



Faculty of Design

2013

Systemic design interventions: Using systems thinking and design thinking to intervene in systems

Rygh, Karianne, de Droog, Marc and Arets, Danielle

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Systemic Design Interventions

Using systems thinking & design thinking to
intervene in systems

KARIANNE RYGH





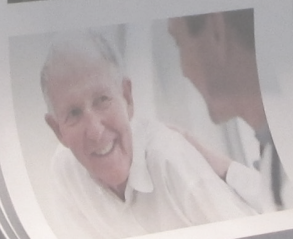
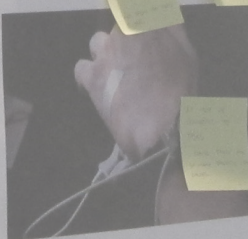
INTER-DISCIPLINARY COLLABORATIONS HELP TO EXPLORE ONE'S OWN PASSIONS AS A DESIGNER.
DEVELOPING THE SKILLS AND AMBITIONS UNIQUE TO ONESELF AS AN INDIVIDUAL.
WHO WOULD YOU LIKE TO COLLABORATE WITH?

COLLABORATIVE RESEARCH THROUGH DESIGN

**STRESS DATA & VISUALISATION:
MAPPING STR**

CONCEPT

New technologies s... Skin S... Who
allow us to collect da... uals
in relation to time spa... his
in turn be used to create new visualisations... How might w
Mapping stress in the workplace may allow
to pinpoint causes of stress both on an... Who should
a... It c... basis o...
s... s... s, it... on with...
o... ts, ... georg...
w... ville...
What data should D... t visua...



crisp 
CREATIVE INDUSTRY
SCIENTIFIC PROGRAMME

Leverage Points

Donella Meadows

1. The power to transcend paradigms
2. The mindset or paradigm out of which the system arises
3. The goals of the system structure
4. The power to add, change, evolve, or self-organize system structure
5. The rules of the system
6. The structure of information flows
7. The gain around driving positive feedback loops
8. The strength of negative feedback loops
9. The length of delays, relative to the rate of system change
10. The structure of material stocks and flows
11. The size of buffers and other stabilizing stocks
12. Constants, parameters, numbers

Leverage Points

Donella Meadows

1. The power to transcend paradigms
2. The mindset or paradigm out of which the system arises



From Burden to Resource

Changing Mindsets through Rehabilitative
Prison Manufacturing



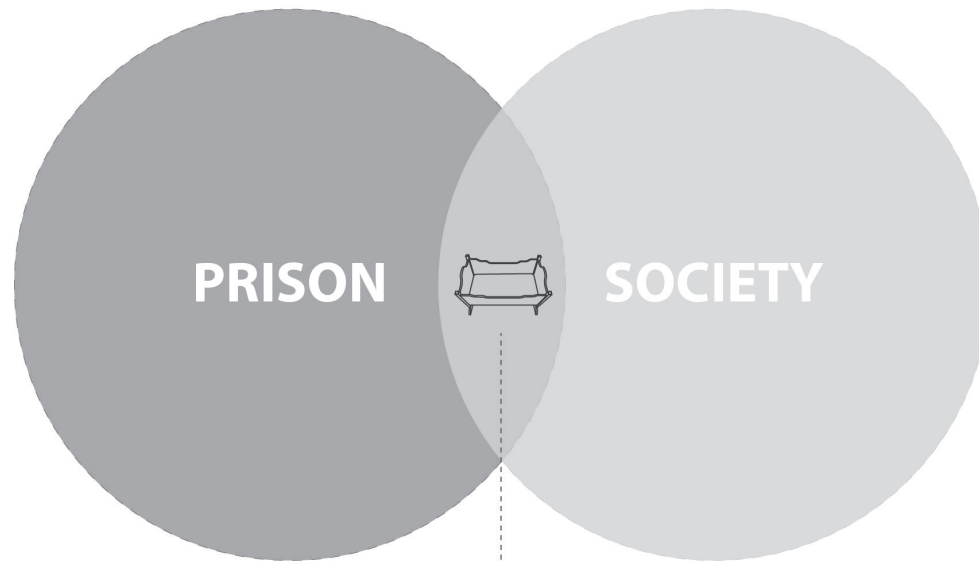




UTSALG

UTSALG

PARKERING
FORBUDT



Furniture in sold outside prison creates an overlapping



Prison workshops in Norway

36	Wood
14	Assembly
13	Metal
12	Textile
8	Farming
7	Mechanical
4	Gardening
4	Forestry
3	Ceramics
3	Painting
2	Soap
2	Weaving
1	Glass
1	Jewelry
1	Stone
1	Bicycle
1	Knitting
1	Printing
1	Sound

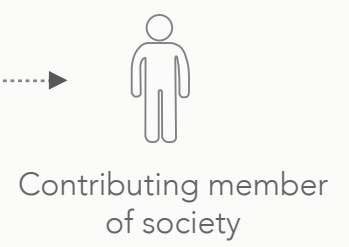
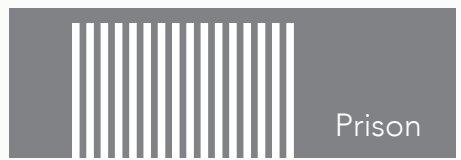
“In the Norwegian prison system, there’s a focus on human rights and respect. When they arrive, many of them are in bad shape. We want to build them up, give them confidence through education and work and have them leave as better people.”

