User-centered design
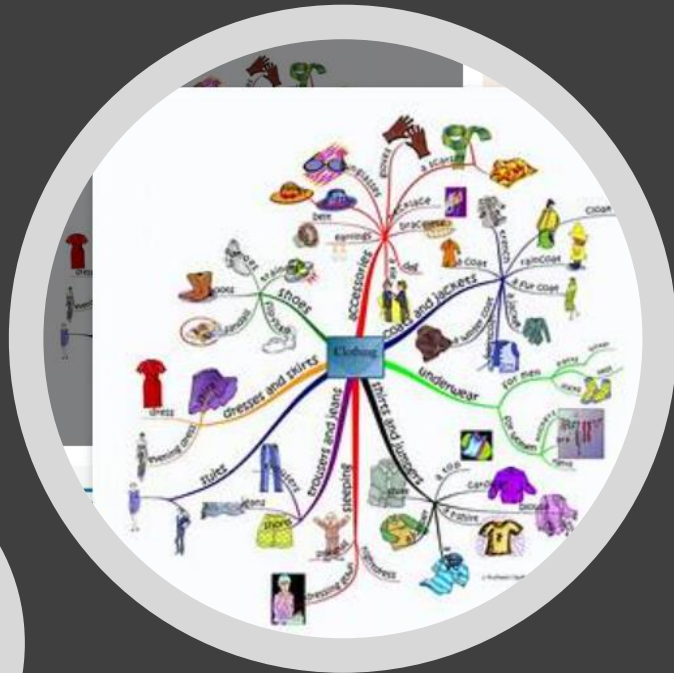
Kirsi Niinimäki

User

A) Fictional figure

B) Target group to whom you are designing for

C) Test group who can help in the design process (user testing, user-centered design)

"User" as a fiction
"User" as an inspiration

How to get information from users

1) Sales statistics, numbers
2) Surveys
3) Interviews
4) Observation
5) Lead users
6) Test groups
7) Participatory design, co-design
8) Open design

Sales statistics, numbers

- Following previous sales figures
- Consumer purchase preferences

Muoti- ja urheilukaupan muutos 2018

LÄHDE: MUOTI- JA URHEILUKAUPPA TMA RY.

	myynnin arvo, %	myynnin määrä, %
kaikki	-0,7	+1,7
ten vaatteet	-5,4	+8,0
teet	-1,2	+1,4
	-0,1	+15,0

Surveys

- Large group of consumers
- Takes some time to do a proper questionnaire and tests it
- Fast to analyze
- Statistical analysis
- Content analysis (qualitative)
- **Webropol**, online survey
- Creates a link, which you can send by email or publish online

Interviews

- When there exists only view specialists

Or a very special, well-defined group

- New, emerging area, no publications

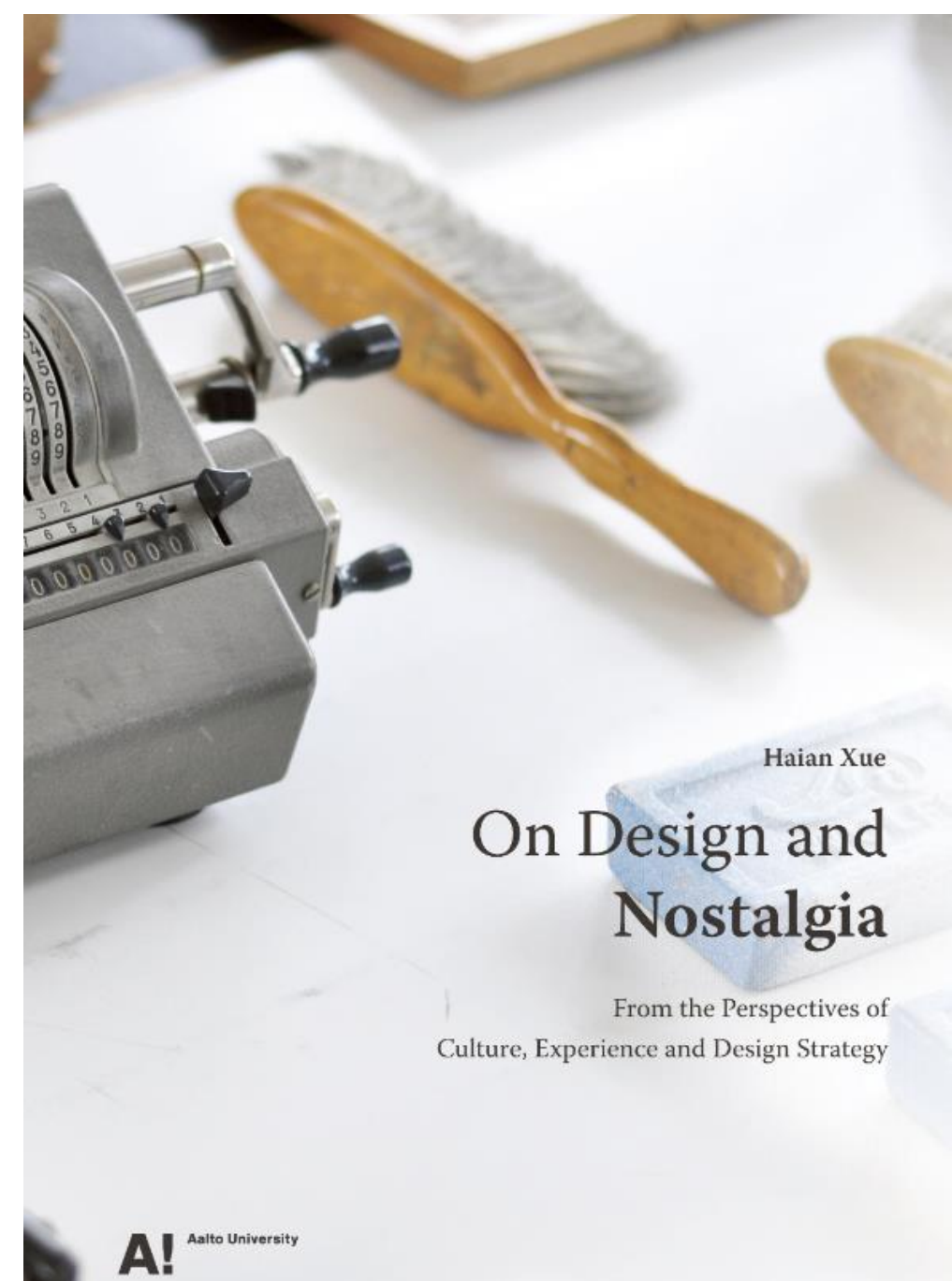- Takes time to do +

transcribe +

analyze answers

Figure 39. A 1960s original Jopo that is still in use today
(photo by the author on 14 Dec. 2015 in Helsinki)

