Design Thinking

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*This Material is for educational purpose. Sources are mentioned on the docs

Apa bedanya *Systems Thinking* dan *Design Thinking*?

System thinking

- Berfokus dari bagian parsial menjadi sistemik.

- Mendorong pola berfikir baru yakni pola berfikir sistem.

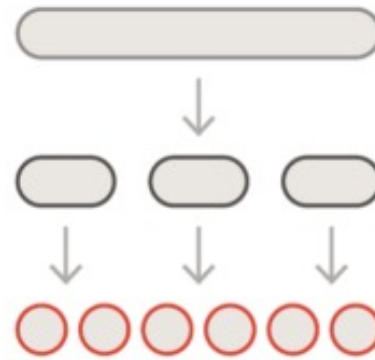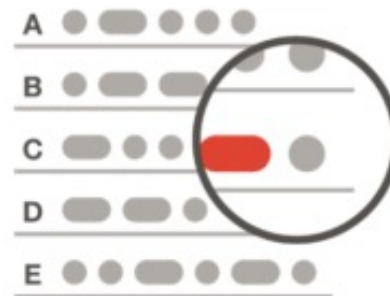- *Decision making process* yang berwawasan sistem.

Systems Thinking: Frameworks & Tools

Deploy various tools and frameworks to help you understand, analyze, and affect complex systems.

System Decomposition
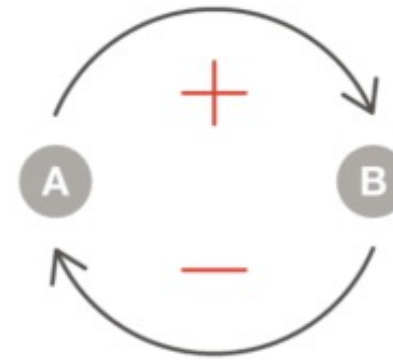
Causal Diagrams

Sense Making

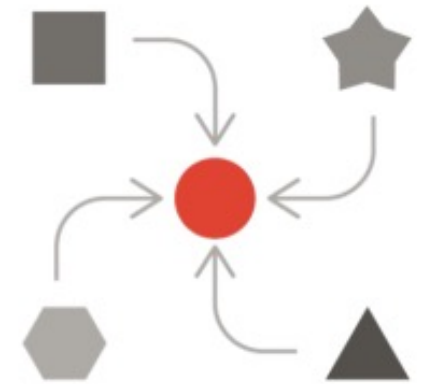**Levels of Analysis**

Emergent Properties
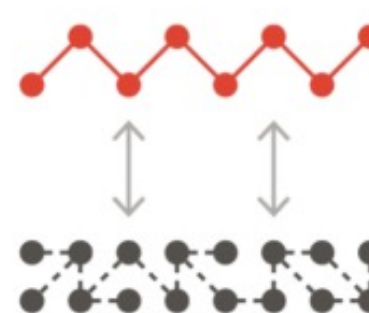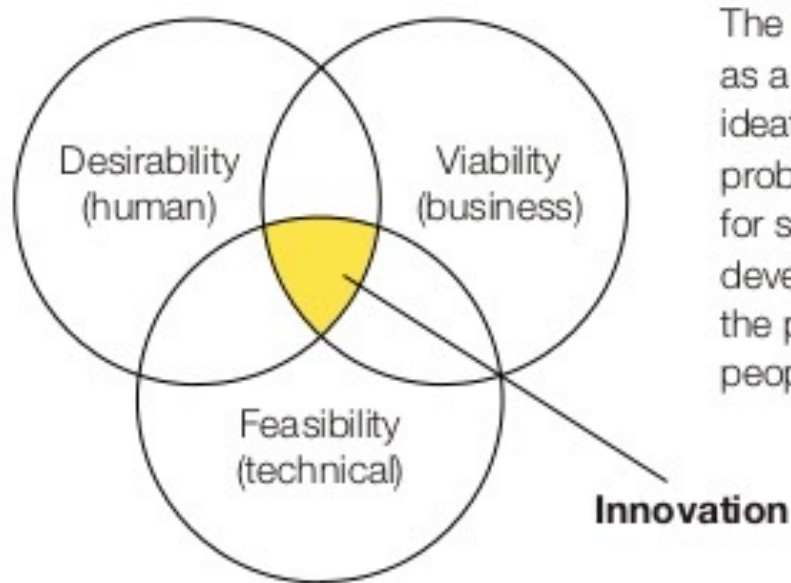
System Dynamics

