
- In addition to the research organizations, two Finnish companies were involved in the project, Pure Waste and Image Wear.

<https://www.tuas.fi/en/research-and-development/projects/paas-pilots-product-as-a-service-pilots/>
Years 2021-2022

PaaS Pilots Guide - open access book

- This guide provides information, examples and practical tools for companies to develop and implement Product as a Service business models.
- By reading this, you can gain understanding of what the Product as a Service model is, how it contributes to circular economy and how to create profitable business from the model.
- Based on this publication, it is easier to provide the information for the companies to start building a new business model, than it is to implement it. In addition, the business models, just as the companies building them, vary.



<https://urn.fi/URN:ISBN:978-952-216-820-7>

Major challenges... societal and business challenges

Moving towards circular economy enables companies to produce more value with less resources. When deciding what kind of business model a company wants to foster, they should keep in mind the key principles of circular economy⁷, such as prolonging the life cycle of a product, creating value in collaboration, and advancing knowledge and awareness, as well as the possibilities they offer. Are some of these principles already a part of the company's strategy and which ones should they focus on hereon?

Circular economy business models can be divided into five subcategories:

1. Renewability
2. Sharing platforms
3. Product as a Service
4. Product-life extension
5. Resource efficiency and recycling⁸.

For a deeper perspective, circular business models can be divided further into models of producer ownership. These are related to change in the ownership of materials and products, whereas circular economy business models are more broadly focused on the circulation of materials and products. These models are Product as a Service, material as a service, performance as a service, and function guarantee.⁹ Here we have concentrated on Product as a Service models.

Before building a new business model, the following questions should be considered: *How does this new business model contribute to the market, what kind of issue can be solved through this and is it profitable for the company?* One should have an idea of what kind of actors have already implemented similar business models in the field, how have they worked, and what kind of added value

can be brought to the market by this business model. This evaluation of existing models as well as the one under construction lays out the criteria for a successful circular business model. Success can be measured also by imagining the value the business model might and is hoped to have for the customer and the company, as well as the environmental and social impact i.e., the net-positive impact it might entail¹⁰.

The company should keep in mind that the product in question should be an alternative to purchasing something new, be utilized better than the non-circular alternative, be more efficient in terms of operational impacts, and incentivize to design for cyclability and sustainable behaviour among the consumers¹¹. The goals for the process should also be set: *What are the issues studied during the process? What do we want to accomplish?*

⁷ Circle Economy. The Circular Toolbox: Key Elements of the Circular Economy Tool.

⁸ Sitra. New business models play a key role in enterprises' strategies. 2019.

⁹ Sitra. Rethinking ownership. 2020.

¹⁰ Circle Economy. The Circular Toolbox: Circular Business Model Success Criteria Canvas.

¹¹ Circle Economy. The Circular Toolbox: The Urgency of Circular Business Models.



A Finnish pioneer closes their stores



YAATEPUU

FRONT PAGE

MONTHLY MEMBERSHIP AND ONE-TIME RENT

PRODUCTS

SHAKING

TOPICAL

THE END OF AN ERA

Vaatepuu was born 10 years ago from the question, how can dressing be implemented as a service more reasonable, fun and sustainable? I set out with passion to develop a business model where sustainable development clothing is based on a monthly payment-based model. After all, I am a creator who is motivated by moving forward, change and a vision of a better world.

Local clothing loan companies have found their place in society. They create local well-being, enrich city centers, bring circular economy solutions closer to people's everyday lives, and lower the threshold for getting to know sustainable clothing brands. Until 2020, progress was made quickly and Vaatepuu's business developed favorably. With the corona, development stopped, as with many other entrepreneurs and industries. I was patient, everything was fine with us - the economy was running smoothly while many companies around us were collapsing. For this, a humble thank you to all dear members and partners.

The year 2023 started again with wonderful forward signs! I was joined by a partner, Niina Sjöblom (member no. 11), with whom we set off full of energy to write a new international road map for Vaatepuu. We crunched the numbers, researched the market and contacted different experts. As autumn progressed, we realized that the time was not ripe for a big leap in Vaatepuu's business. At the turn of the year, Niina left the operational activities of the company and I had to think about my own future. Do I want to continue running stores?