Figure 21. Sarvis' Katrilli (1969) and Pitopöytä (1976) being sold at the Helsinki Retro and
Vintage Design Expo 2014 (photo by the author)

Haian Xue (2017) On design and
nostalgia (Doctoral dissertation

Haian Xue

On Design and
Nostalgia

From the Perspectives of
Culture, Experience and Design Strategy

A! Aalto University

Observation

- Ethnography
- Spying, observing
- Design ethnography, design intervention

Mutambo Kumbu, MA thesis 2017, Zambian dress in the focus

Interviews + observation

- Maarit Aakko (2016) *Fashion in-between : artisanal design and production of fashion.* Doctoral dissertation.

- Examining the concept of 'artisanal' in the context of contemporary fashion, this doctoral dissertation aims to decode the essential features of artisanal fashion. It also analyzes the significance of this approach and its relationship to the current cultural and societal environment. The study takes a particular look at the designer's role in artisanal houses, and examines his/her ability to control and influence the process and the outcome. Compared to the mainstream clothing industry, artisanal fashion, with its emphasis on craftsmanship, offers an alternative approach.

Fashion In-between

ARTISANAL DESIGN AND PRODUCTION OF FASHION

MAARIT AAKKO
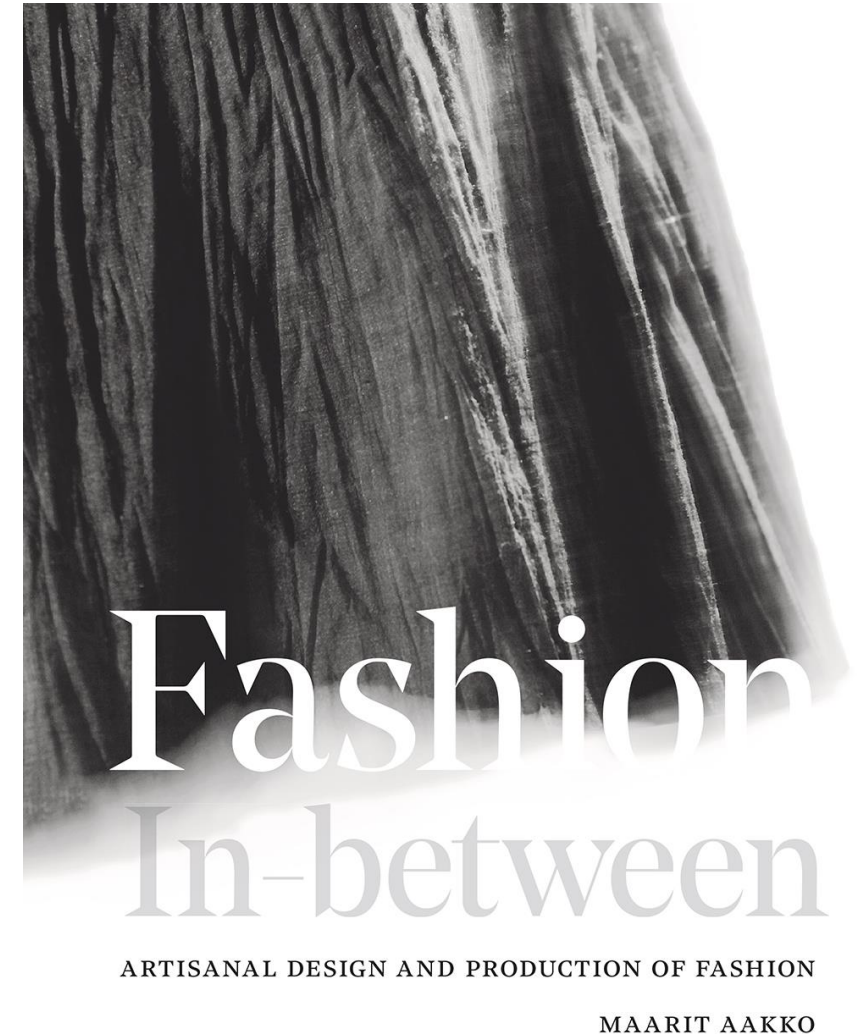
Observation

Talking Through Our Bodies

Draping with a moving subject as a fashion design process

Kasia Gorniak, Master's Thesis, 2017

https://aaltodoc.aalto.fi/items/ca6d1a4e-17ab-444d-a56e-ca73a407abe4

In a long continuous, silent exercise,

Probes

- Julia Valle Noronha (2019) Doctoral dissertation

Julia Valle-Noronha

Becoming with Clothes

Activating wearer-worn engagements through design

6
Experiment 2: Wear\Wear
183

FIGURE 54
Folding a dress for the Wear\Wear experiment. The picture shows the moment before (left) and after the heat press (right).