Are Høidal - Prison governor, Halden Prison



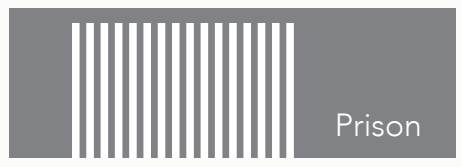
Vik Prison







Inmate



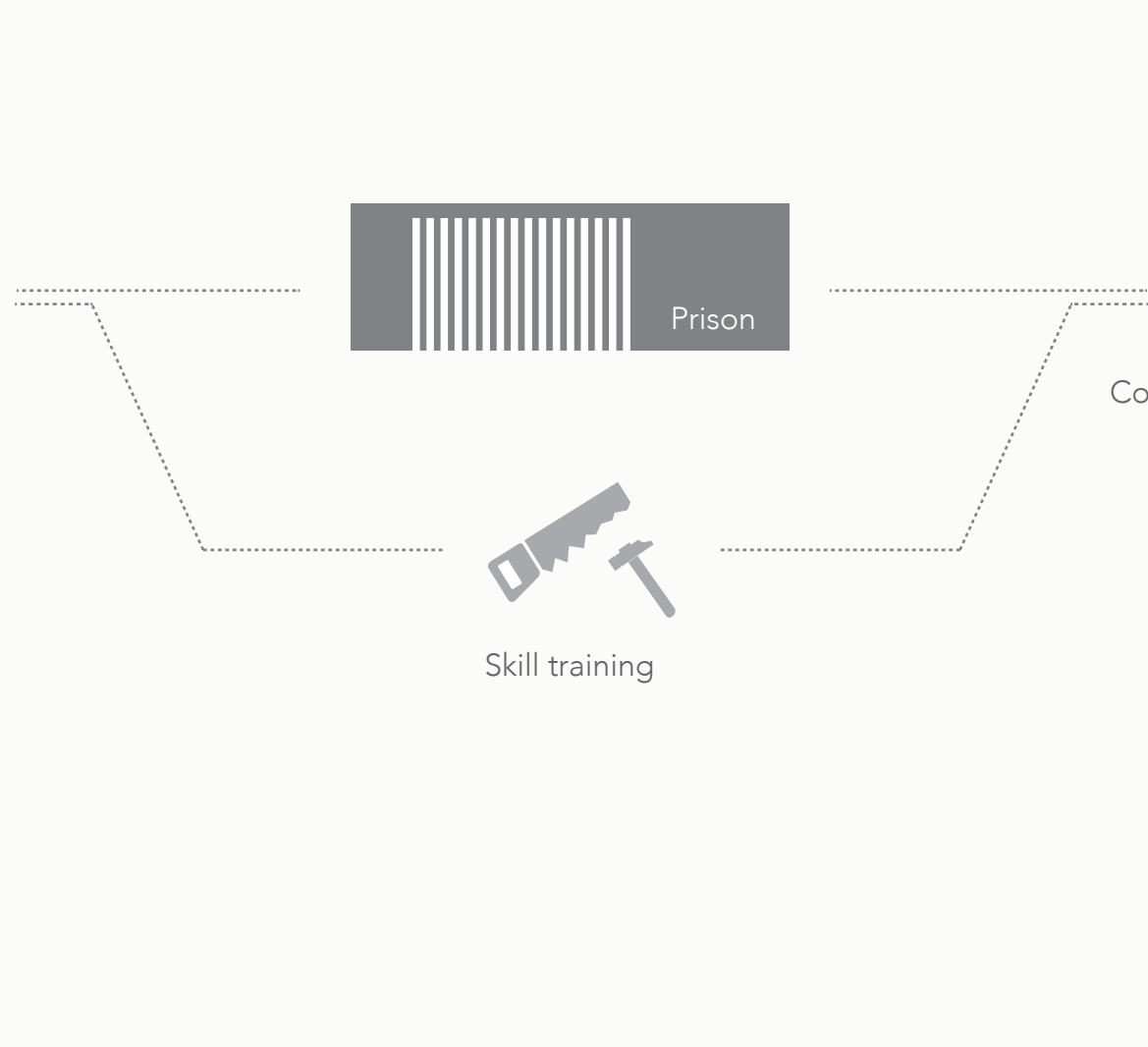
Prison

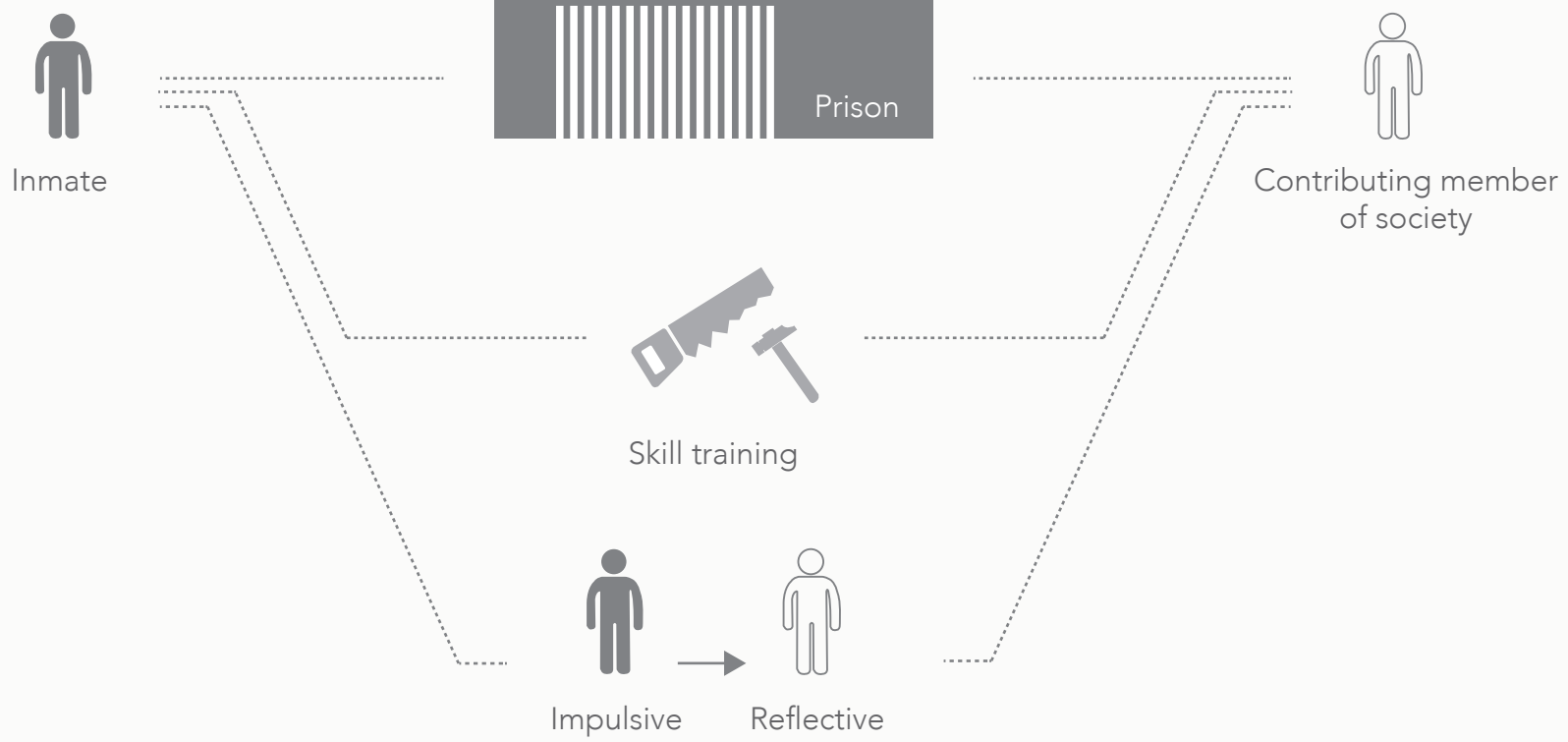


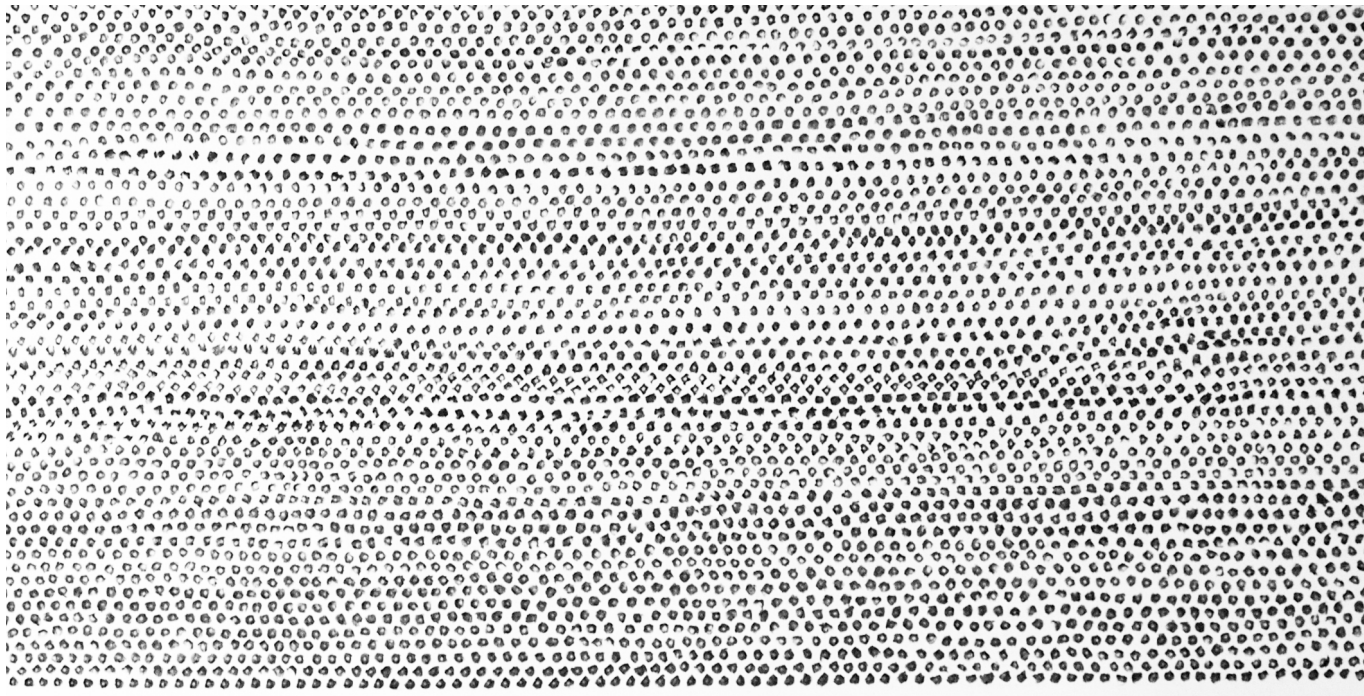
Contributing member
of society



Skill training

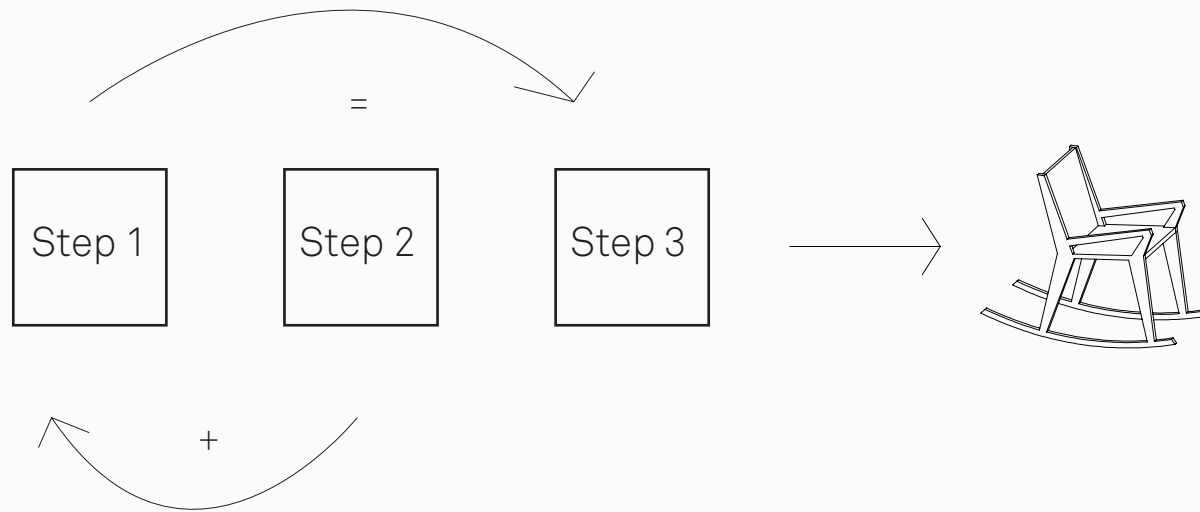


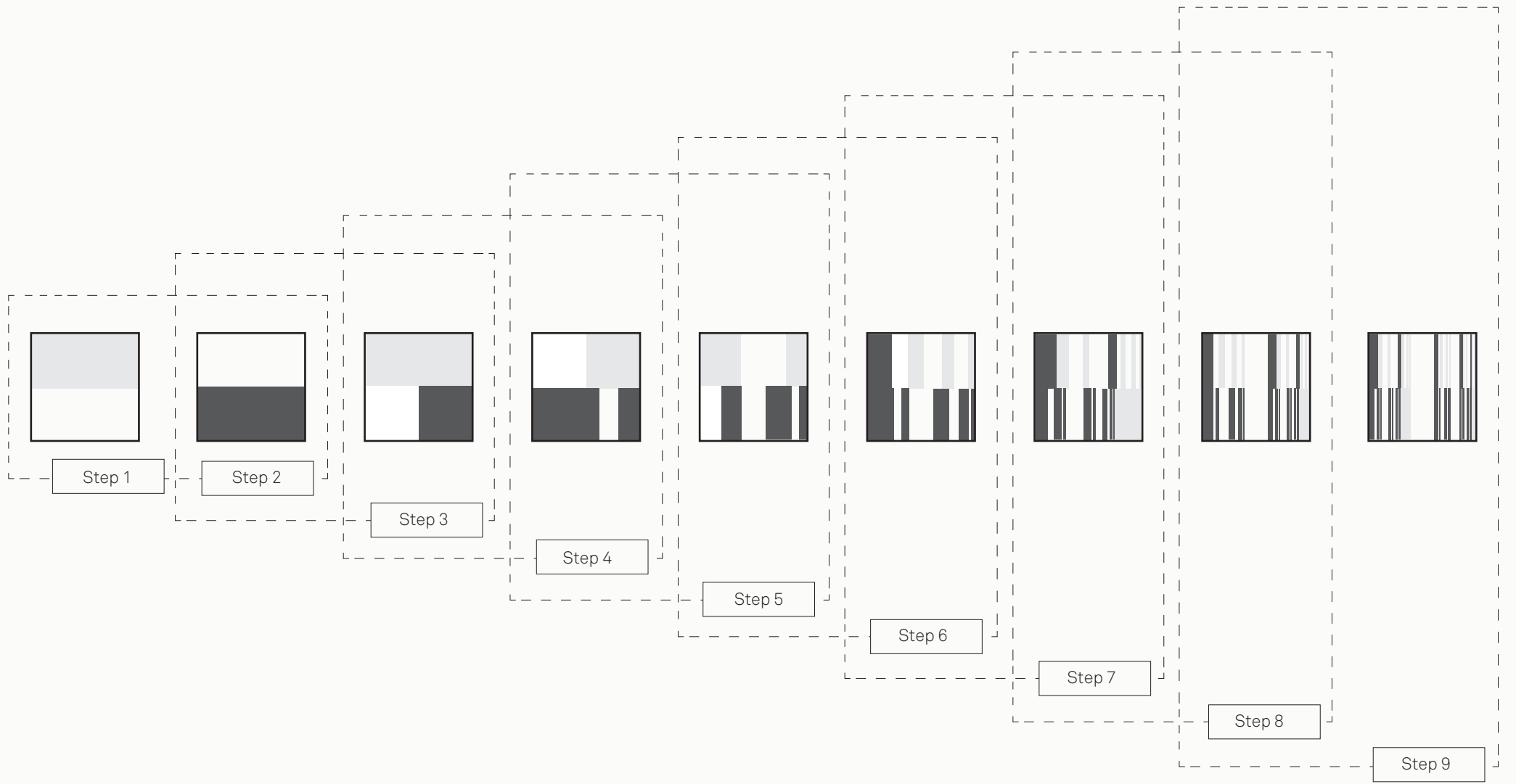






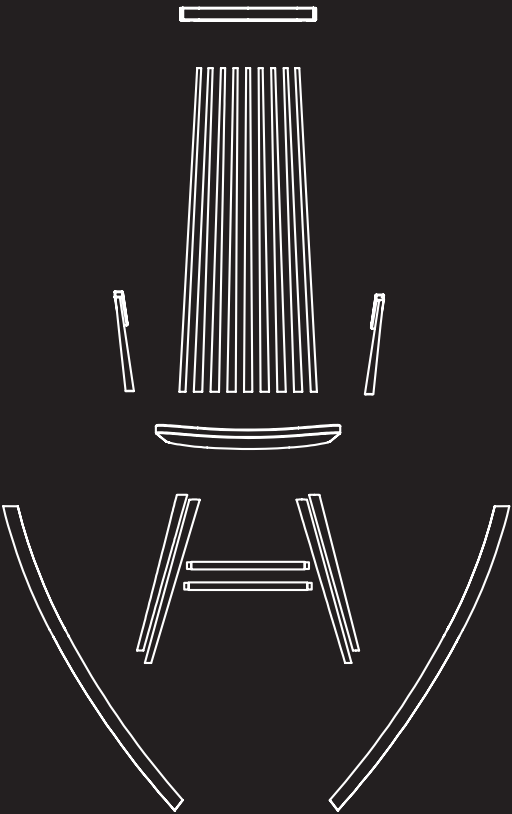






CHOICE WITHIN THE MAKING

A Manual



Product: Rocking Chair

CHOICE WITHIN THE MAKING

A Manual



Product: Rocking Chair

An Introduction

This manual serves as a framework for constructing a rocking chair with guidance from the workshop staff within a prison.

Certain parts of the furniture are pre-fabricated, ensuring a correct construction of the chair, while other parts are shaped by the maker.

The general aesthetic and unique character of the chair is determined by the choices and decision-making of the person constructing it.

The methodology in this manual is based upon a practice of taking a step back to reflect in order to take several steps forward. In other words, decisions that are made in the beginning of the construction process will appear again later in the following steps.

This furniture piece is to be constructed in an environment where there is no abundance of time. This ensures that the focus is on the individual steps of the process and the contemplation with which those actions of making bring.

Before you begin

In order for the making process to begin it is important to become familiar with the parts you will be making.

If not experienced with the process of forming wood, here are some examples of possible shapes:



Prior to commencing, lay out the pieces on the floor. Each piece is numbered, corresponding to the following diagram.

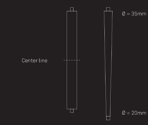
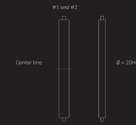
The outlined pieces are pre-fabricated while the white pieces are the ones you will be shaping.

These parts come as 5x60cm beams with the joinery in both ends, already made. You will be shaping these pieces with the process of wood-turning.

Step 1.

Take piece #1 and #2 and turn the squared piece until it is rounded. Continue until you reach a diameter of 20mm. Do not turn the pre-made joinery.

You have now made the support structures for the rocking chair.



Step 2.

Put the previous pieces aside and place pieces #3-4 on the work table.

Mark off the center on each piece.