Monthly membership

Gift cards

Loan selection

Store

Services

Second hand market

Clothing maintenance

Search terms

offer work wedding ideation dinner party evening

out fabric bag bag gift card

bachelorette party silk styling

style clothes loan

Takeaways from our pilots "workwear as a service" and "casual wear as a service"



Q&A

- What's the status of these cases now? Did the companies continue with rentals after the pilots? Why/why not?
- How to create a profitable business model?
- What kind of services does the consumer need?
- How should the service be organised to accommodate customer needs?
- How many people are interested in these services?
- How are the garments affected during the use phase (environmental aspects/other aspects)?
- Answers on the next slides combined form the four projects (Telaketju 2, Telavalue, Paas Pilots and Baltic2hand)

Key points

- There are several different kinds of product-as-service concepts, and they vary according to the operating models of the companies.
- When developing product-as-a-service concepts, the right customer segments, the customers' needs and what the customer is willing to pay for must be identified
- The product-as-a-service model includes more than a product: it is a customer-oriented, service concept where an excellent product and great service form a sustainable, responsible and profitable business.

Casual wear as a service

Pure Waste®

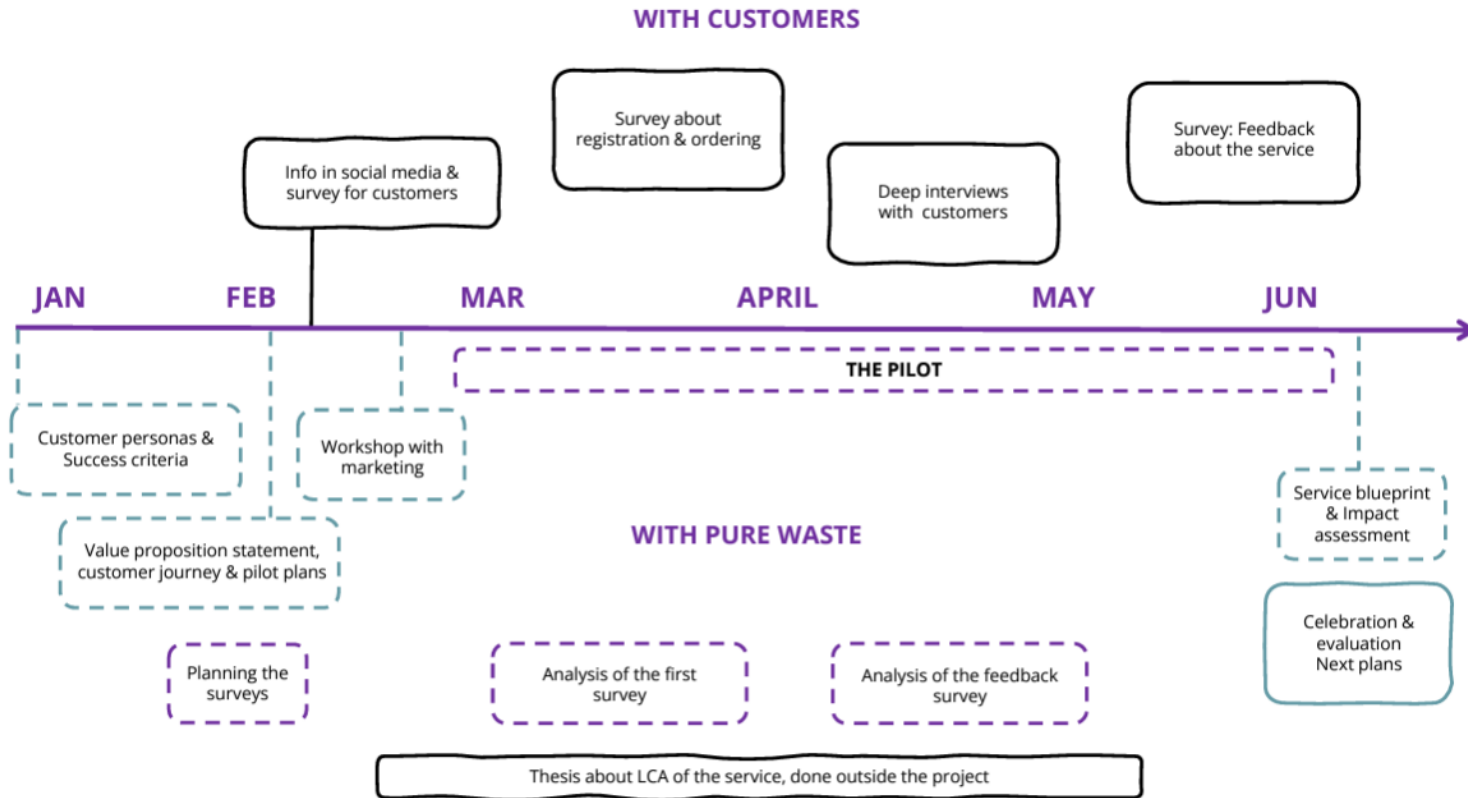


Figure 7. Casual wear as a service pilot timeline and major activities.

What's the status of these cases now? Did the companies continue with rentals after the pilots? Why/why not?

Workwear as a service

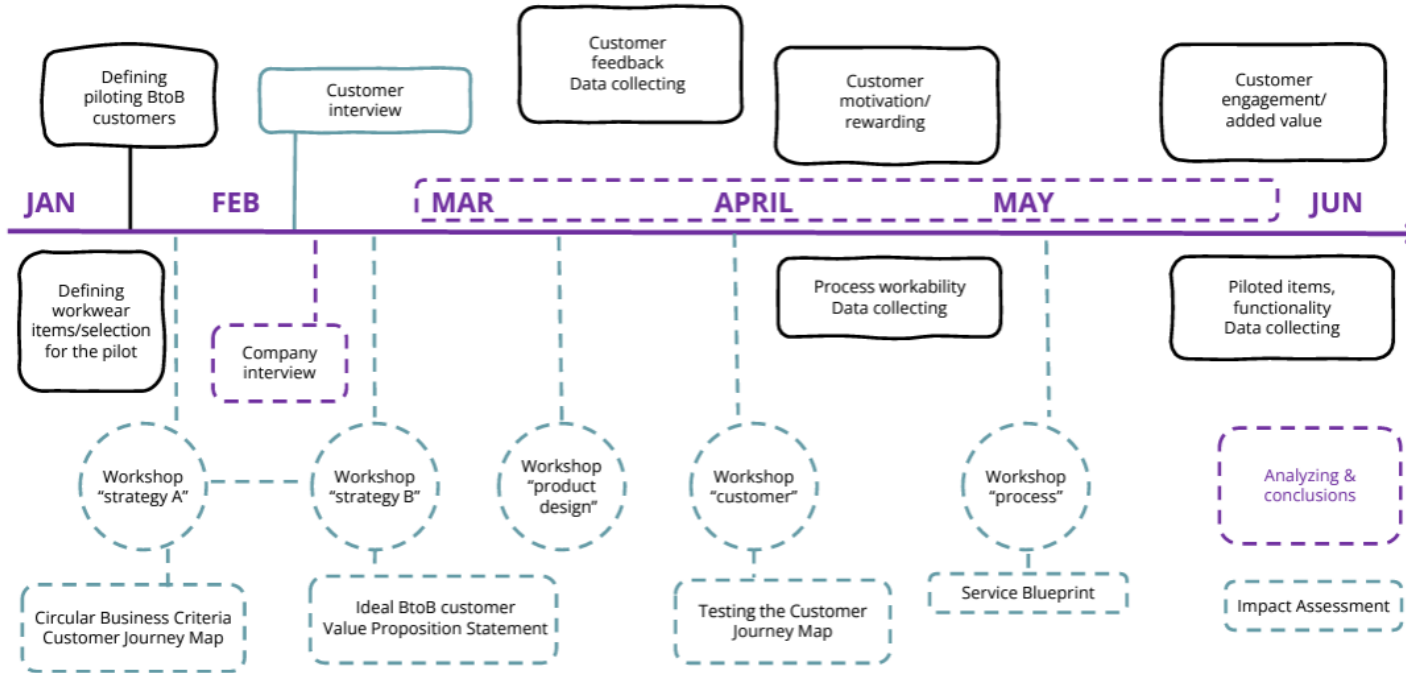


Figure 6. Workwear as a service pilot timeline and major activities.