BACK OF DRESS
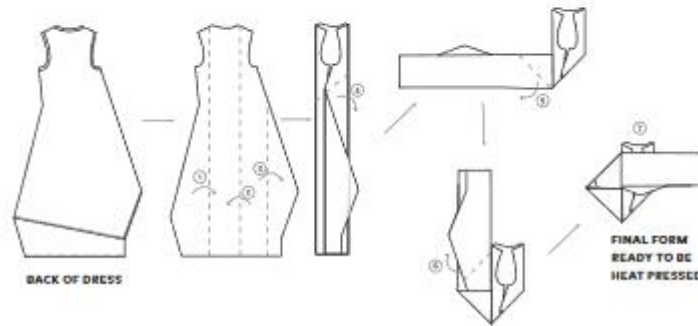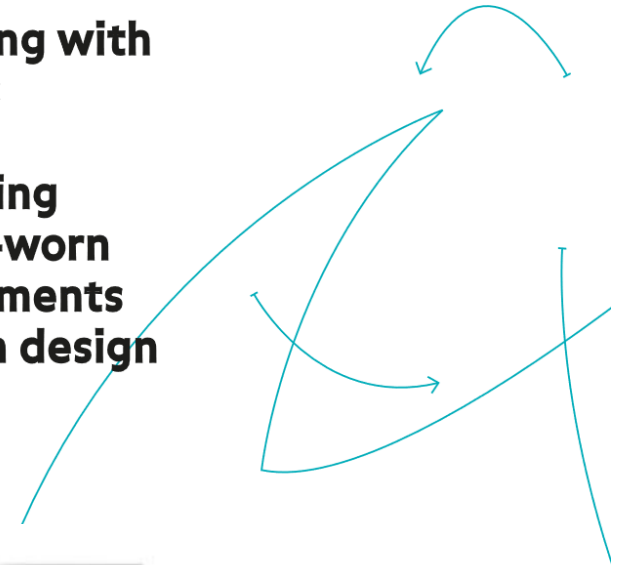
FINAL FORM
READY TO BE
HEAT PRESSED

FIGURE 55
Instructions for folding the pieces before heat-press. All pieces were folded following the same instructions, regardless of their size/length.

Experiment 2: Wear\Wear
96

FIGURE 64
The picture shows a group discussion for the Wear\Wear project Belo Horizonte. On the day, the pieces received were brought to the space and supported the discussion.

https://aaltodoc.aalto.fi/items/547ac3c4-dd53-4379-8210-94a4d6577f6f

Mattelmäki, Tuuli
(2006)
Design probes

https://aaltodoc.aalto.fi/items/65a46fd8-1dc4-4202-b8a9-520a011f8232

Contents

Probes

- Petra Ahde-Deal (2013)

I got this piece of jewelry from my mother when I turned ten. It is a pendant, and it is made of silver and enamel. It portrays Mary and baby Jesus. On the back is the engraving "Andenken von deiner Mutter", memento from your mother.

The jewelry was first given by my grandmother's grandmother to her daughter. She was Austrian, and that is why the text is in German. The pendant has always passed from mother to daughter, and that is why I got it from my mother. When I got the piece of jewelry, my mother had made a card to go with it, having the names, pictures and birth years of all the people who have worn it. Mother also wrote the story of the pendant on the card.

WOMEN AND JEWELRY

PETRA AHDE-DEAL
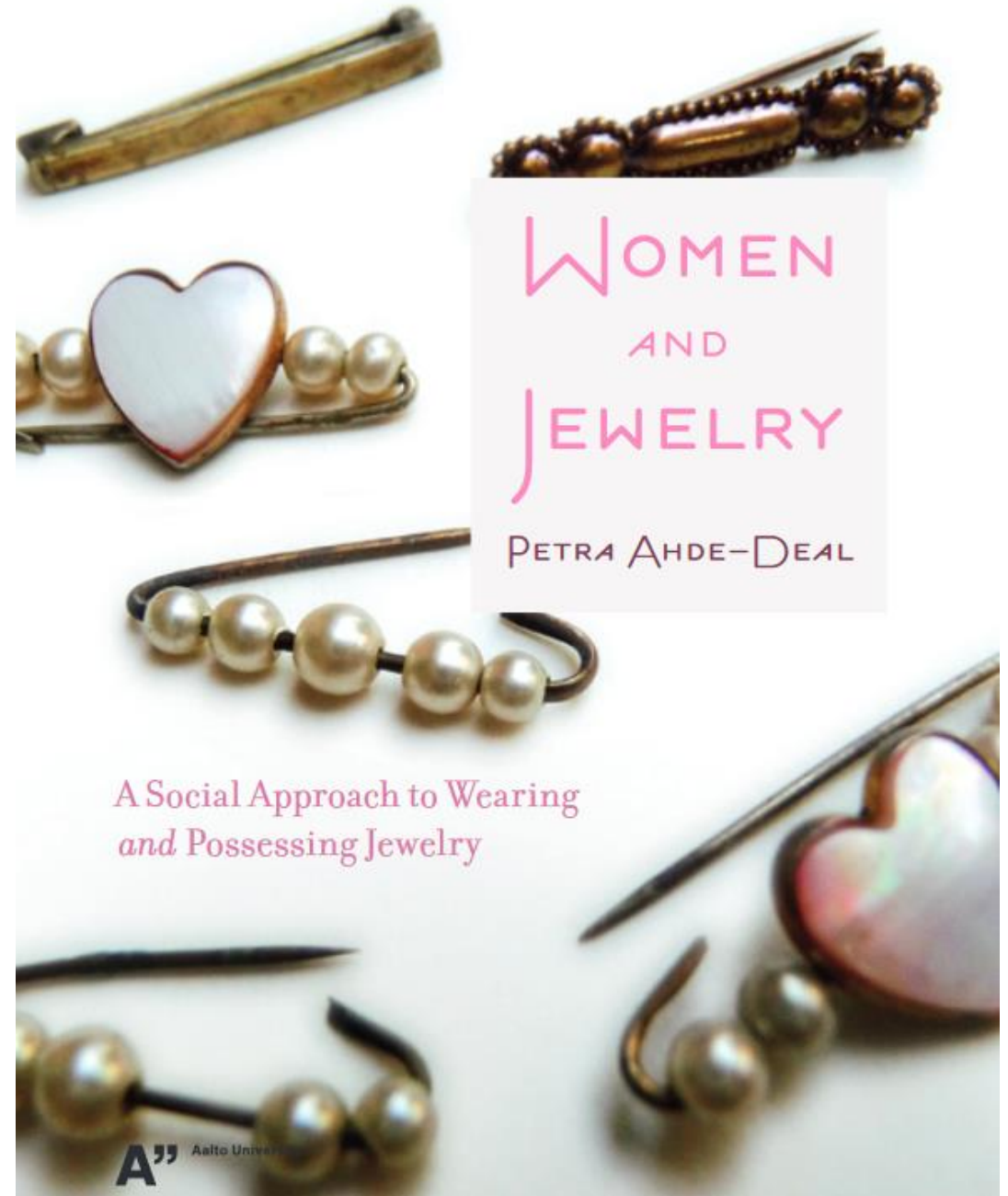
A Social Approach to Wearing and Possessing Jewelry

Elizabeth B.-N. Sanders & Pieter Jan Stappers (2014) Probes, toolkits and prototypes: three approaches to making in codesigning, CoDesign, 10:1, 5-14

Table 1. A comparison of the three approaches to making.