Instead of turning the entire piece a unified diameter, taper each piece from a diameter of 50mm to 20mm as shown in the diagram.

At the center line, the piece should be roughly 275mm. Repeat the tapering on the 4 pieces.

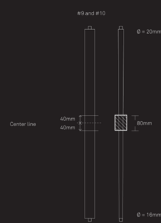
You have now made the legs of the rocking chair.



Step 3.

Taking pieces #7 and #8, taper them as you did in the previous step but now with the diameters of 10mm and 20mm.

You have now made the armrest supports of the chair.



Step 4.

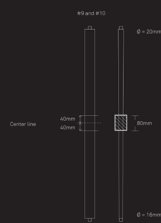
The following steps will create the back rest of the chair where you will be shaping sections of 80mm according to your own choice.

It is wise to keep these shapes simple in the beginning, since the shapes are to be repeated on other pieces.

For each piece, the order of these shapes will change, it is therefore important taper all parts in the same direction, with diameter of 20mm on the left hand side of the lath, and the diameter of 15mm on the right hand side.

Taking pieces # 9 and 10, mark off the center line as before. Thereafter, make a mark of 40mm on either side of the center line.

This 80mm area is to be shaped at free will while the rest of the piece is to be tapered from 20mm to 15 mm, as shown on diagram. Repeat on both pieces.



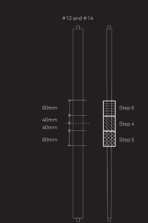
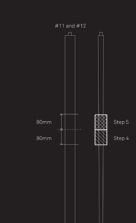
Step 5.

On the bottom left of this page, you can see a box representing the shape you made in the previous step. This shape is also represented on the diagram.

Taking pieces # 11 and 12, mark off the center. Thereafter, make a mark of 80mm on either side of the center line.

There are now two 80mm areas to be shaped. In the first section, on the right hand side, shape the piece as you did in step 4. On the left hand side, create a new shape. See diagram.

The rest of the piece is to be tapered from 15mm to 20mm, as shown. Repeat on both pieces.



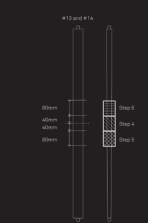
Step 6.

Taking pieces # 13 and 14, mark off the center. Thereafter, make a mark of 40mm and 20mm on either side of the center line.

There are now three 80mm sections to be shaped. In the first section on the right hand side, repeat step 5.

In the following section, repeat step 4. And in the last section, create a new shape. Taper the rest of the piece from 15mm to 20 mm, as shown on diagram.

Repeat on both pieces.



Step 7.

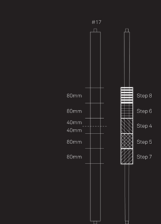
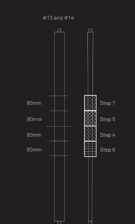
Taking pieces # 15 and 16, mark off the center. Thereafter, make a mark of 40mm and 15mm on either side of the center line.

There are now four 80mm sections to be shaped. In the first section on the right hand side, repeat step 6.

In the following section, repeat step 5. In the next, repeat step 4 and in the last section, create a new shape.

Taper the rest of the piece from 15mm to 20mm on the left, as shown on diagram.

Repeat on both pieces.



Step 8.

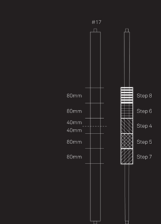
Taking the final piece, # 17, mark off the center. Thereafter, make a mark of 40mm, 15mm and 20mm on either side of the center line.

There are now five 80mm sections to be shaped. In the first section on the right hand side, repeat step 7.

In the following section, repeat step 6. In the next, repeat step 4 and in the one after, repeat step 5. In the last section, create a new shape.

Taper the rest of the piece from 15mm on the right to 20 on the left, as shown on diagram.

You have now created the center piece of the backrest and almost completed the making process.

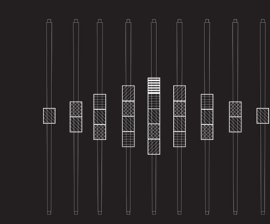


Assembly

The workshop staff will now assist in chiselling the ends of the tapered parts, ensuring a proper fit in the angled joinery.

Once the pieces are chiselled, the rocking chair can be assembled.

Take a seat, you have now completed your rocking chair!



Repair

Through usage, the rocking chair can be returned to the prison for repair if parts are broken.

Through this manual and the guidance of the workshop staff, you have learned to turn pieces of a rocking chair and to customize them according to your own needs and wishes.

A new repaired piece can either be a copy of the pre-existing piece, or it can be customized with a new shape.

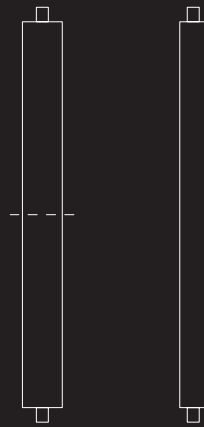
By adding new elements to the chair, it continues evolving through usage.

In this way, the prison offers a repair service to the client, while you, as the maker, can see how others have utilized and benefited from the furniture that you have produced.