What's the status of these cases now? Did the companies continue with rentals after the pilots? Why/why not?

3.1 VALUE OF THE PRODUCT AS A SERVICE MODELS

The PaaS model is considered as a sustainable business model (with some limitations: read more in chapter 3.2), and it includes benefits for society and the environment in addition to the economic value. These three aspects are often called the triple bottom line of sustainability. It is important for companies to understand both the positive impacts and the challenges that arise from exploiting the Product as a Service model from the perspective of all these aspects.

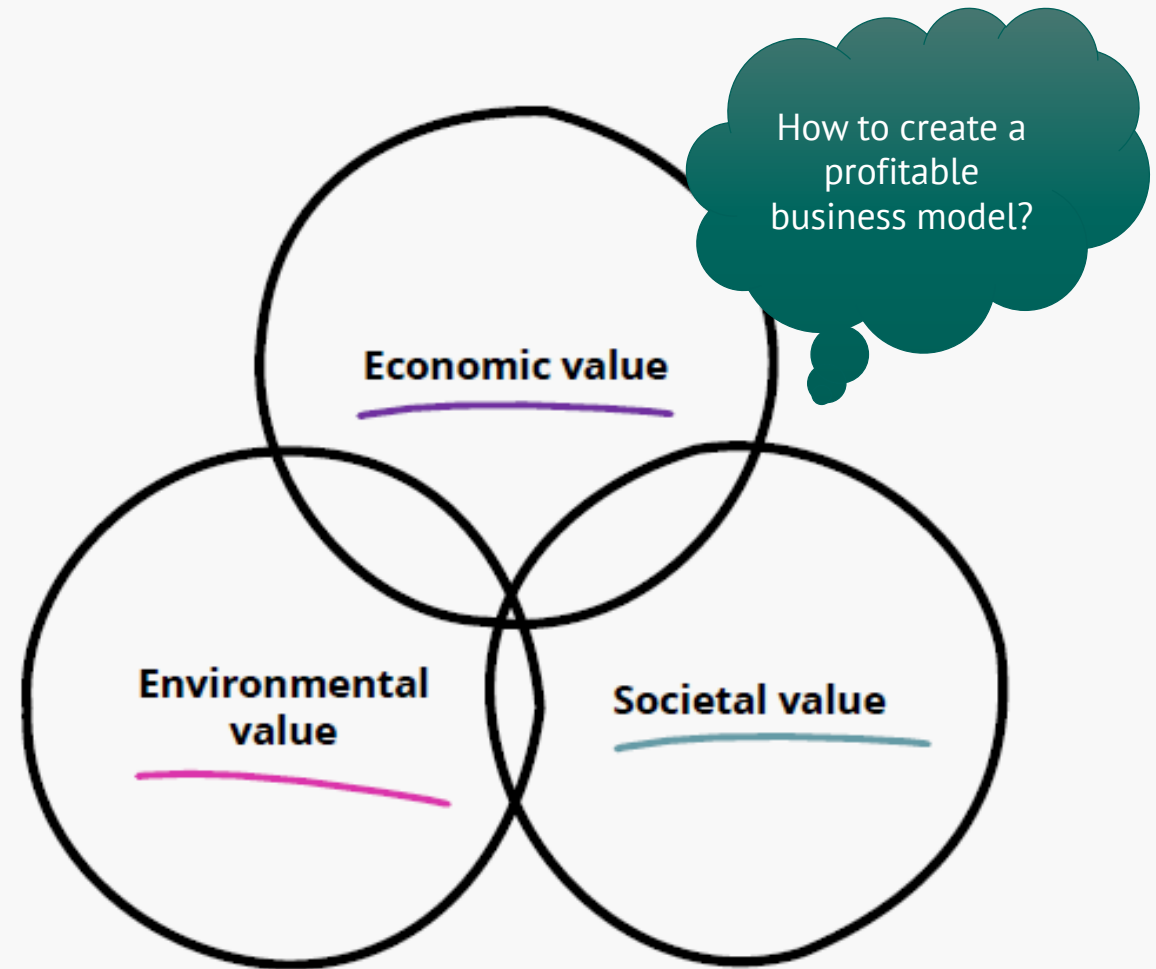


Figure 4. The triple bottom line of sustainability.