	Probes	Toolkits	Prototypes
What is made?	Probes are materials that have been designed to provoke or elicit response. For example, a postcard without a message.	Toolkits (made up of a variety of components) are specifically confirmed for each project/domain. People use the toolkit components to make artefacts about or for the future.	Prototypes are physical manifestations of ideas or concepts. They range from rough (giving the overall idea only) to finished (resembling the actual end result).
Why?	Designers find inspiration in users' reactions to their suggestions.	To give non-designers a means with which to participate as codesigners in the design process.	To give form to an idea, and to explore technical and social feasibility.
What is it made out of?	Probes can take on a wide variety of forms such as diaries, workbooks, cameras with instructions, games, etc.	Toolkits are made of 2D or 3D components such as pictures, words, phrases, blocks, shapes, buttons, pipe cleaners, wires, etc.	Prototypes can be made from a very wide array of materials including clay, foam, wood, plastic, simple digital and electronic elements.
Who conceives?	Designers create the probes and send them to end-users and other stakeholders, often with little or no guidance of how the end-users should treat them.	Designers and researchers make the toolkits and give them to others to use to make artefacts. The process is often facilitated or guided.	Codesigners create the prototypes to envision their ideas and to display and to get feedback on these ideas from other stakeholders.
Who uses?	End-users and other stakeholders individually complete the probes, returning them to the person who sent them out.	End-users and other stakeholders use them to make artefacts about or for the future. Toolkits work with both individuals and small groups.	Designers use the prototypes as design tools. End-users may use the prototypes during evaluative research events.

Lead user study

Cultivating Sportswear Innovation

A Mixed Approach Combining The Lead User Method and Participatory Design

Yi-Ning Chuang

2019

Mountaineering – A Combinatory Approach for Identifying Lead Users and Other Rare Research Subjects

Samuli Mäkinen
Pia Helminen
Mikael Johnson
Sampsa Hyysalo
Jouni K. Juntunen
Stephanie Freeman

2013

- Pioneering consumers
- Very early phase of product development

(fuzzy front end of product design)

- Developing the idea further towards commercial innovation
- Especially in the wearable/sport, technical sector, e.g. mountain bikers
- E.g. Pia Hannikainen (2005) *Disabled Persons as Lead Users in Mobile User Interface Design.* Aalto University

Lead users
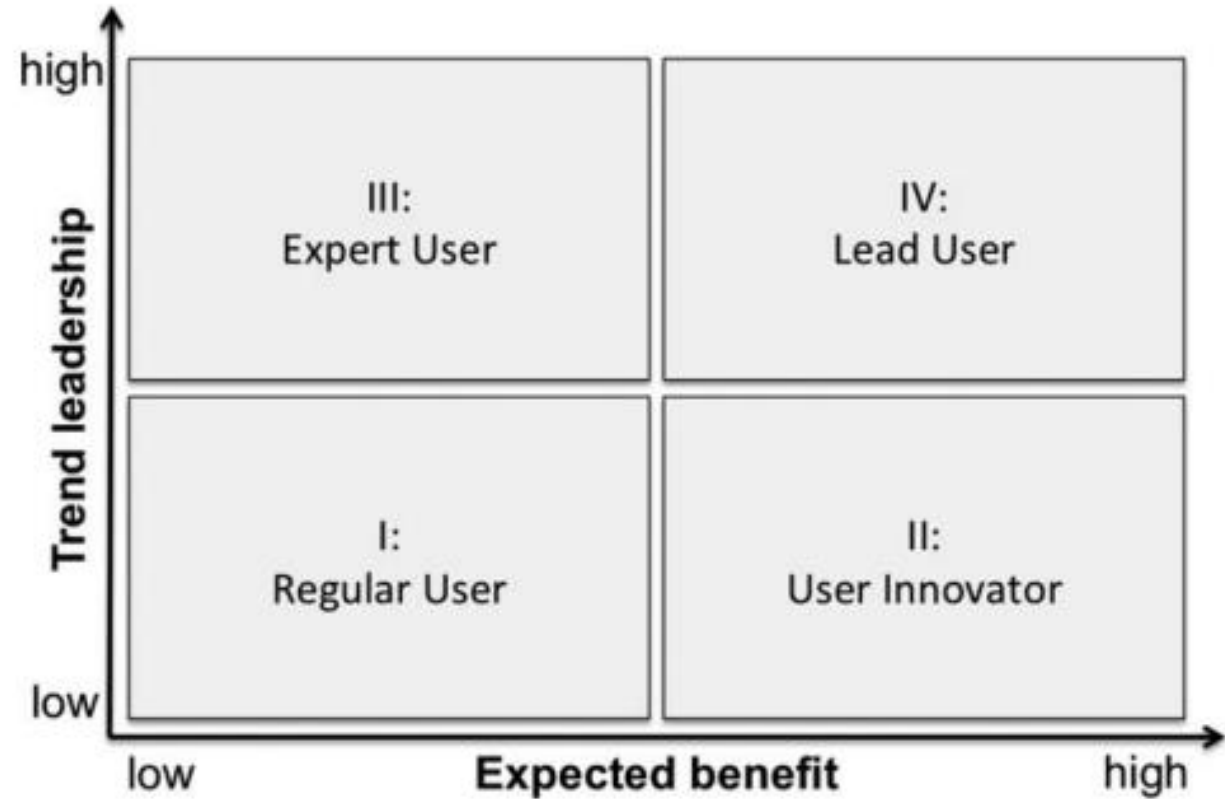
Figure 1. A Typology of Users Based on the Two Dimensions of the Lead User Construct

Hienerth, Lettl (2016) Perspective: Understanding the Nature and Measurement of the Lead User Construct. J PROD INNOV MANAG 2017;34(1):3–12.