End

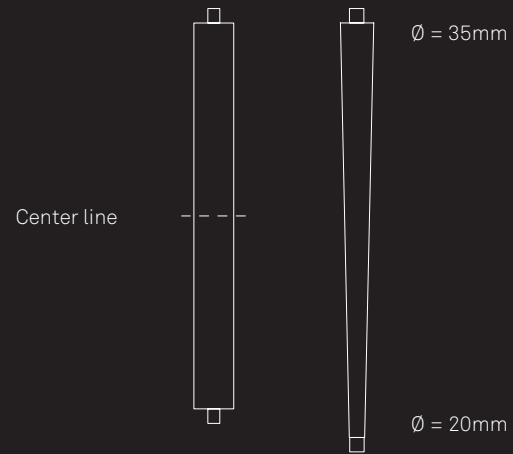
#1 and #2

Center line

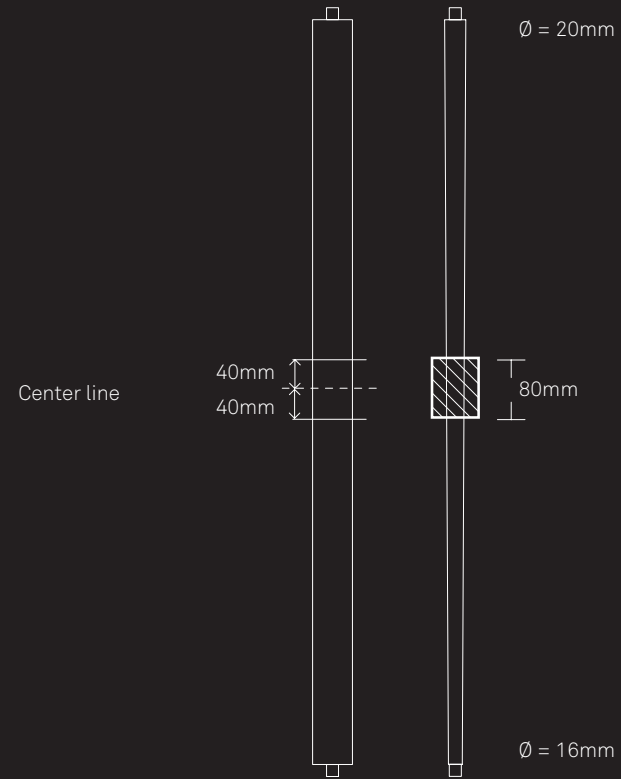


Ø = 20mm

#3,4,5,6



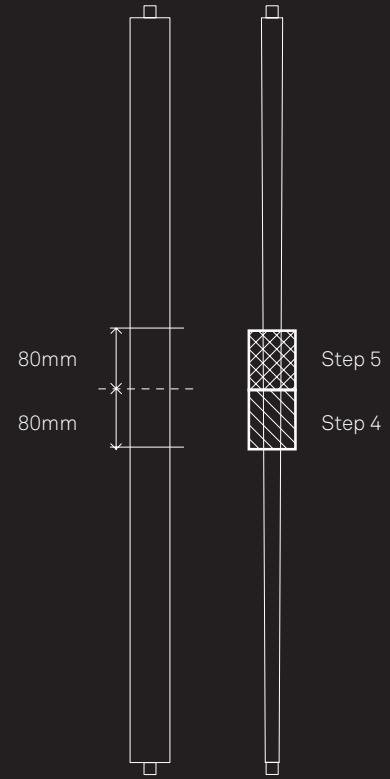
#9 and #10



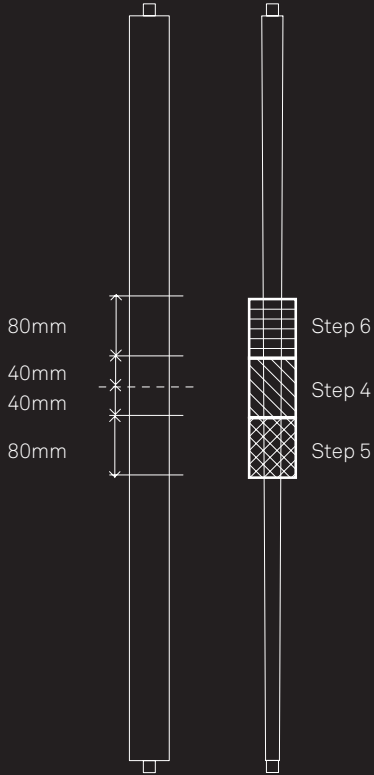
Step 4



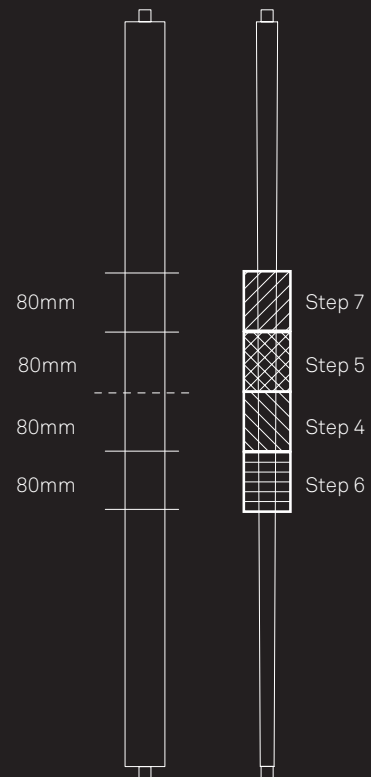
#11 and #12



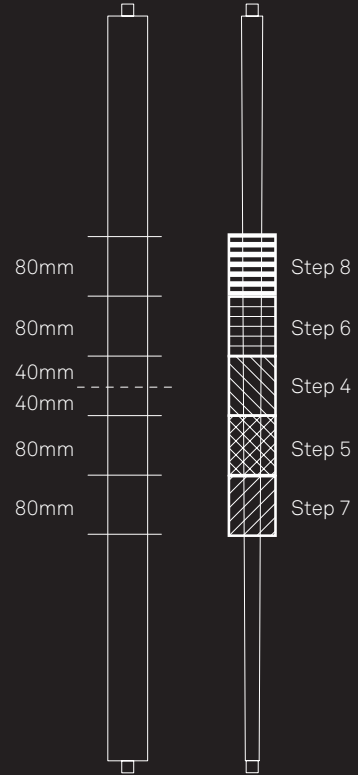
#13 and #14



#13 and #14



#17



Step 4



Step 5



Step 6



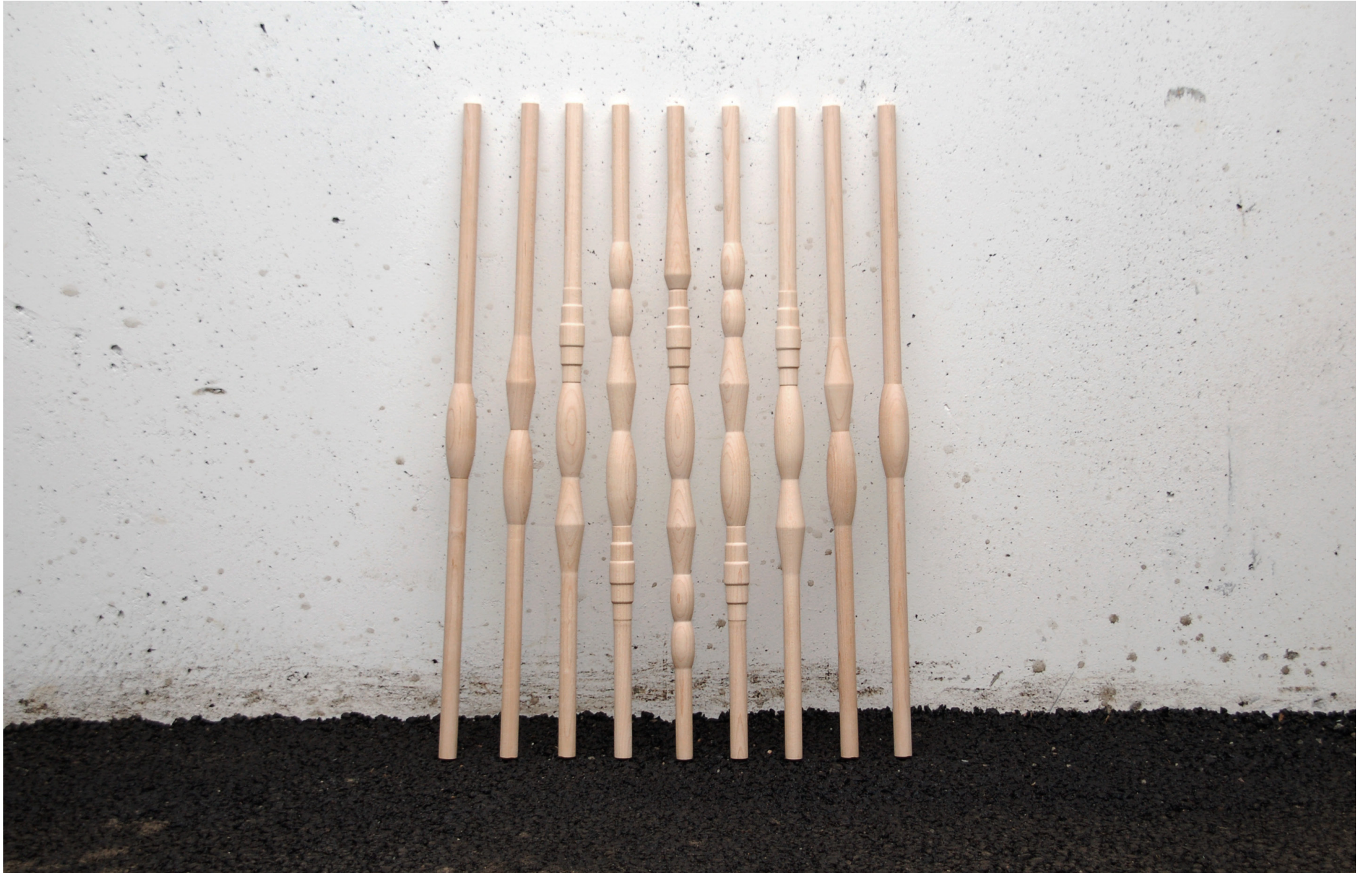
Step 7



Step 8

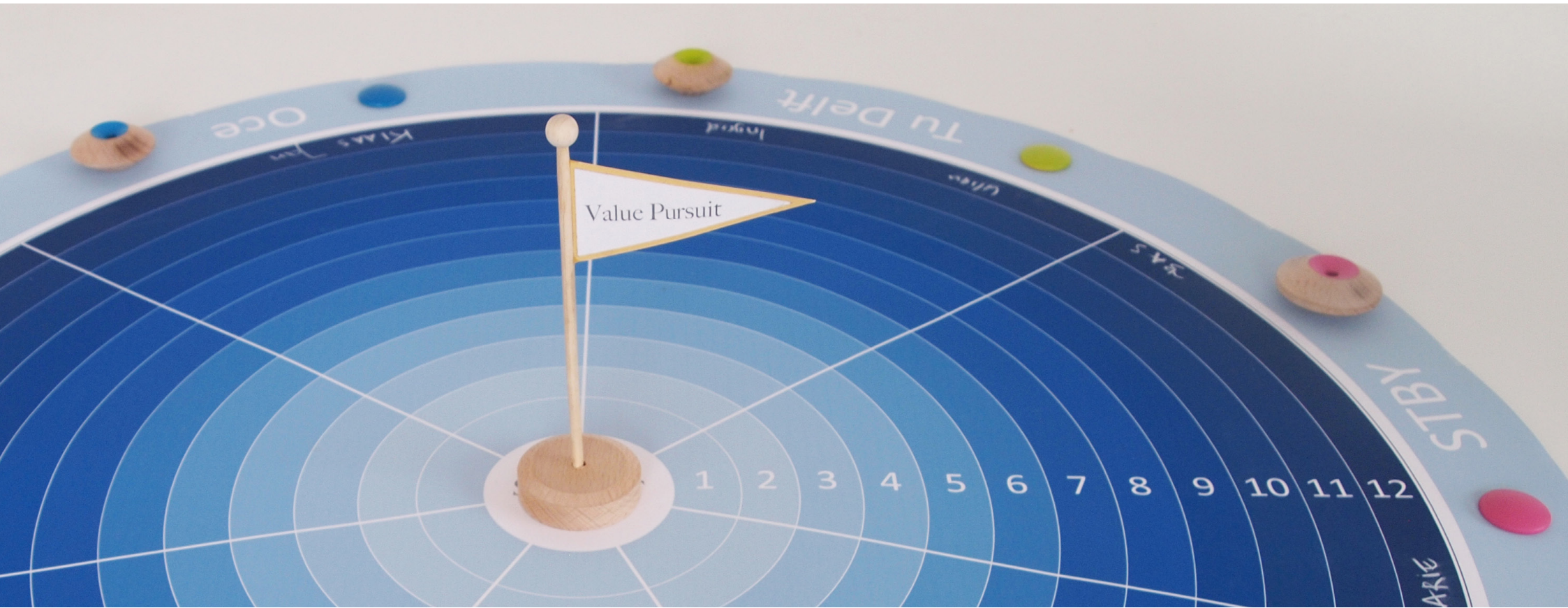


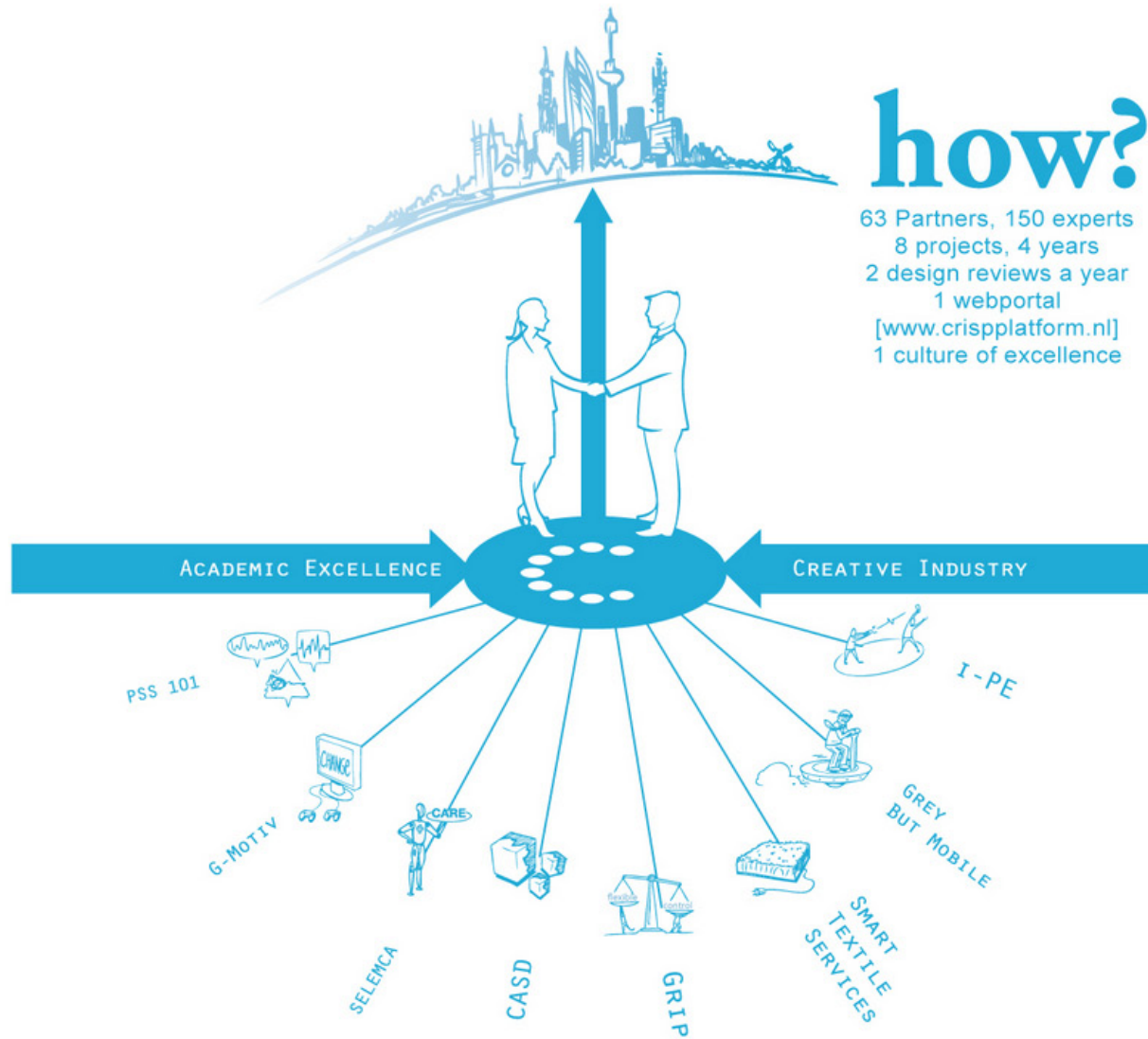




“All men are designers. All that we do almost all the time, is design, for design is basic to all human activity. The planning and patterning of any act toward a desired, foreseeable end constitutes the design process.”

Victor Papanek, 'Design for the Real World'.

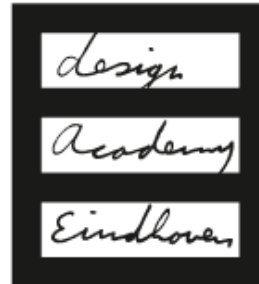




how?

63 Partners, 150 experts
 8 projects, 4 years
 2 design reviews a year
 1 webportal
[\[www.crispplatform.nl\]](http://www.crispplatform.nl)
 1 culture of excellence

By developing knowledge, methods and supporting tools that together form a knowledge infrastructure for designing Product Service Systems



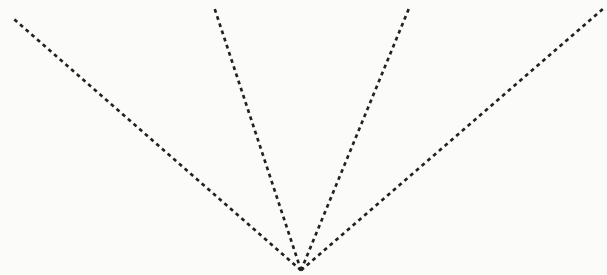
= exact
And it all comes together.