Clothing library – model



Description

- Various library models, e.g.
 - One-time rentals / monthly subscriptions
 - Focus on a certain brand or a variety of different brands
 - Daily wear / festive wear

Consumer perceptions

- Seen as a suitable model for
 - consumers that enjoy varying or testing fashion styles and brands
 - short-term use needs
- The model is perceived to require more effort and to be more expensive than traditional models for fashion
- Sharing fashion with other consumers is seen as a challenge
 - Hygienic issues
 - Too uniform style with others
- Services, such as style consultancy, repairing and remodeling were seen to increase the attractiveness of the model
- More consumer awareness of the model is needed



How to create a profitable business model?

What kind of services does the consumer need?

Value for customer

The form of need (and use) affects the benefit that the Product as a Service model offers to the customer. If the product is used occasionally for short periods, the conclusive value for the customer is different than if the product is used continuously. Examples of the former are rental (or service) of formal wear, tools, or a truck for private use. Examples of the latter are work wear, productive machine hours, or transportation services for continuous business use.

From the customer point of view, the product as a service model offers several benefits compared to other business models. The benefits may include e.g.:

- Confidence that the product is ready for use when you need it
- No need to care for the product after or during use

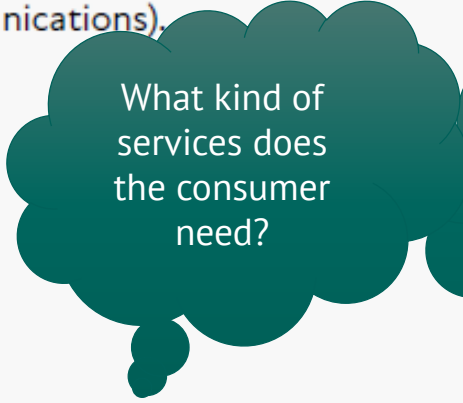
- Flexibility when needs change – if you need something more or less, or something different
- No need to invest in the product

The challenges or barriers included in the product as a service model from the customer's perspective may include e.g.:


- Moving away from the ownership of the product (change in the mindset)
- Sharing the product with other customers (e.g., hygienic concerns)
- Arranging the logistics and product-maintenance (if not provided as a service)
- Requirements for planning (e.g., timing of product use)
- Incompatibility of the product selection with specific customer needs

How does the model affect society?

One of the most used tools for assessing the impact of the Product as a Service model for society are the Social Impact Assessment and the Human Rights Impact Assessment. Social impacts can be categorized in human rights (e.g., child labour, forced labour, non-discrimination), labour practices and decent working conditions (e.g., wages, benefits, safety at work, job satisfaction), society (e.g., corruption, job creation, support of local suppliers, and product responsibility (e.g. product safety concerns, labelling, ethical marketing communications)).



What kind of services does the consumer need?




How to create a profitable business model?

<https://urn.fi/URN:ISBN:978-952-216-820-7>




Key points again

- There are several different product-as-service concepts and they vary according to the operating models of the companies.
- When developing product-as-a-service concepts, the right customer, the customer's needs and what the customer is willing to pay for must be identified
 - Celebration clothes? Children's clothes? Workwear?
- The product-as-a-service model includes more than a product: it is a customer-oriented, service concept where an excellent product and great service form a sustainable, responsible and profitable business.



How should the service be organised to accommodate customer needs?



How many people are interested in these services?



Another Finnish company says

→ lindstromgroup.com/services/work-wear/



Looking for a workwear service in
your country?