Leas user study

Figure 2. Positioning of Lead User Activity with Respect to the Diffusion Curve

Test groups

When designing and prototyping a new product

Kyber Nina (2017) *Hupulla vai ilman? – Modulaarisen malliston matka käyttöliittymän kautta kuluttajalle*
With hood or without? – The journey of modular collection through the user interface to the consumer

- Työssä käytetyt tutkimusmenetelmät ovat kirjallisuuskatsaus sekä **kolmivaiheinen fokusryhmähaastattelu**. Haastatteluiden ja käyttäjäkokemuksen avulla haetaan vastauksia siihen, miten Minujun tuotepalvelumallin menestymismahdollisuudet voidaan optimoida markkinoilla. Lisäksi tarkastellaan, miten Minujun tulevaa toimintaa voisi kehittää mahdollisimman asiakaslähtöiseksi, toimivaksi, kysyntää vastaavaksi sekä minkälainen käyttöliittymä toimii Minujun kuluttajalle parhaiten.

- 3 phases in PSS development. Using focus group to test the product idea and service functions in each phases.

Lauri Pirita (2017) *Extract, Concept for a Coordinated Print Collecion for Mass Customixzation.* MA thesis Aalto University

a

b

c

Fixed product size
Fixed composition
size 450cm x 300cm
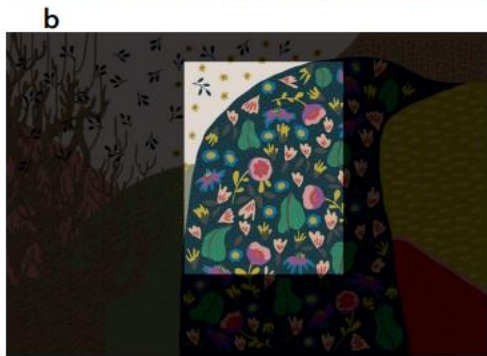
Duvet cover,
150cmx200cm

Picture 22. Flowerfall toolkit. First the user (a) observes the collection as a whole and chooses a product, then s/he (b) explores the collection and makes his/her choice. Now (c) the extracted digital product can be produced into physical form.

Picture 23 Flowerfall, detail in actual scale.

Pirita Lauri

E X T R A C T

Concept for a Coordinated Print
Collection for Mass Customization
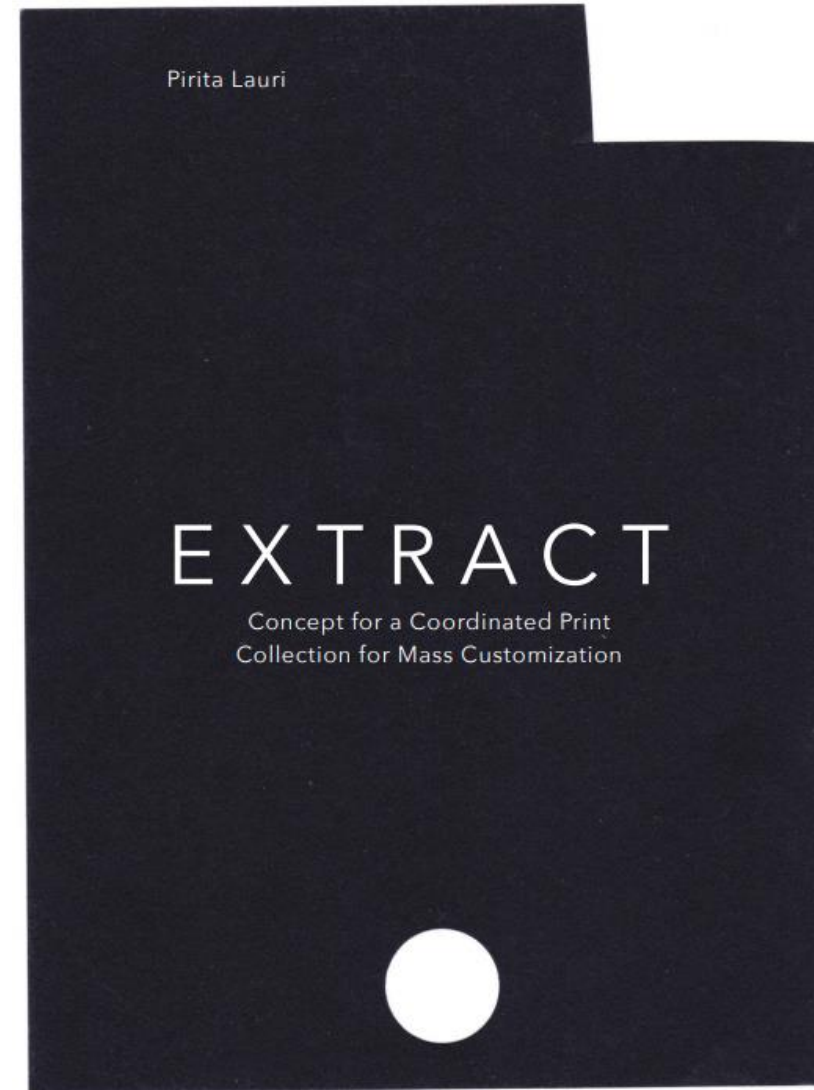
Participatory design, co-design

JOYFUL
PARTICIPATION
IN NEW WAYS
OF DESIGNING
AND MAKING
CLOTHES.

ENABLING PERSON-PRODUCT ATTACHMENT
TO POTENTIALLY REDUCE UNNECESSARY
CONSUMPTION.

Hirscher Anja Lisa

2013, MA thesis, Aalto University

Y-axis: LEVEL OF DIFFICULTY — top [Experience required], bottom [no former skills required]

X-axis: DEGREE OF USER CUSTOMISATION — 0 to 100%, [100% designer made] to [100% user made]

07 adjust pattern with instructions (e.g. different shoulders, gathering, tunnel on waist..)

08 free adjustments in length and width without help, fabric is ready cut

09 fabric & adjustable pattern provided

04 customizing the garment with self made accessories, bottom seam open

05 adjustments in length and width can be made with instructions, arms, and neck seam ready.