Apa itu design thinking?

- Proses berulang dalam memahami *user* serta minat mendalam dalam mengembangkan pemahaman.

- Mendefinisikan kembali masalah untuk membuat strategi dan solusi.

- Pendekatan berbasis solusi untuk menyelesaikan masalah.

WHAT IS DESIGN THINKING?

Desirability
(human)

Viability
(business)

Feasibility
(technical)

Innovation

The design thinking process is best thought of as a system of overlapping spaces: inspiration, ideation and implementation. Inspiration is the problem or opportunity that motivates the search for solutions. Ideation is the process of generating, developing and testing ideas. Implementation is the path that leads from the project stage into people's lives.

What is Design Thinking?
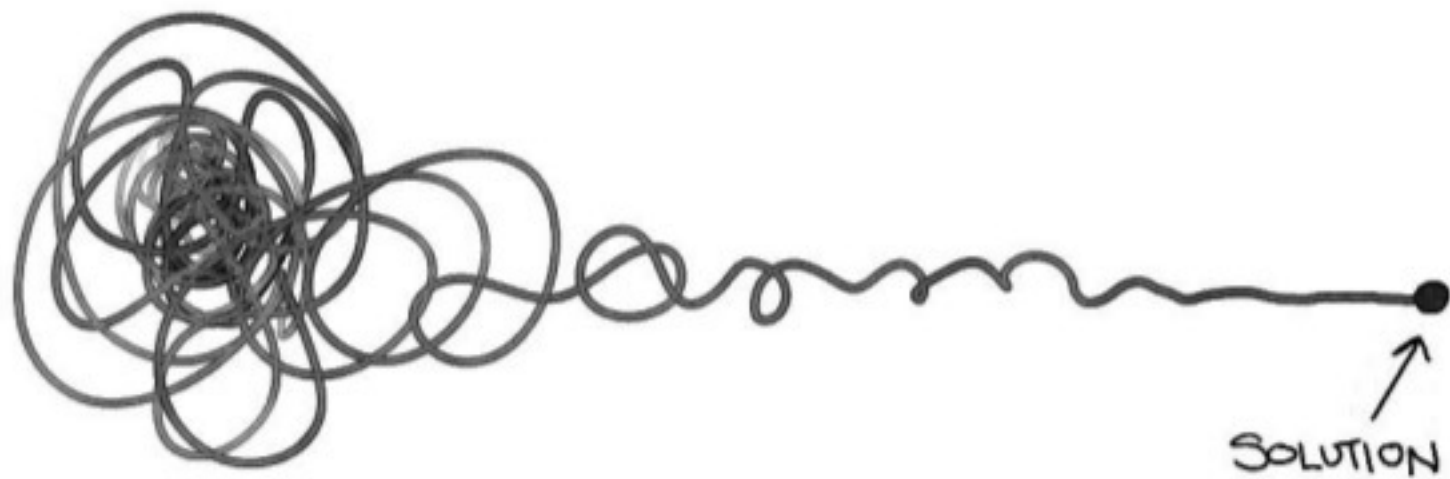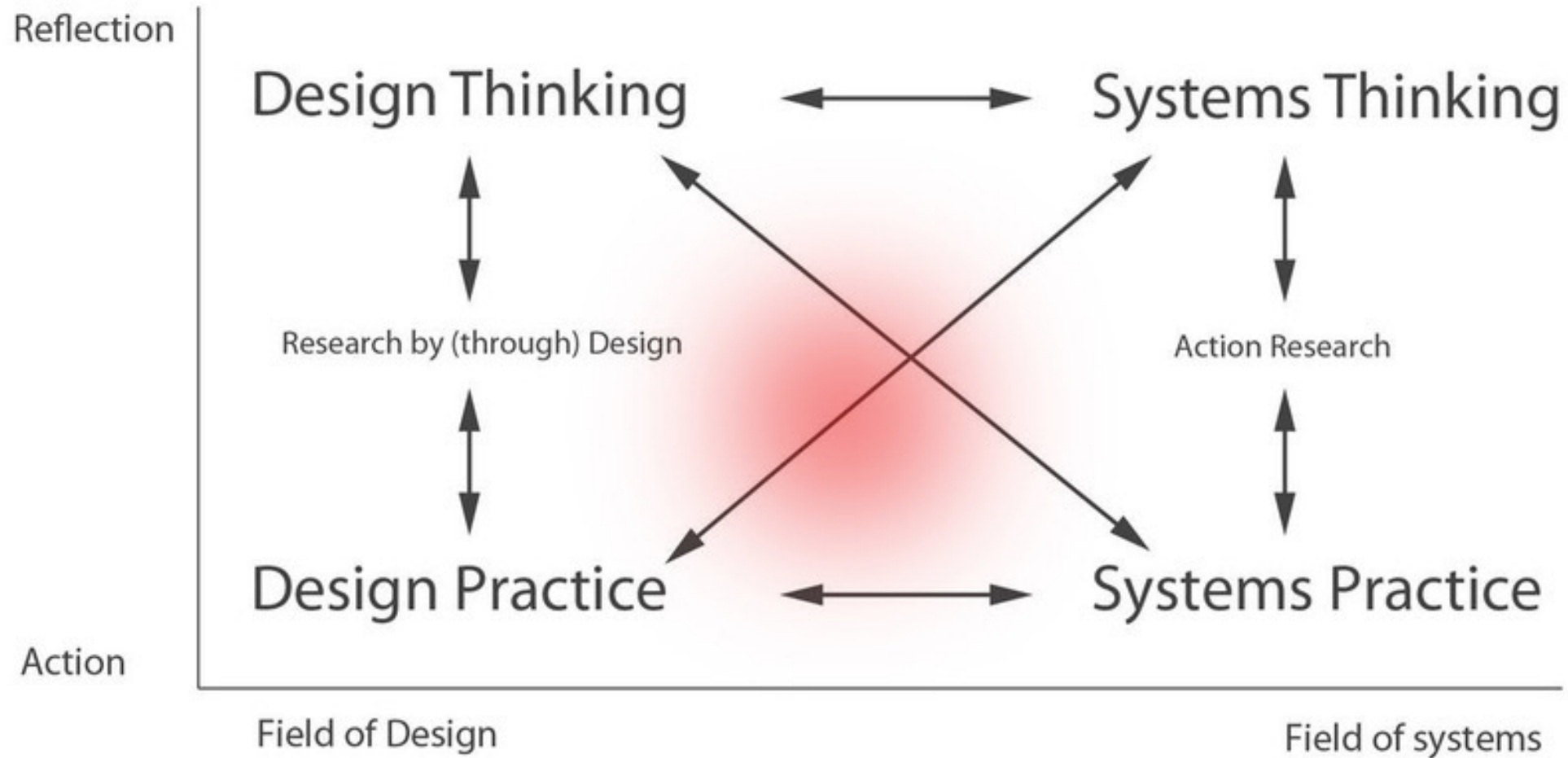
Field of possibilities in Systemic Design. Systems Oriented Design is located at the red dot near design practice (B. Sevaldson, 2013b)