SELECT LOCAL SITE

WHY US

Benefits of our workwear service

1

Cost efficient solution that
saves you time and money

2

Enhance working conditions
and increase productivity

3

Keep customers happy and
maintain a positive image

- + Clean and safe workwear always available

- + Save time and money

- + Easy workwear management

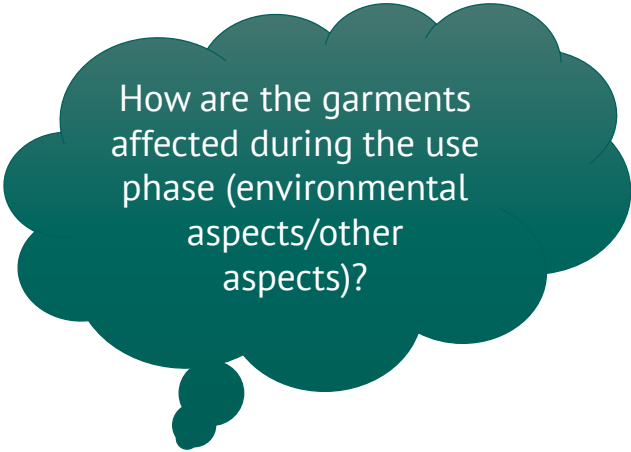
- + Service transparency with smart technology

- + Employee safety and well-being

- + Sustainable choice



Climate impact assessment of the product as a service model



How are the garments affected during the use phase (environmental aspects/other aspects)?

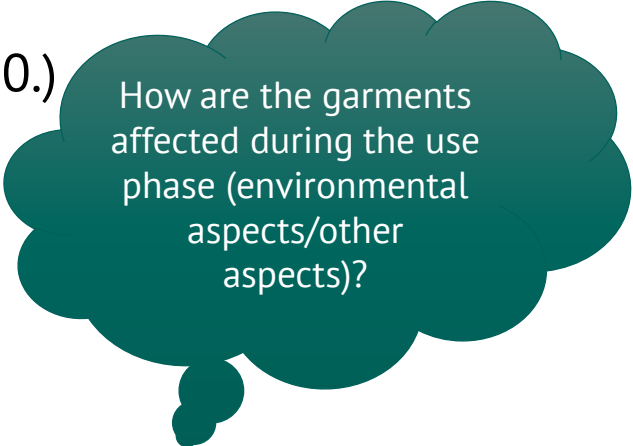
The goal of the thesis was to perform an emission calculation of the Pure Waste product as a service model in the spring of 2022 for a t-shirt belonging to the experimental selection. The emission calculation examined the environmental impact of the experiment and considered the impact of the circular economy product as a service model on the clothing industry.

The largest sources of emissions in the clothing industry are derived from the production and use phase of clothing. The latter could be influenced by extending the lifespan of clothing. The purpose of the product as a service model is for clothing to act as a service that customers would rent from companies or individuals. The model would focus on the durable materials used in the production and manufacturing of clothing, in order for the clothing to last as long as possible and thus being able to curb the overproduction of clothing and the over-consumption of natural resources.

The emission calculation included a comparison the production of the experiment, the storage of the clothes and the delivery of the selected clothes, which was handled by the customers during this experiment. The biggest emissions from the experiment were generated by the different mode choices of the customer. In order to obtain real results, it would be worthwhile to carry out emission calculations on several different experiments and clothes, covering all stages of the life cycle, in order to be able to properly consider the environmental impact of the product as a service model in the clothing industry.

Social implications of PaaS models

- PaaS systems are focused on the use phase of products. Therefore, from the perspective of social evaluation, the most crucial stakeholders are consumers and employees.
 - Labour intensive field, creating new jobs
 - Well-being of employees, fair pay, equality, well-being of consumers, possibility for giving feedback, transparency, and safe and healthy environment for all
- Physical closeness to other users could risk health and safety. Trust among their users is required. Treating a rented garment or other product in a different, more carefree attitude, than owned ones. (Laukkanen & Tura 2020.)
- Providing and promoting communal spirit, bringing together people with different backgrounds. (Jensen, Prendeville, Bocken & Peck 2019.)
- Accessibility of these services is usually better in bigger cities.
- Company's code of conduct, audits, control of continuity, traceability, profitability?
- Future legislation?



How are the garments affected during the use phase (environmental aspects/other aspects)?

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Key messages today

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- Turku UAS has studied rentals and second hand for a long time
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Thank you!

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