06 basic pattern can be modified, e.g. attaching arms, collar. Neck and shoulders are ready.

01 ready made garment

02 information and selection of adjustable details will be provided e.g. belt, flowers, accessories ...

03 fabric for a simple pattern is cut, ready to sew, different ready made pieces can be combined

Hirscher (2013, 110)

Co-designing

- Co-design can be seen as 'collective creativity as it is applied across the whole span of a design process', and as 'a process of collaborative design thinking: a process of joint inquiry and imagination in which diverse people jointly explore and define a problem and jointly develop and evaluate solutions' (Sanders and Stappers, 2008; Steen 2013)

‘Co-design as CBPR ’ Framework

Collective creativity of collaborating designers -
Engaging people in collaborative design project -
Designers lead the project and hear diverse opinion -
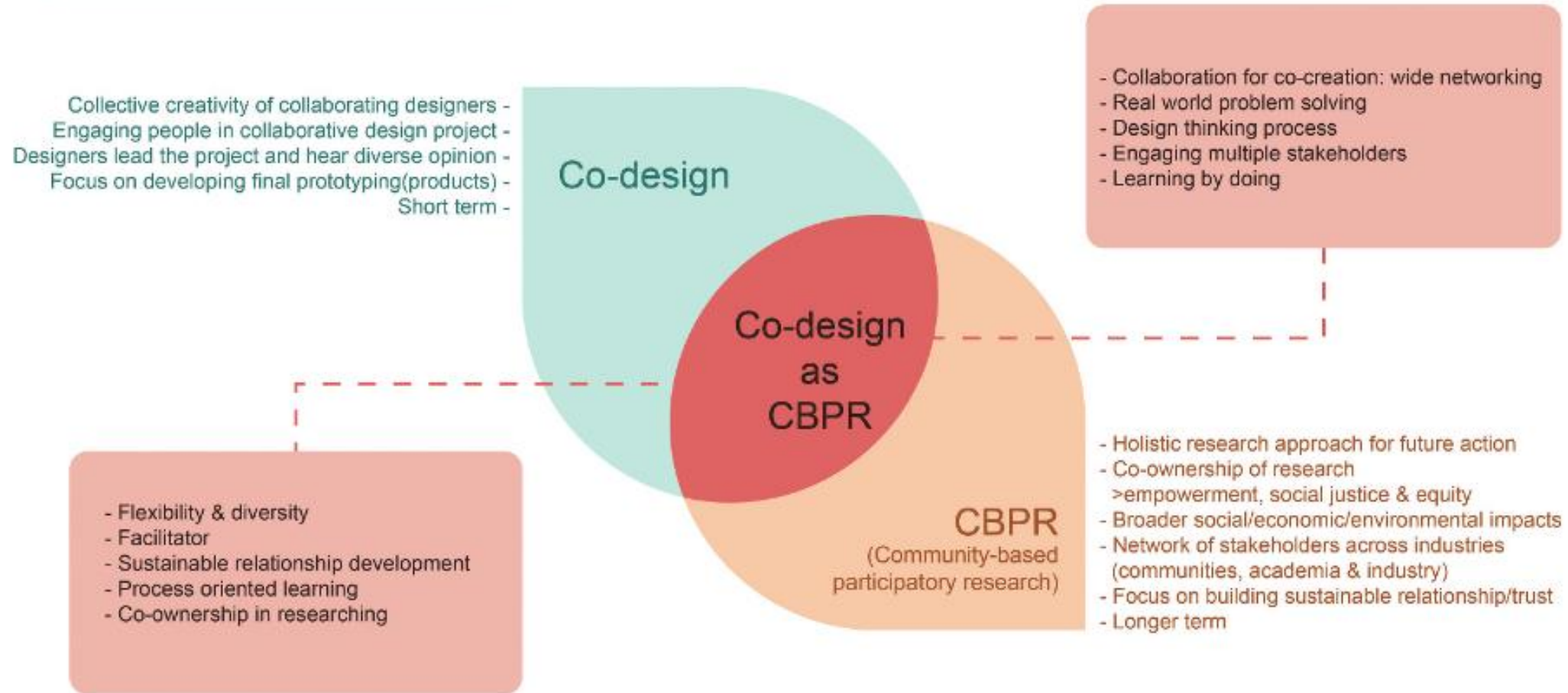Focus on developing final prototyping(products) -
Short term -

Co-design

- Collaboration for co-creation: wide networking
- Real world problem solving
- Design thinking process
- Engaging multiple stakeholders
- Learning by doing

Co-design as CBPR

- Flexibility & diversity
- Facilitator
- Sustainable relationship development
- Process oriented learning
- Co-ownership in researching

CBPR
(Community-based participatory research)

- Holistic research approach for future action
- Co-ownership of research
  >empowerment, social justice & equity
- Broader social/economic/environmental impacts
- Network of stakeholders across industries
  (communities, academia & industry)
- Focus on building sustainable relationship/trust
- Longer term

Figure 1. ‘Co-design as CBPR’ framework: this demonstrates key features (separately) of both ‘Co-design’ and ‘CBPR’. Therefore, it emphasises the key benefits of ‘Co-design as CBPR’ as an integrated approach.

Jekala, Brandewieb, Kim (2023) Exploring the future of fashion design education for generation Z through ‘Co-design as community-based participatory research, *CODESIGN*, 19(4), 346–362

Open design, offering more active role for consumer

- Natalia Mustonen (2013) *FASHION OPENNESS Applying an Open Source Philosophy to the Paradigm of Fashion.* MA thesis, Aalto University