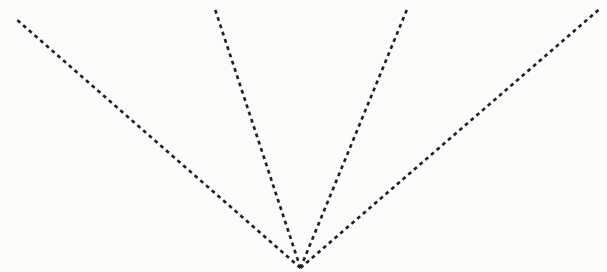
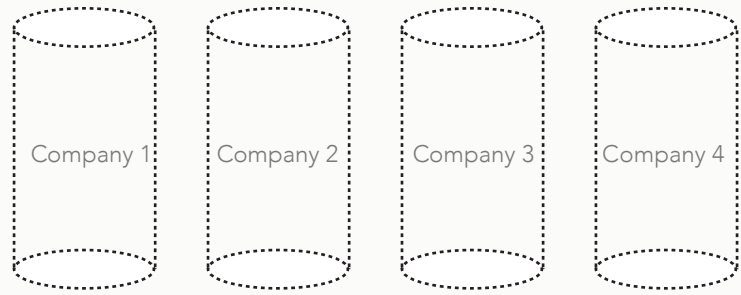
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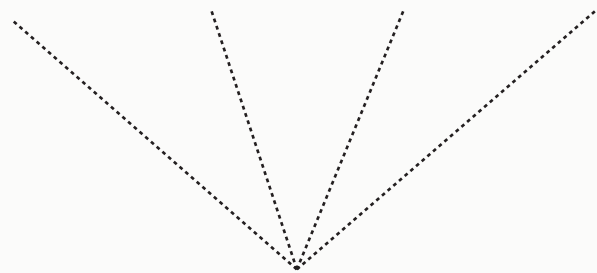
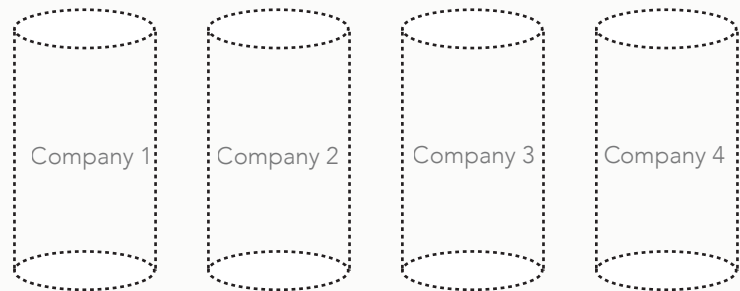
Company 1 Company 2 Company 3 Company 4



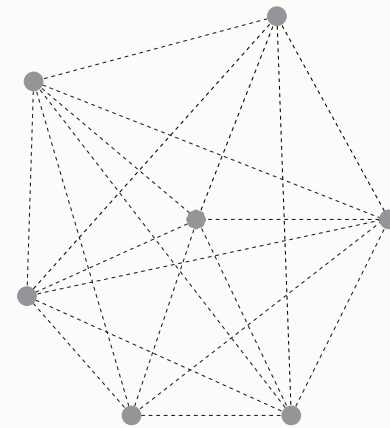
Product Service Systems



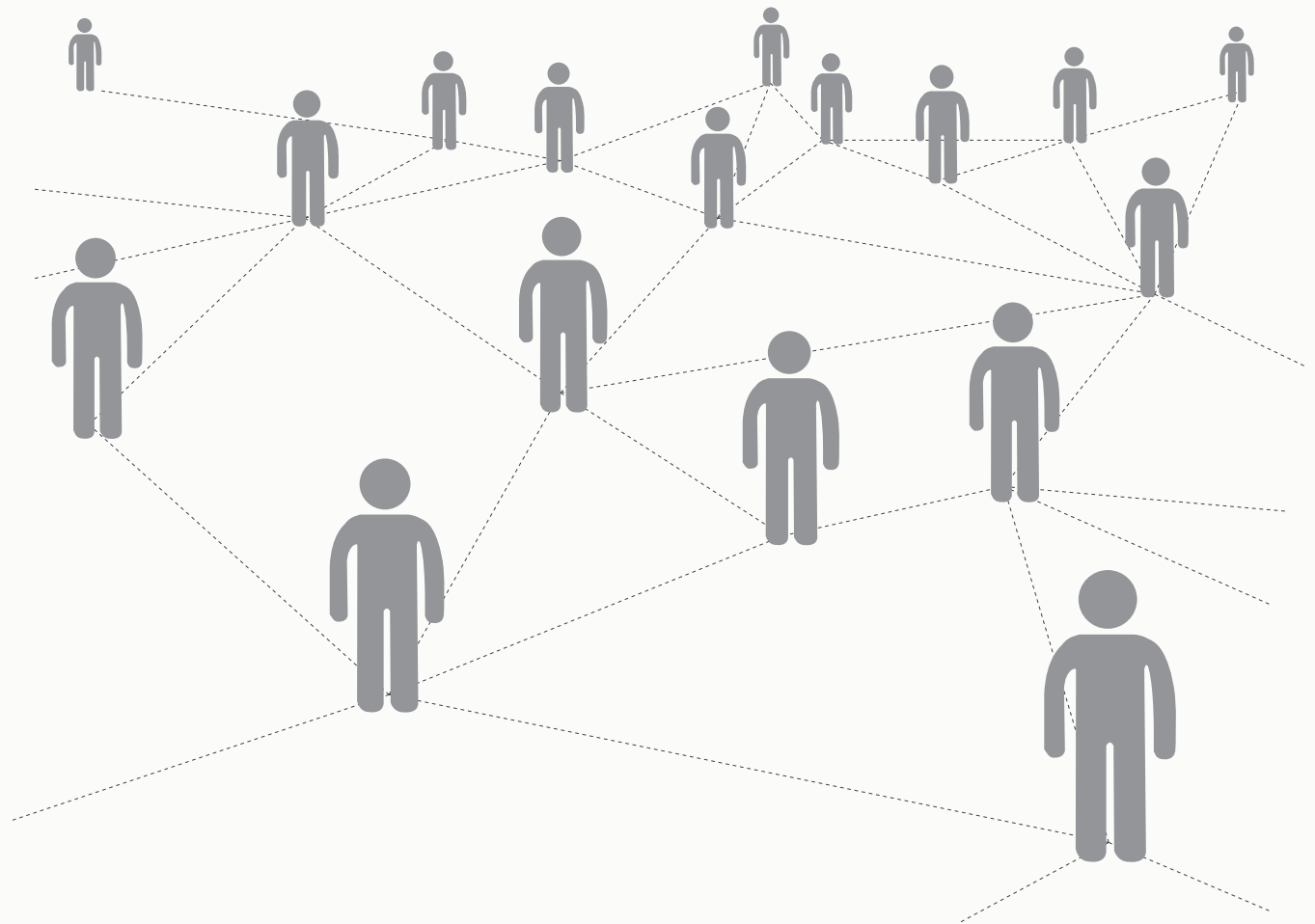
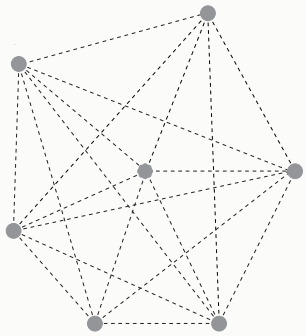
Product Service Systems



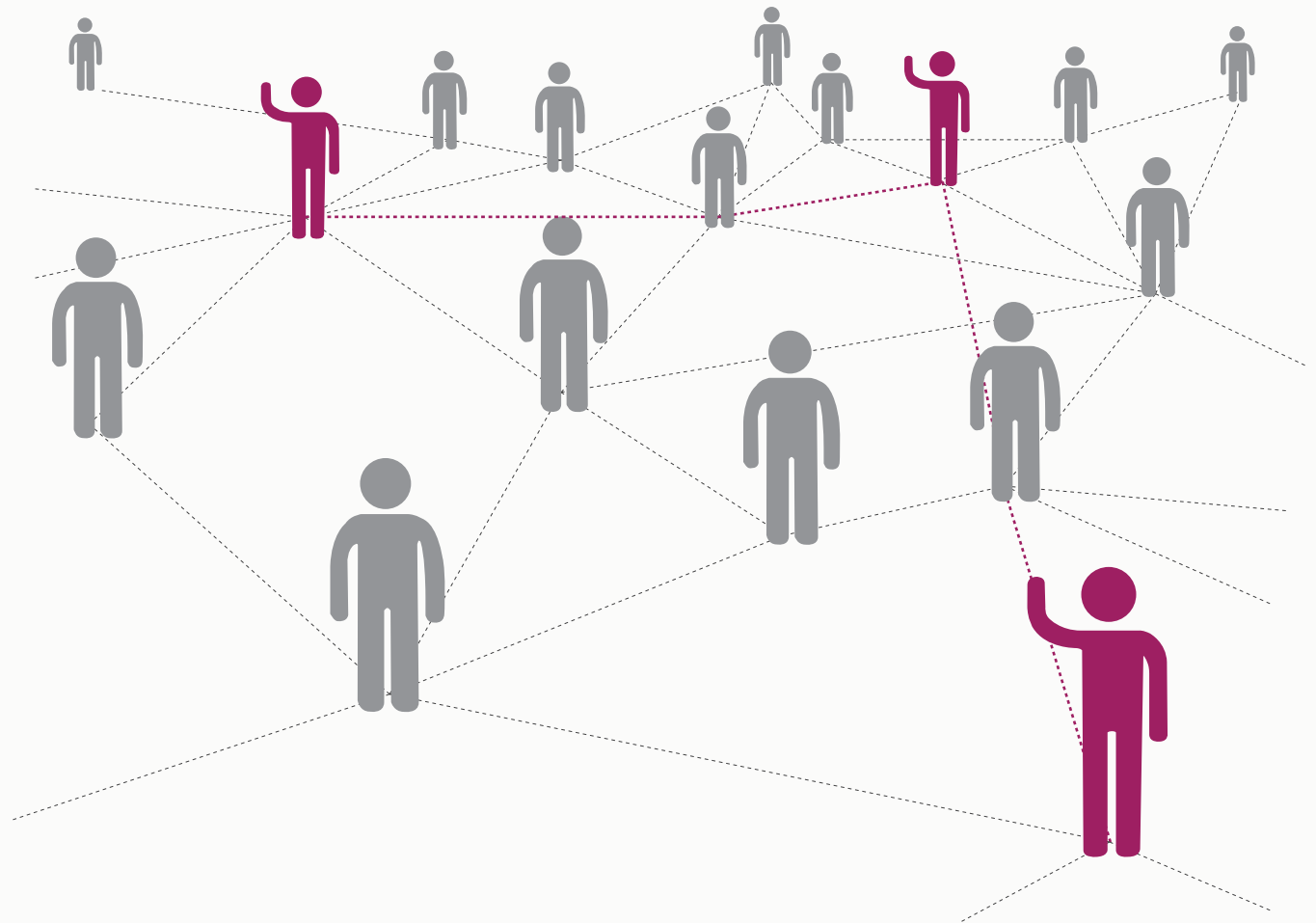
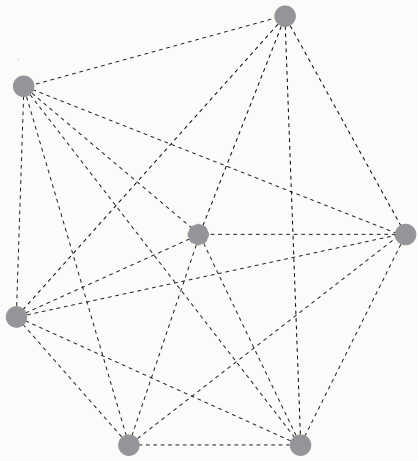
Product Service Systems