Systemic design

↓

Design thinking

Solution based. **+**
Consumer insights. **+**
Ability to visually **+** communicate.
Practical tools **+** for transition.
Creative. **+**
Human-centred. **+**
Social innovation. **+**
Cannot deal with **–** complexity.
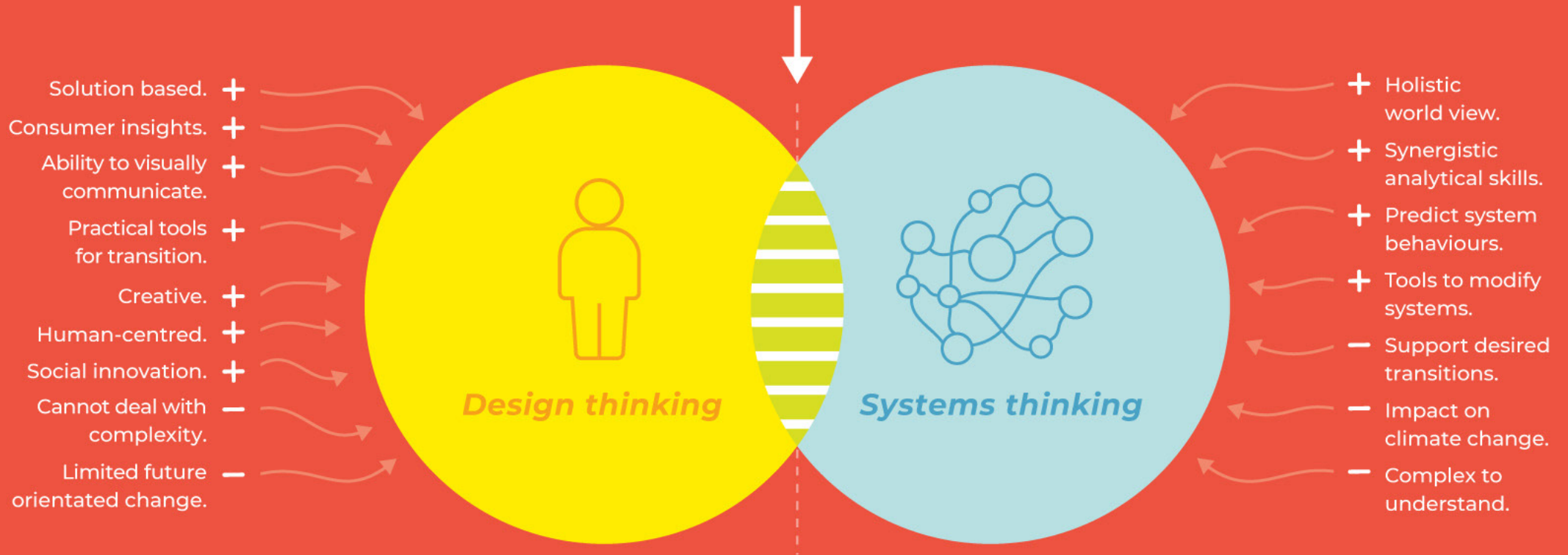Limited future **–** orientated change.