- My research-based thesis investigates the philosophy and approach of **open source being applied to fashion practice** in order to reflect on the benefits this may offer to creating a more environmentally, socially and economically sustainable fashion system. At the breaking point of the industrial and post-industrial era, caused by information technology, we are experiencing **the trend of "openness"** among many fields, such as media, politics, music and science. Escaping increasingly from hierarchical thinking and one-way communication, also fashion is striving for sharing structures and user **empowerment.**

https://aaltodoc.aalto.fi/items/47bca4b8-d01c-44a5-921c-6bcf3be92163

Different roles, different power structures

Figure 4. The evolution of the role of the customer in the historical context (Fuad-Luke, 2009: p95)

customer → consumer → user → participant → adapter → co-creator

Mustonen Natalia (2013, 24)
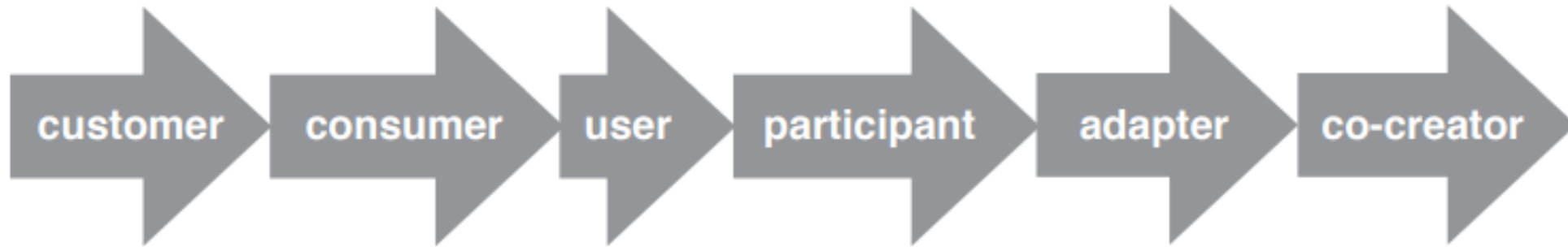
ENABLERS:
the internet/Web 2.0,
information technology ->
platforms/spaces for openness,
either virtual or physical

DRIVERS:
economic, ecological and social
crisis ->
search for innovative systems
that are adjustable to present
reality

Level 5. Empowerment: DIY, elimination of waste, search for meaning, slow-culture, participation into construction of culture

Level 4. Collaboration: co-creation, participation, customization, 'the death of author' and the ego etc.

Level 3. Sharing: spreading knowledge, free distribution of intellectual property, 'common pool' of ideas/designs/blueprints/toolkits, altruism
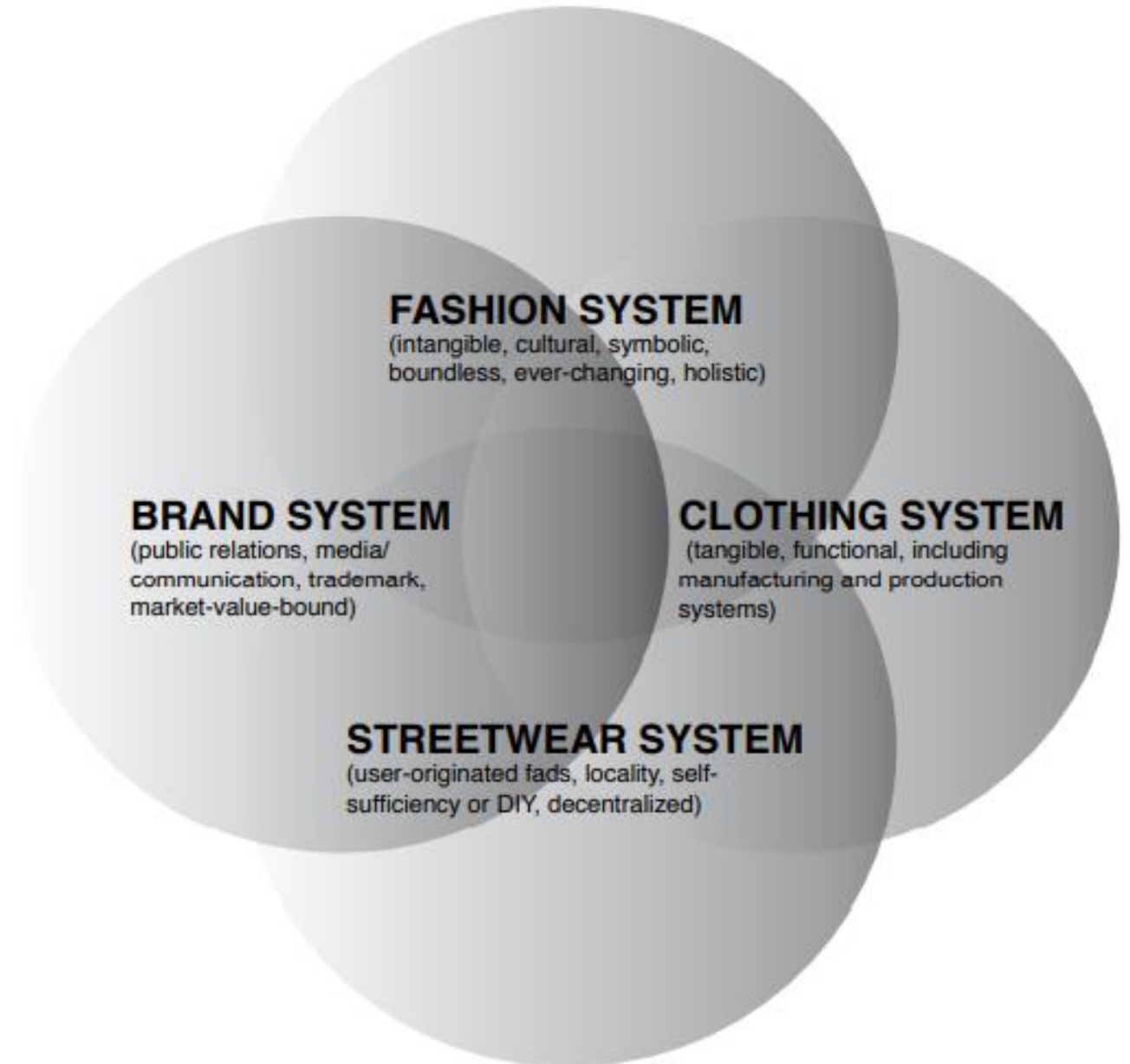
Level 2. Open-ended: unfinished, undefined, hackable, modifiable, modular, open for development

Level 1. Transparency: honesty, exposing the system

Mustonen Natalia
(2013, 37)

System level

Figure 7. Apparel related systems.