Product Service Systems



Networks producing PSS
are social networks



Connections of Value

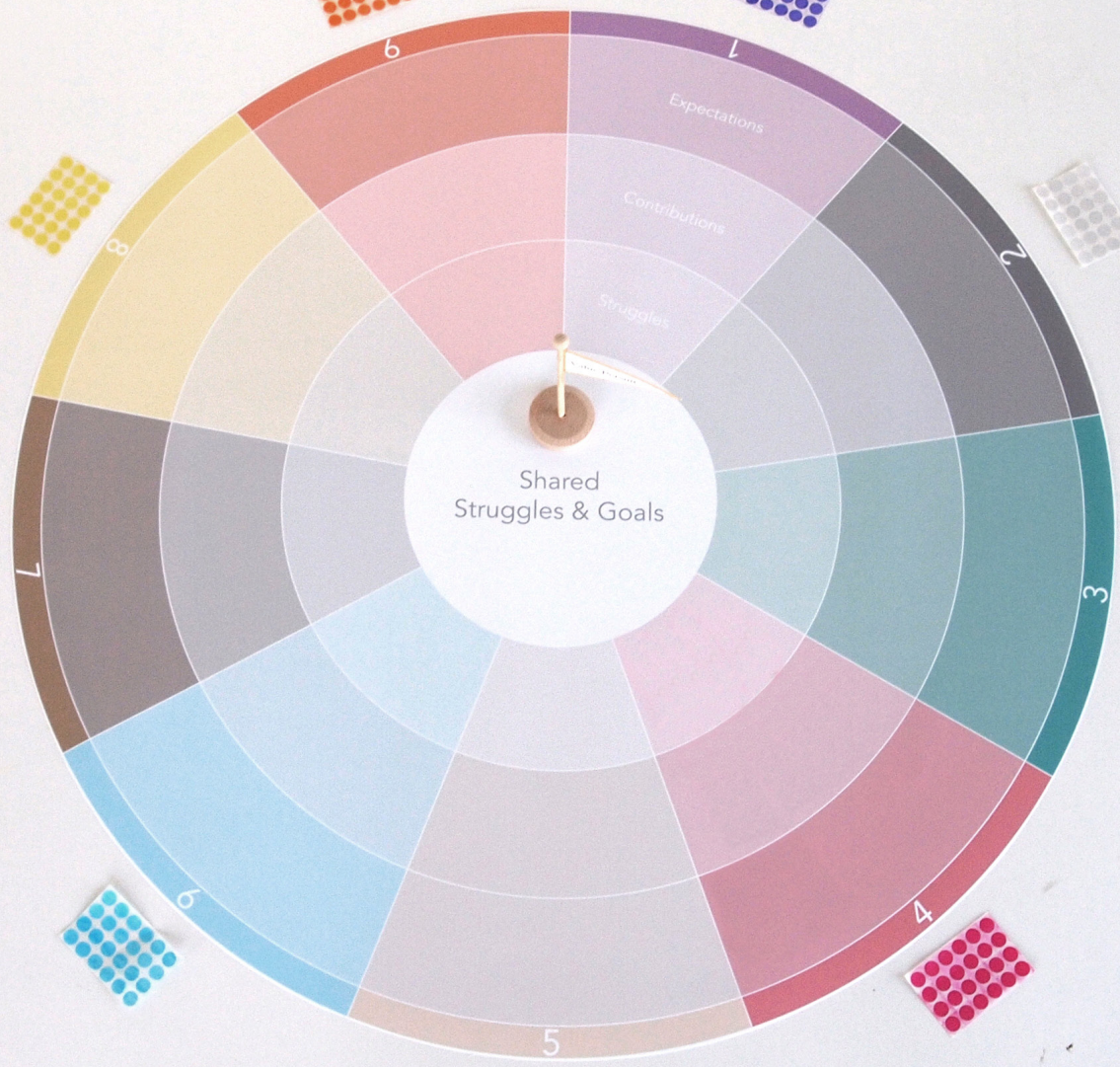


Shared Struggles & Goals

Expectations

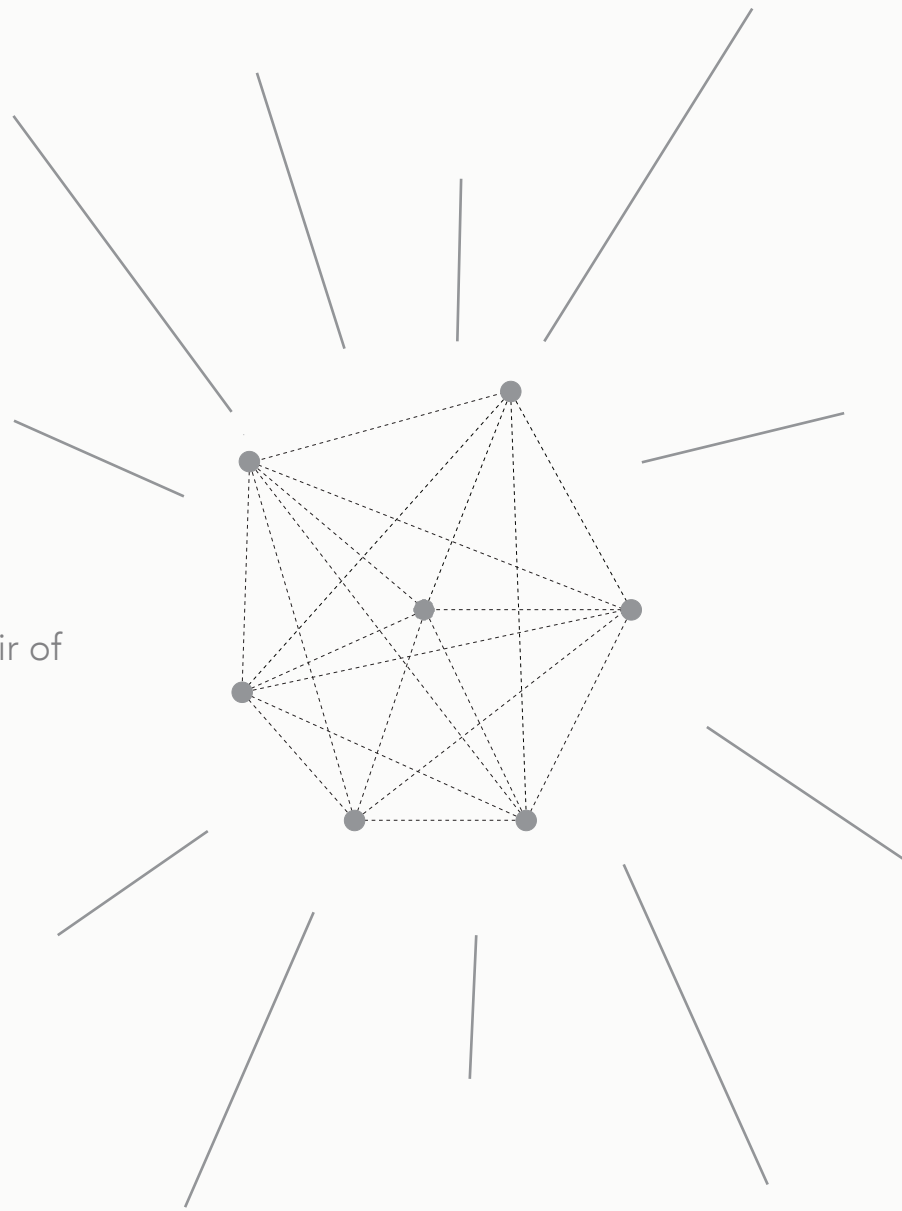
Contributions

Struggles

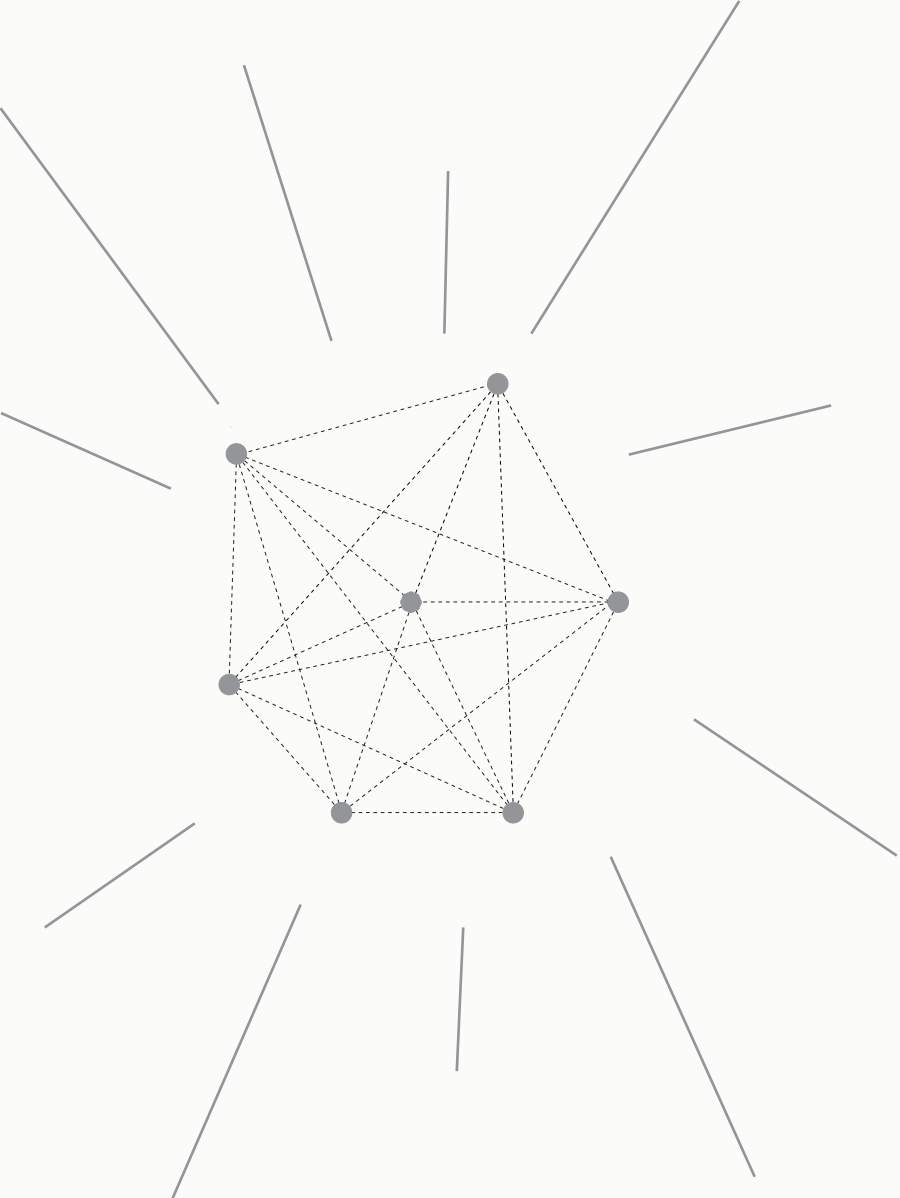




Network is a reservoir of
resources

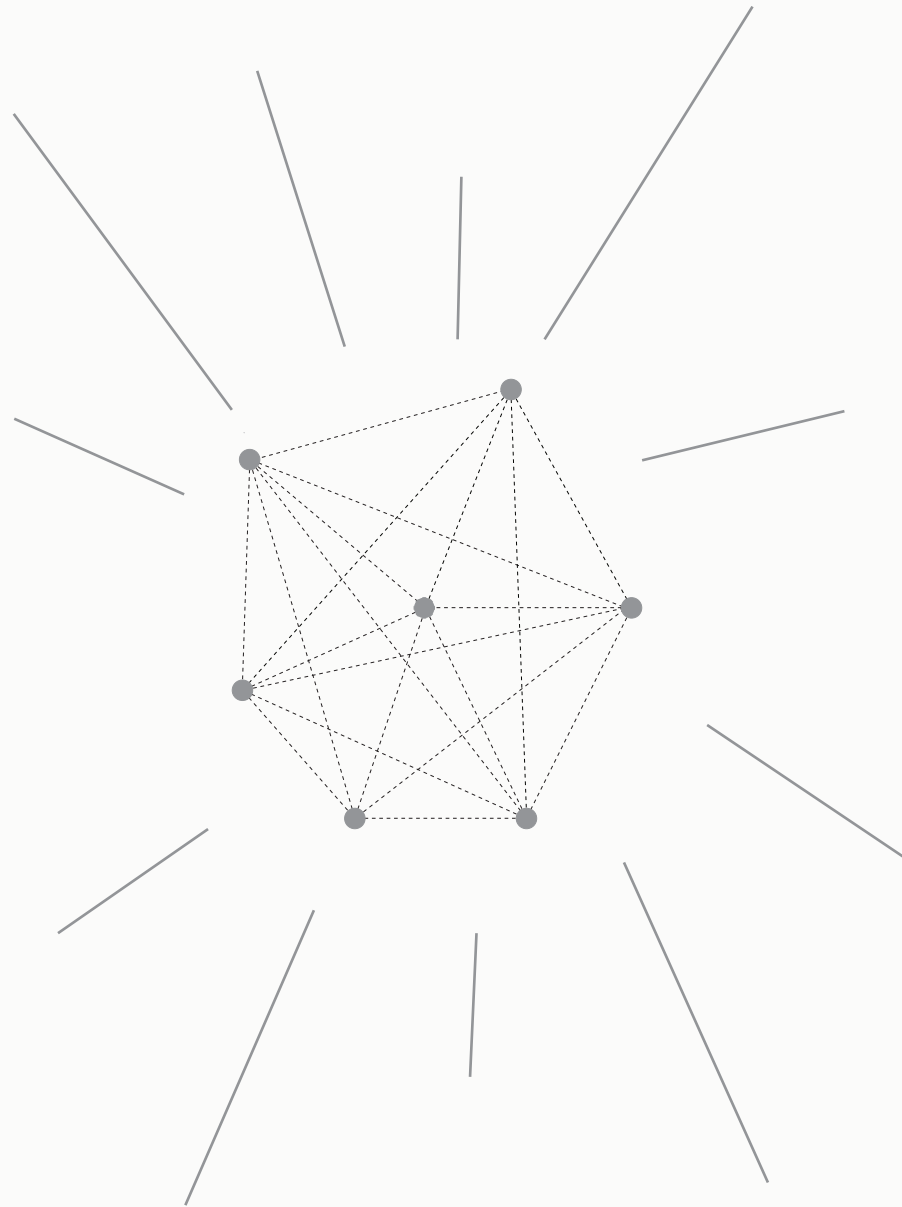


Products/Services



Products/Services

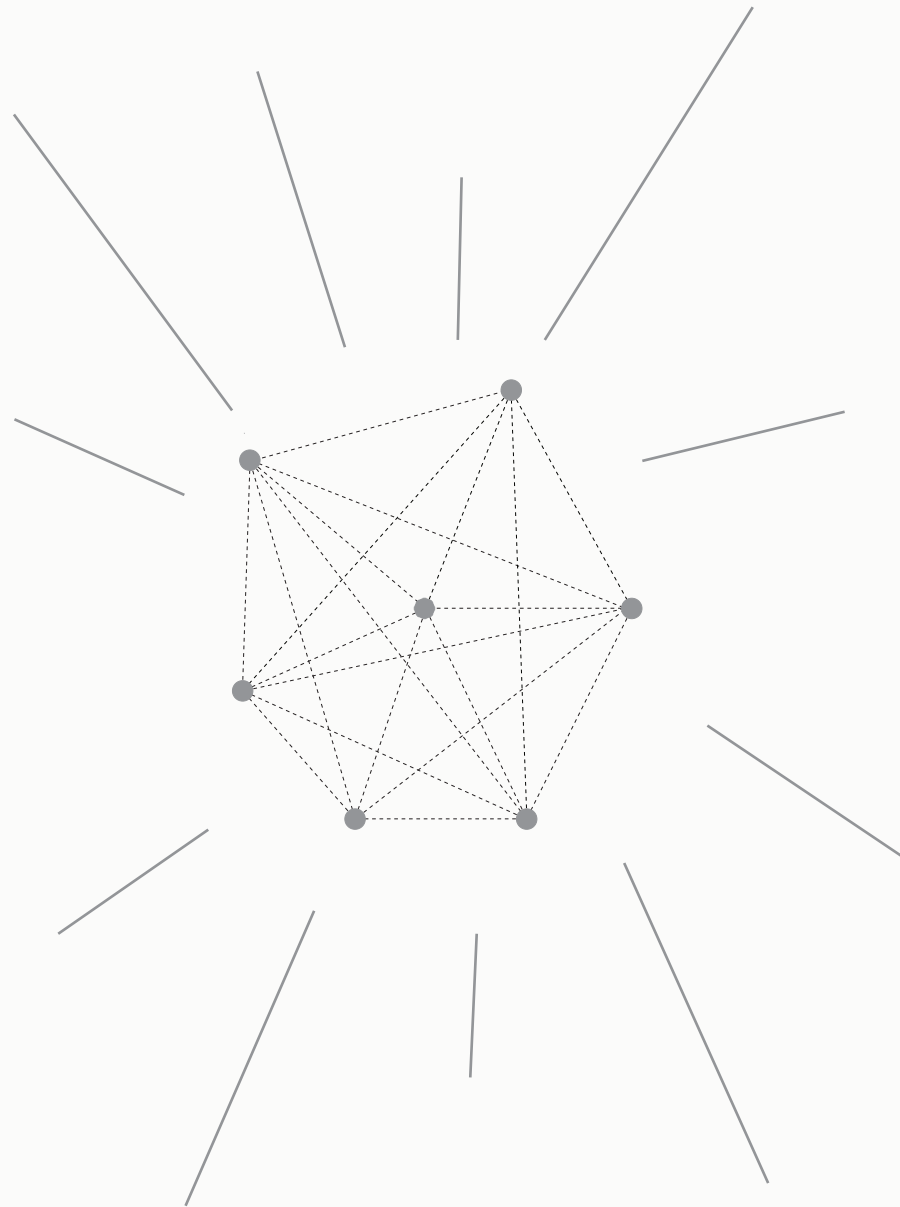
Experience /Expertise



Products/Services

Experience /Expertise

Success & Failure Case
examples

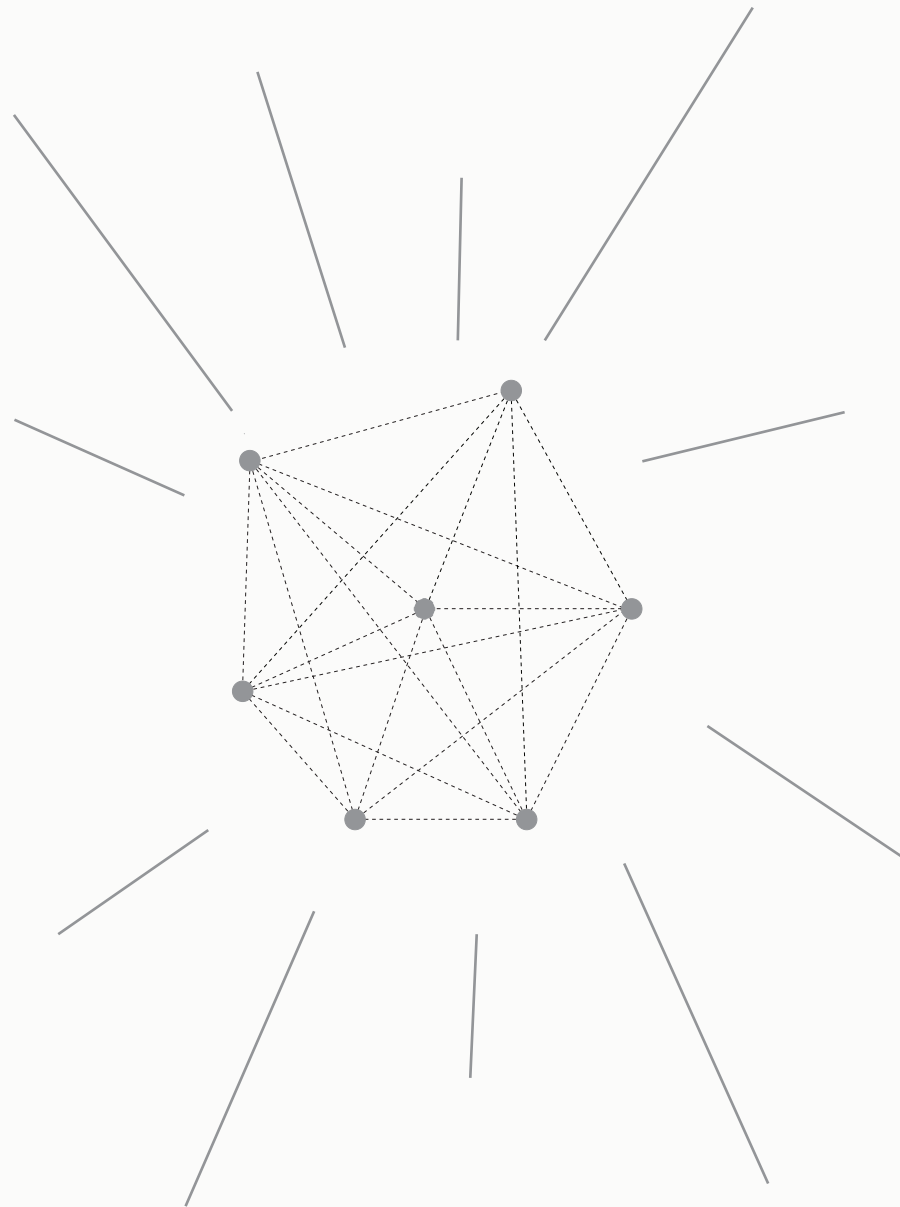