Systems thinking

+ Holistic world view.
+ Synergistic analytical skills.
+ Predict system behaviours.
+ Tools to modify systems.
– Support desired transitions.
– Impact on climate change.
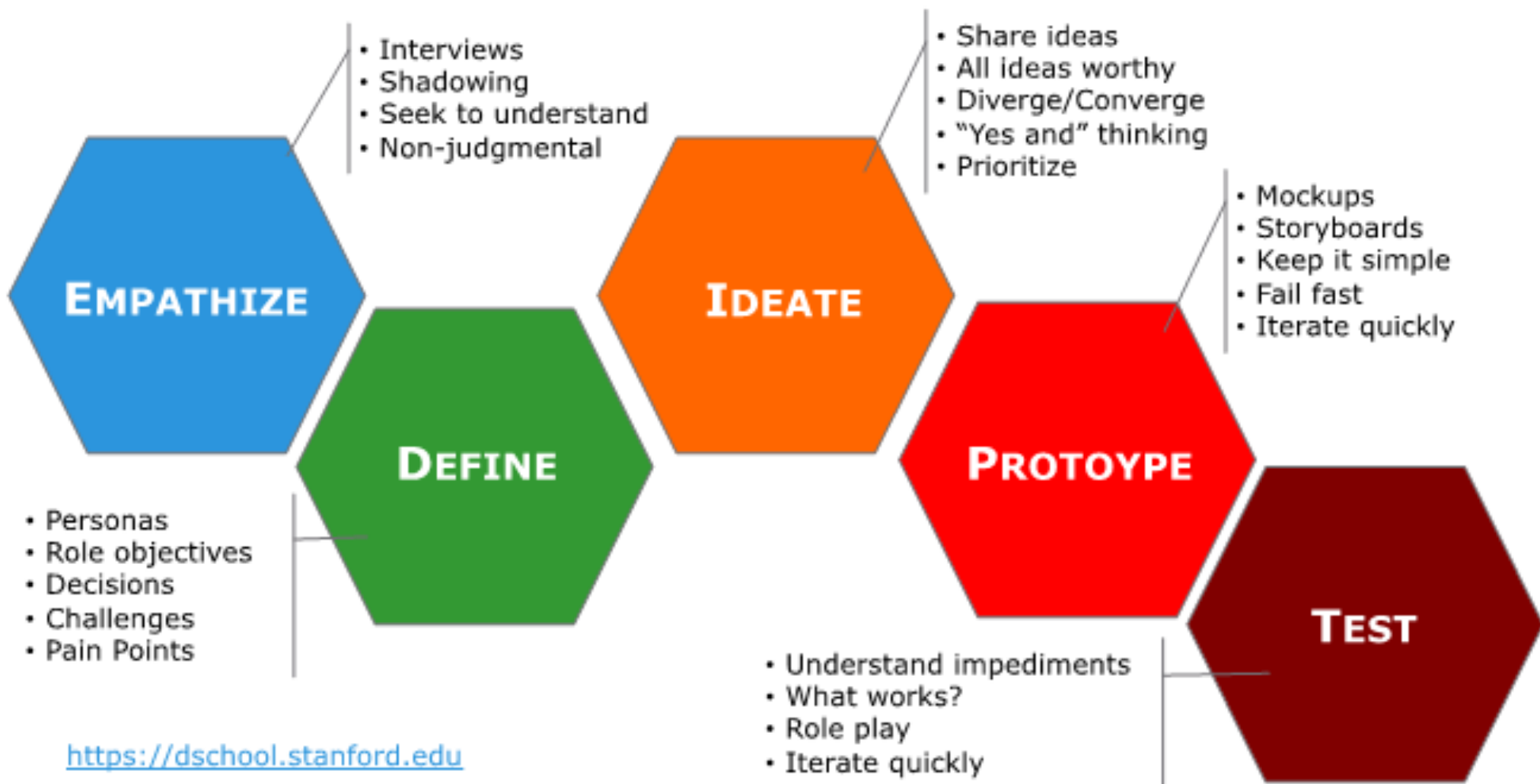**–** Complex to understand.

What is systemic design?