FASHION SYSTEM
(intangible, cultural, symbolic, boundless, ever-changing, holistic)

BRAND SYSTEM
(public relations, media/ communication, trademark, market-value-bound)

CLOTHING SYSTEM
(tangible, functional, including manufacturing and production systems)

STREETWEAR SYSTEM
(user-originated fads, locality, self-sufficiency or DIY, decentralized)

Mustonen Natalia (2013, 42)

Nina Chen (2015)
A new role for fashion designers in the
apparel industry: a facilitator (in library)

How to get information from users

1) Sales statistics, numbers
2) Surveys
3) Observation
4) Interviews
5) Lead users
6) Test groups
7) Participatory design, co-design

How to get information from users

1) Sales statistics, numbers

2) Surveys

3) Observation

4) Interviews

5) Lead users

6) Test groups

7) Participatory design, co-design

Abstract
Objective approach
Distance
Fictional

How to get information from users

1) Sales statistics, numbers

2) Surveys

3) Observation

4) Interviews

5) Lead users

6) Test groups

7) Participatory design, co-design

Real person(s)
Real emotions
Real meaning
**Real user experiences**
Reality might surprise designer
What kind of consumption practices your design is causing

How to get information from users

1) Sales statistics, numbers

2) Surveys

3) Observation

4) Interviews

5) Lead users

6) Test groups

7) Participatory design, co-design

Reality
System level understanding
Connections
Designing-manufacturing-business
Economical-environmental system
Design-material system
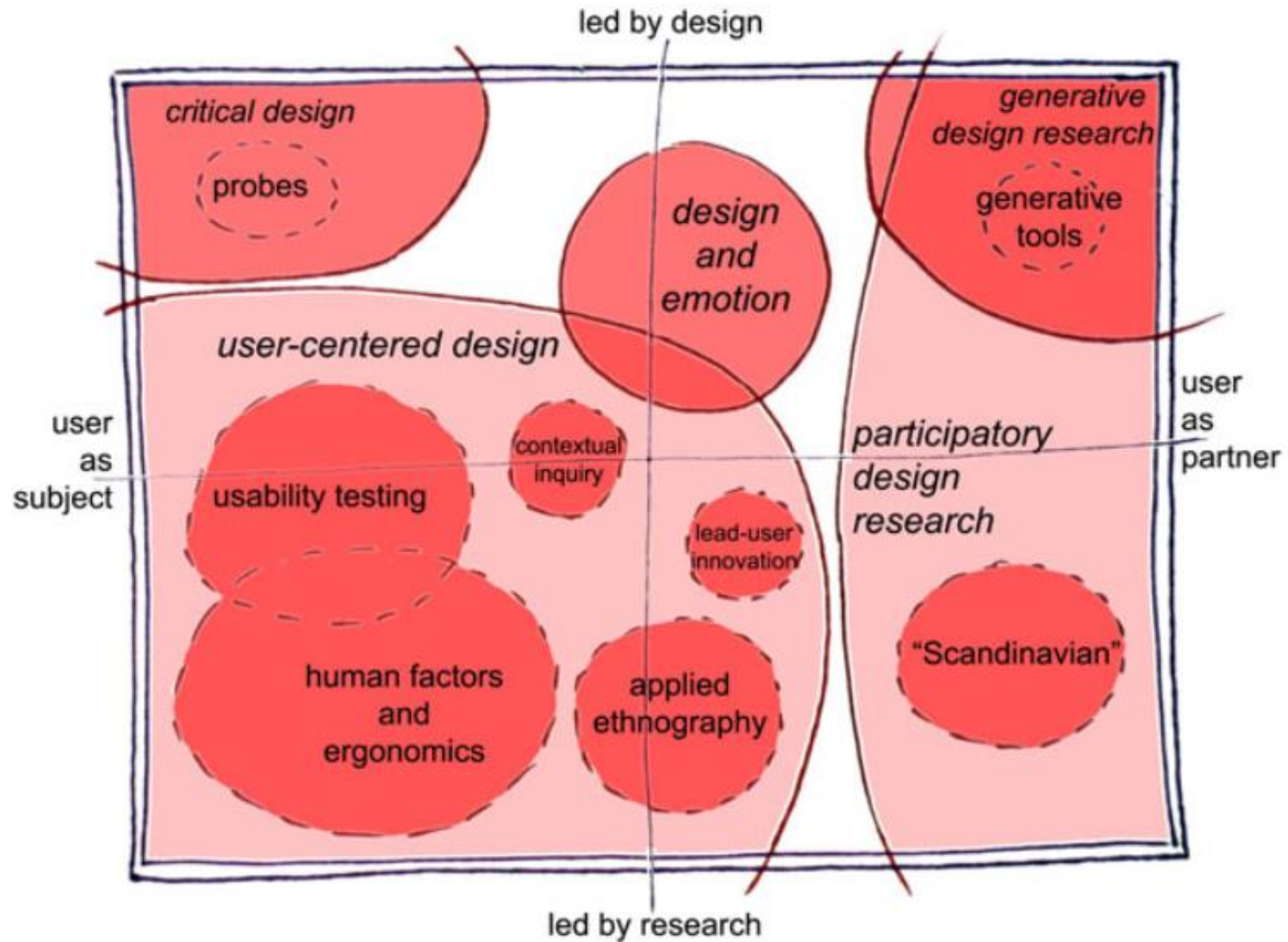
Elizabeth B.-N. Sanders & Pieter Jan Stappers (2014) Probes, toolkits
and prototypes: three approaches to making in codesigning, CoDesign, 10:1, 5-14

In Master thesis

- **Interview;** when view experts are needed
- Construct a map, which kind of knowledge persons are representing
- Half structured questions. You can start even with less pre-work. Conversation type approach
- **Survey;** asking from big group of people
- Take time to construct the survey questions (normally needs literature review)
- Simple questions. You need to have anticipation how people are answering
- Use guidebooks while constructing questions or a survey

Group discussion; User(s)

-Have you used/catered user centered information

-If yes, how (method)

-How would you like to collect information from users?

A) Fictional figure

B) Target group to whom you are designing for

C) Test group who can help in the design process