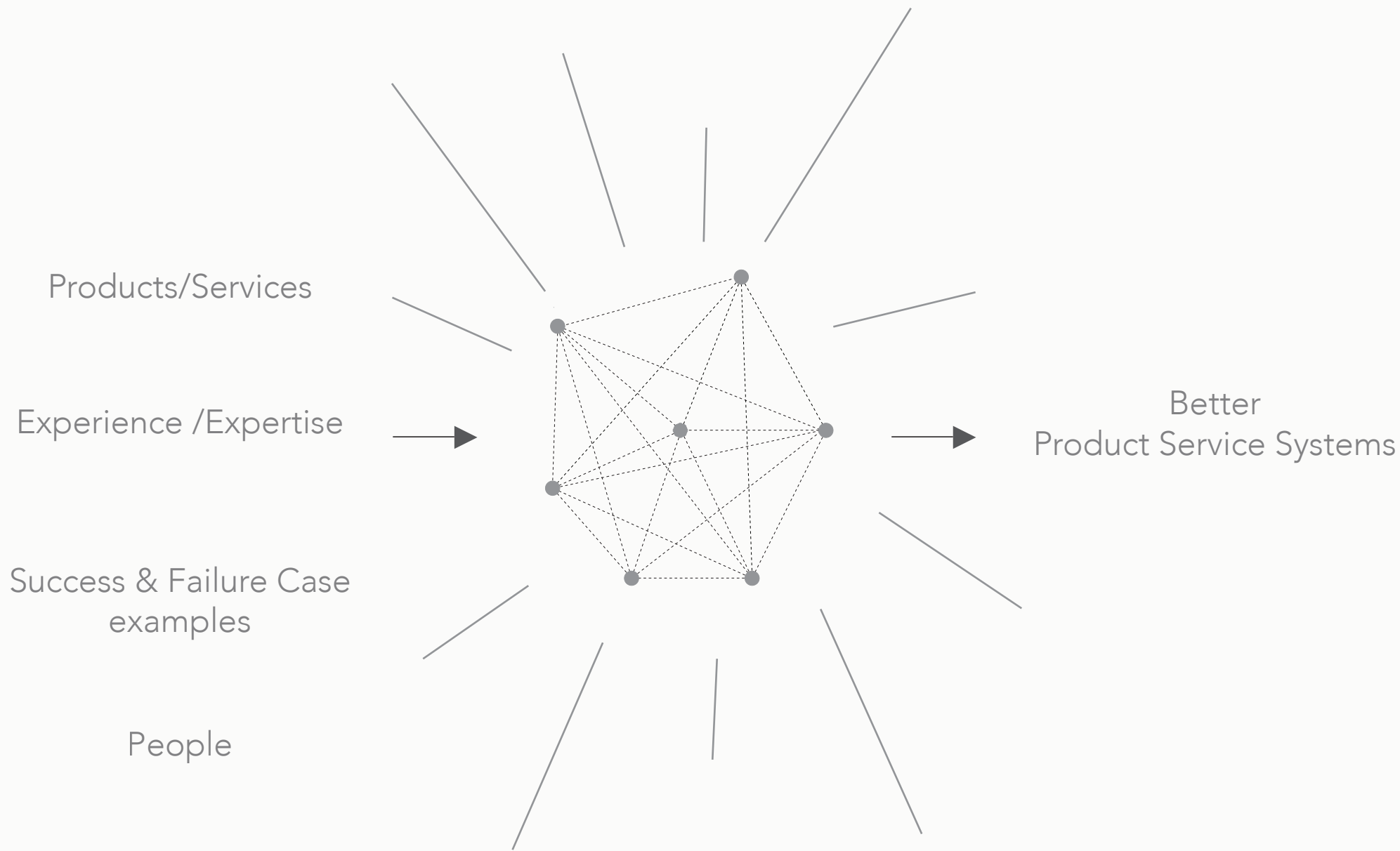
Products/Services

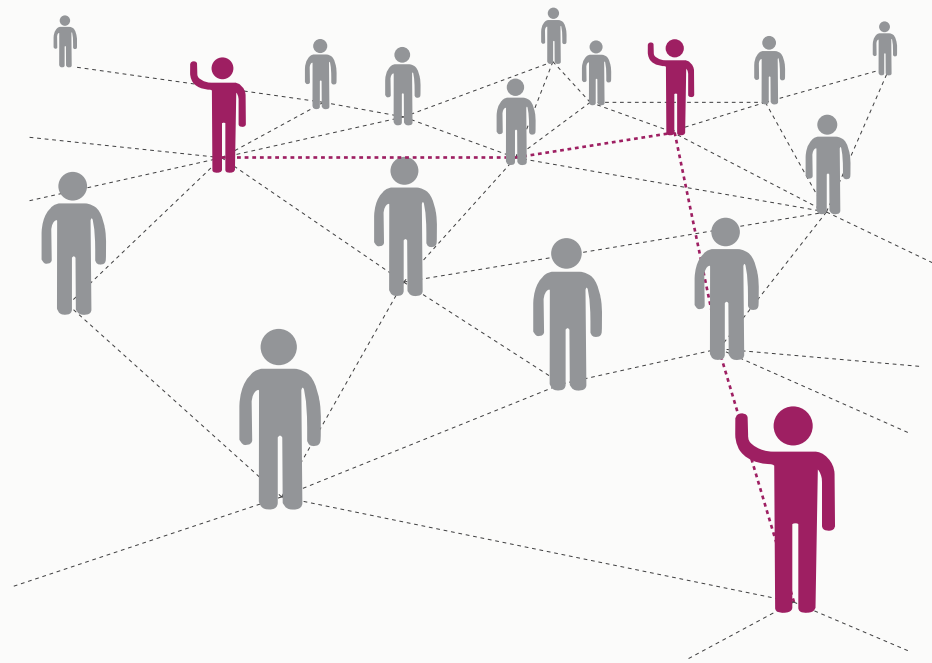
Experience /Expertise

Success & Failure Case
examples

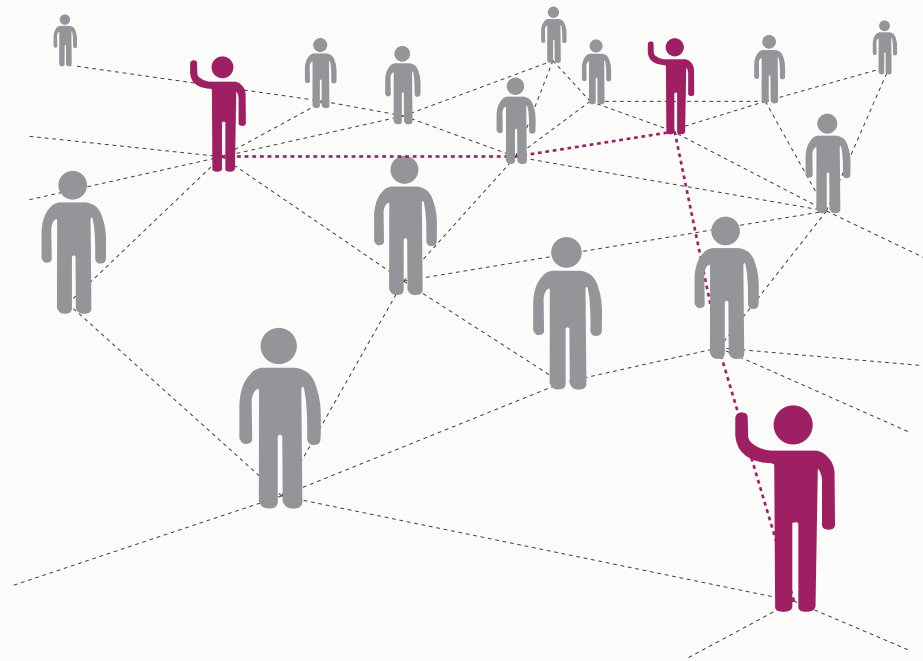
People





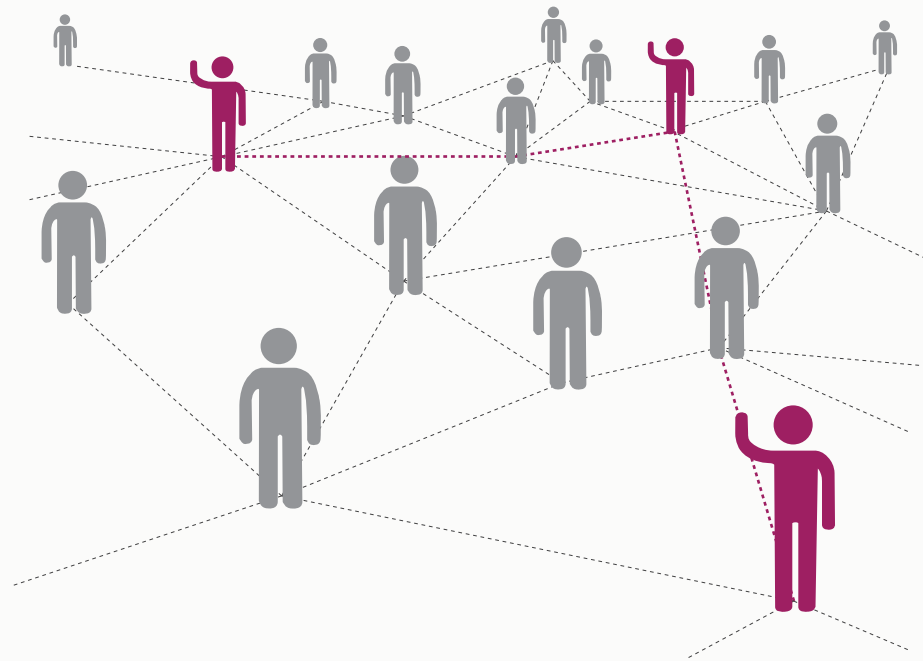


Understanding of the value to be gained



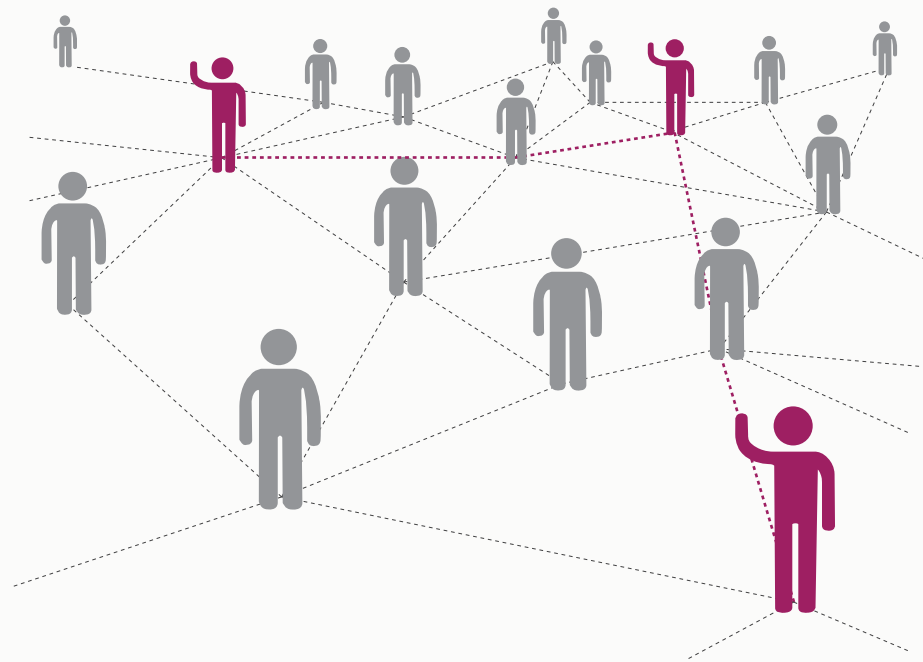
Understanding of the value to be gained

Ability to express their needs clearly

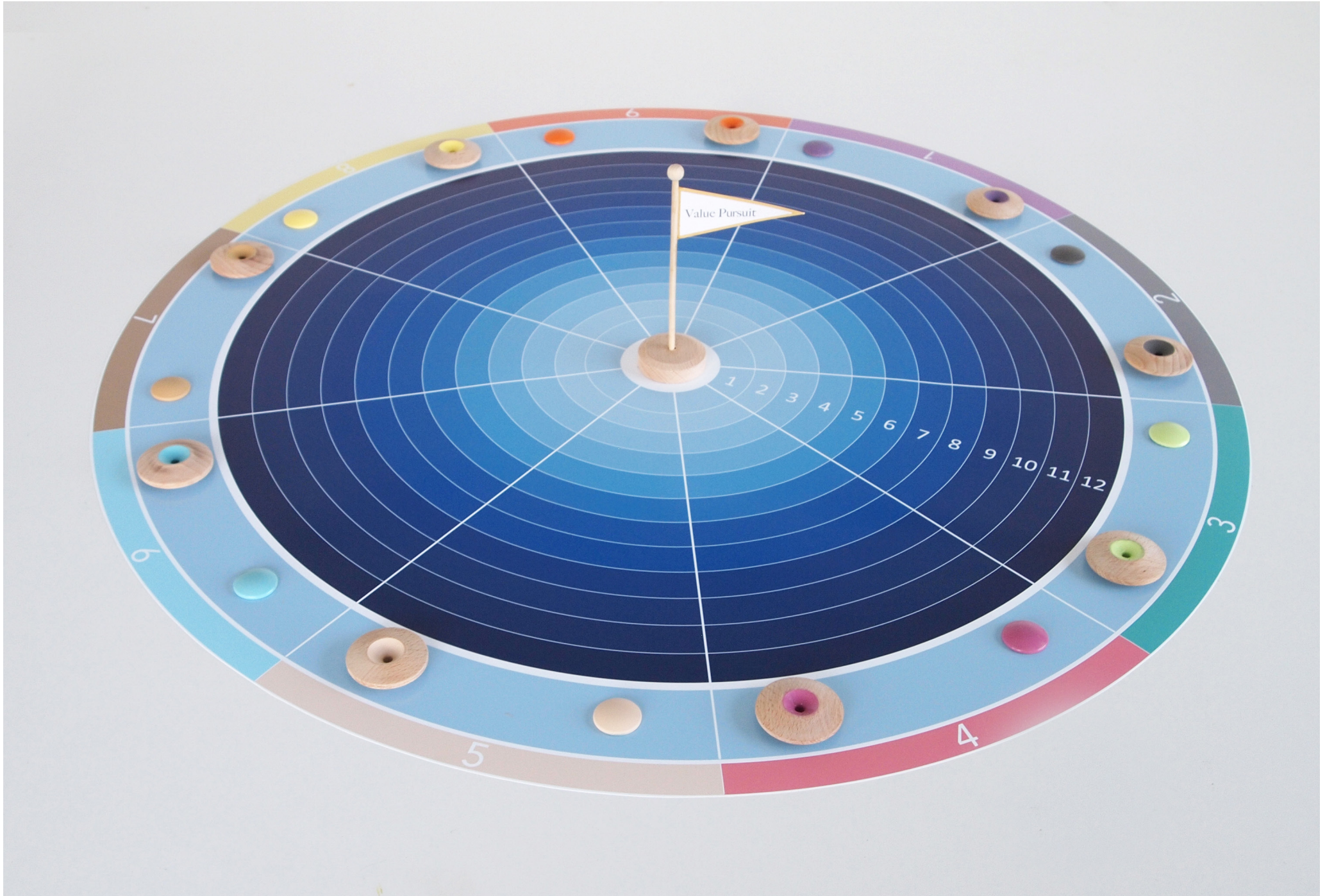


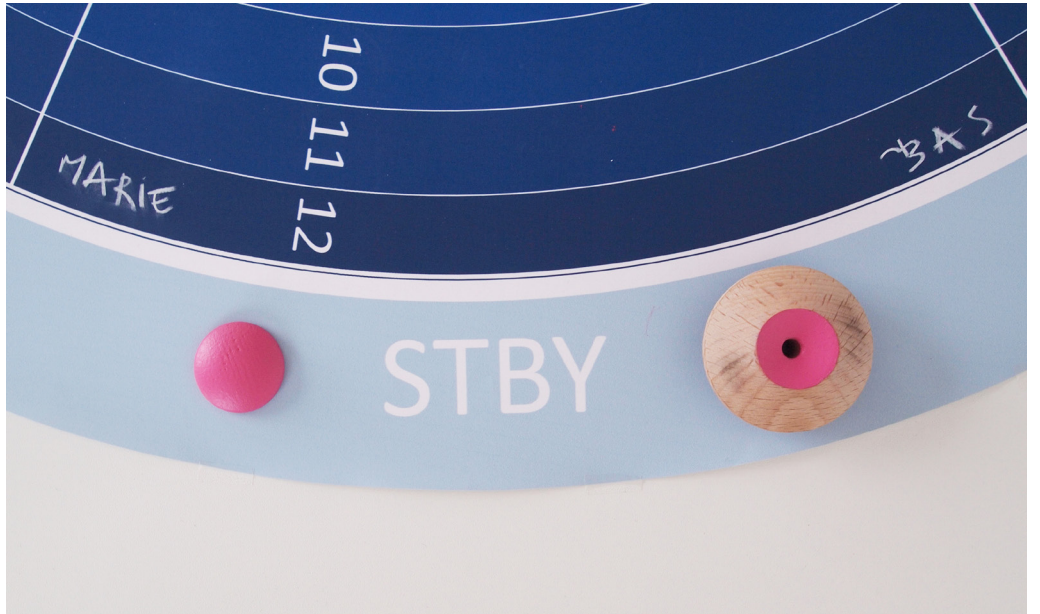
Understanding of the value to be gained

Ability to express their needs clearly



Understanding of other stakeholders' expectations











CRISP #2

Magazine
October 2013

Challenges of the industry

José Teunissen considers the challenges the textile industry faces in manufacturing PSSs — Page 3



Exploration in practice

Guido Stompff describes how Océ Technologies prototypes new business PSSs — Page 28

Also in this issue

Bertholt Leeftink (Ministry of Economic Affairs), Hester Anderiesen (TU Delft), Paul Gardien (Philips), Erik Roscam Abbing (Zilver Innovation), and many others.





Thank you.

KARIANNE RYGH