Over the past decade a growing concern for complex environmental and social challenges has seen a shift in design from the realm of tangible objects towards services and systems. Systemic design was developed in response to these dynamic and illusive systemic challenges. Systemic design is an attempt to fuse together methods from systems thinking and design thinking. The integration of systems thinking and design thinking aims to create a framework for understanding complexity, while also supporting transition on a tangible, human-centred level.
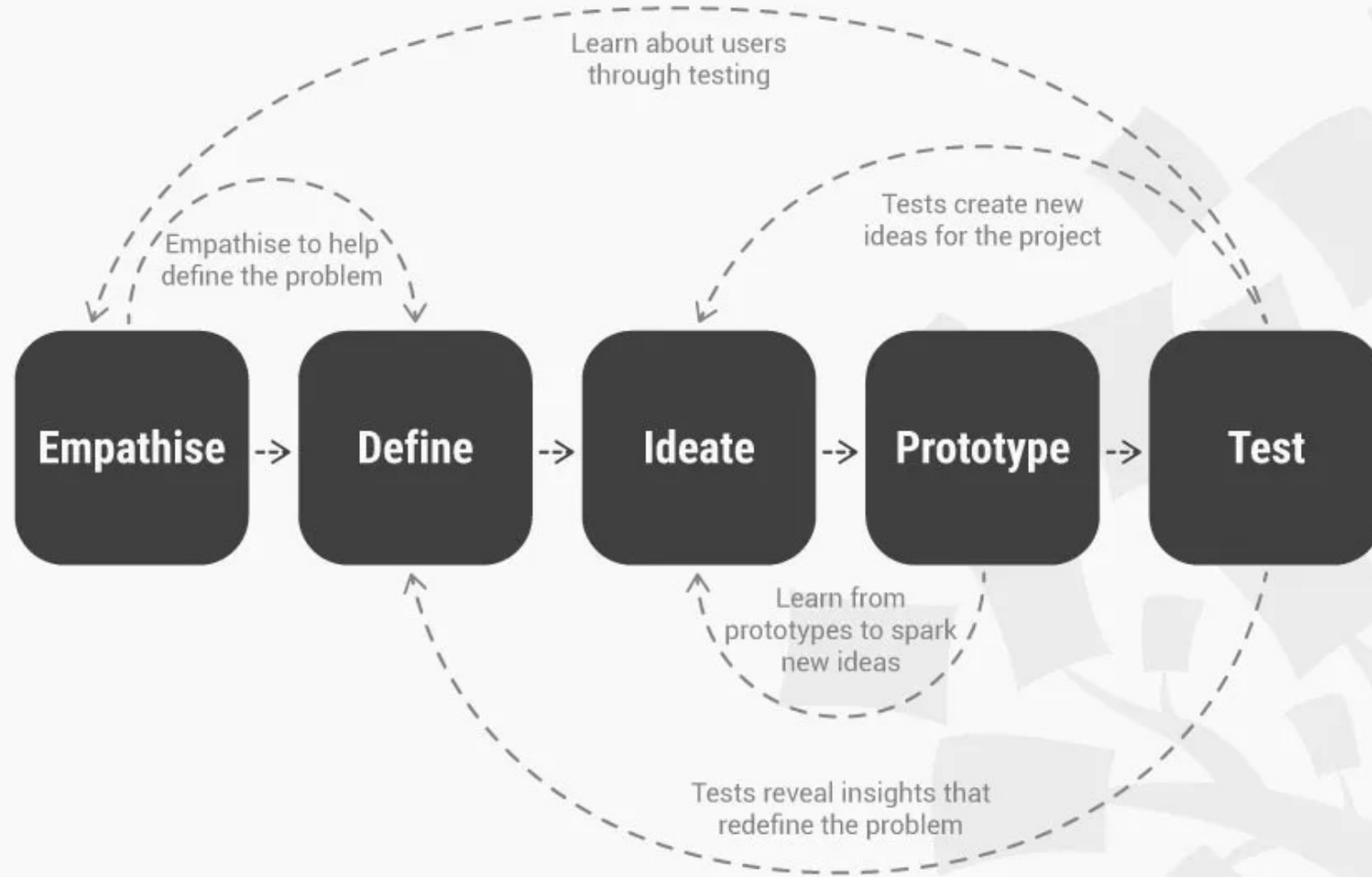
Source: Skye Smith (2020)

Systemic design mengintegrasikan *systems thinking* dan *design thinking* untuk membantu designer menyelesaikan masalah yang kompleks

Stanford d.school Design Thinking Process

EMPATHIZE

- Interviews
- Shadowing
- Seek to understand
- Non-judgmental

DEFINE

- Personas
- Role objectives
- Decisions
- Challenges
- Pain Points

IDEATE

- Share ideas
- All ideas worthy
- Diverge/Converge
- "Yes and" thinking
- Prioritize

PROTOYPE

- Mockups
- Storyboards
- Keep it simple
- Fail fast
- Iterate quickly

TEST

- Understand impediments
- What works?
- Role play
- Iterate quickly

https://dschool.stanford.edu

THE EVOLUTION OF DESIGN THINKING

IT'S NO LONGER JUST FOR
PRODUCTS. EXECUTIVES ARE
USING THIS APPROACH
TO DEVISE STRATEGY
AND MANAGE
CHANGE.
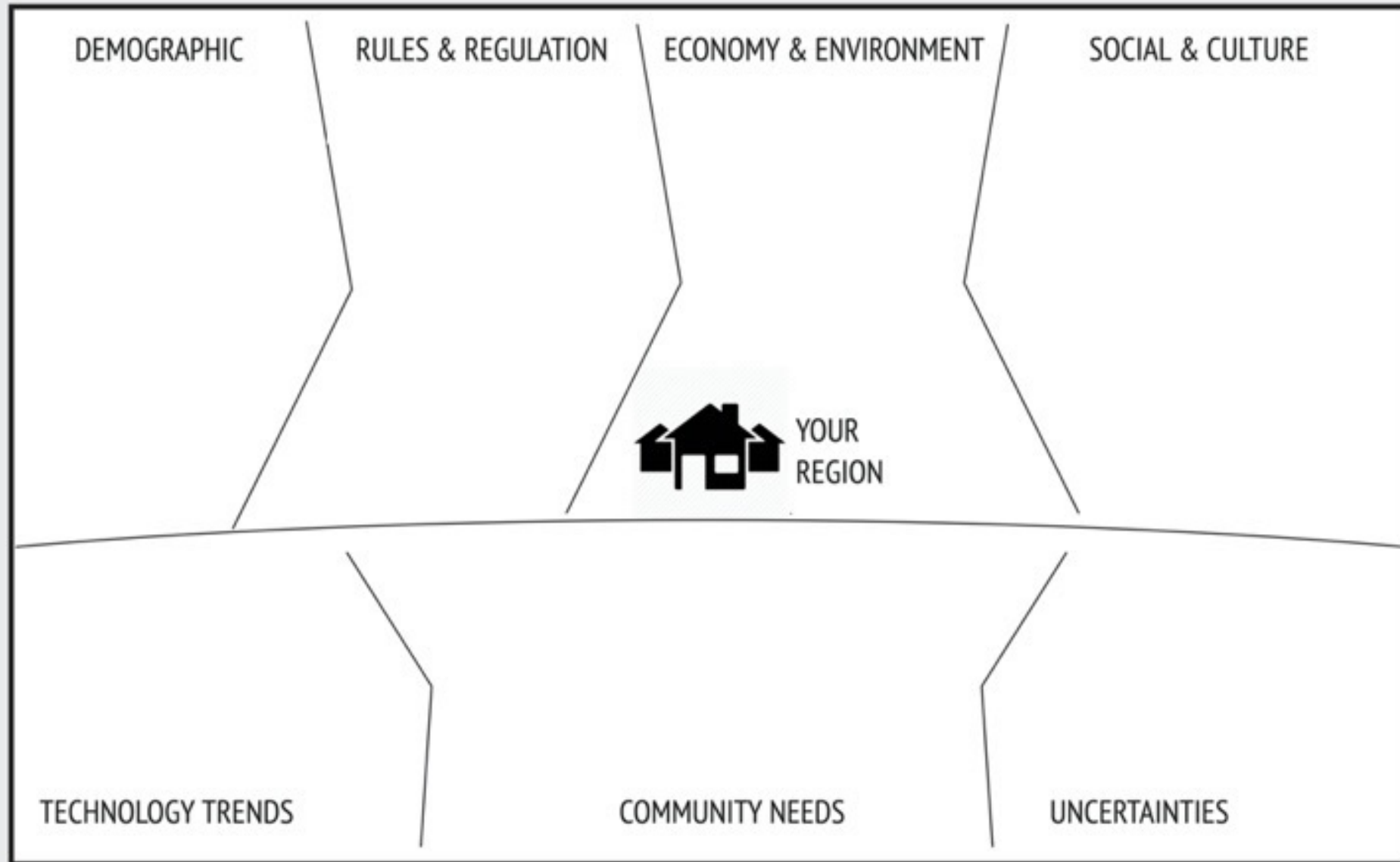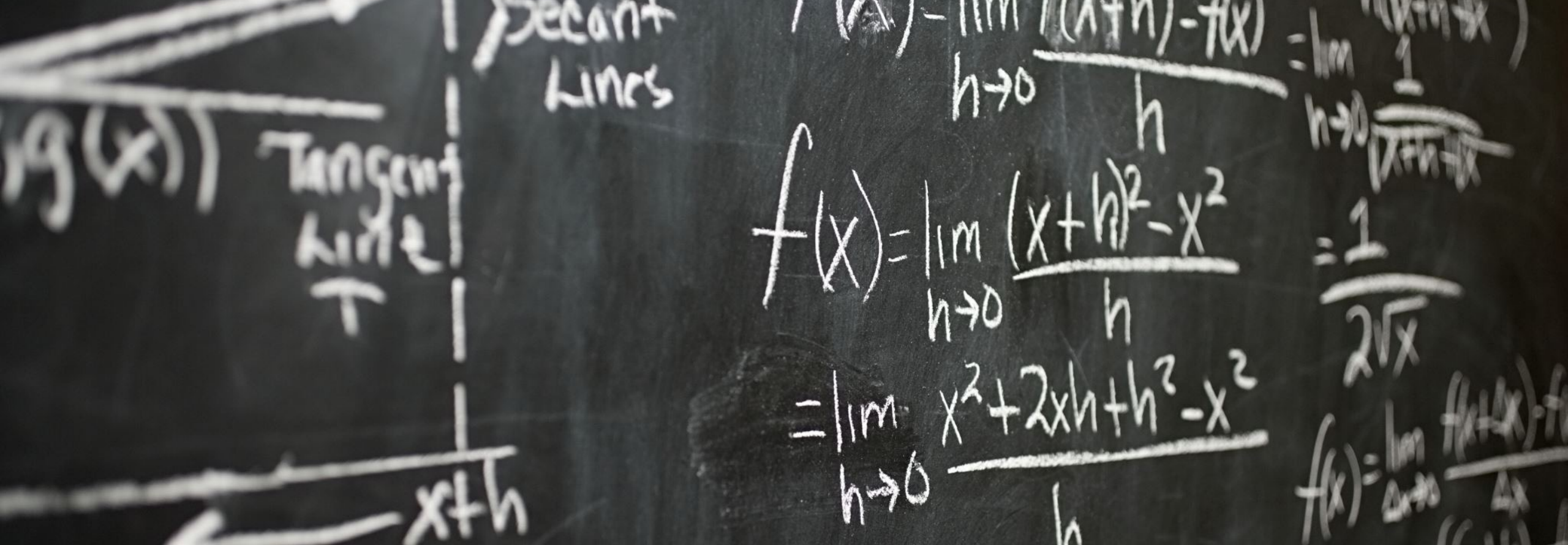PAGE 55

TAHAP 1: EMPHATIZE

CONTEXT MAP

EMPATHY MAP

Context Map!

CONTEXT MAP® CANVAS

DEMOGRAPHIC

RULES & REGULATION

ECONOMY & ENVIRONMENT

SOCIAL & CULTURE

YOUR
REGION

TECHNOLOGY TRENDS

COMMUNITY NEEDS

UNCERTAINTIES
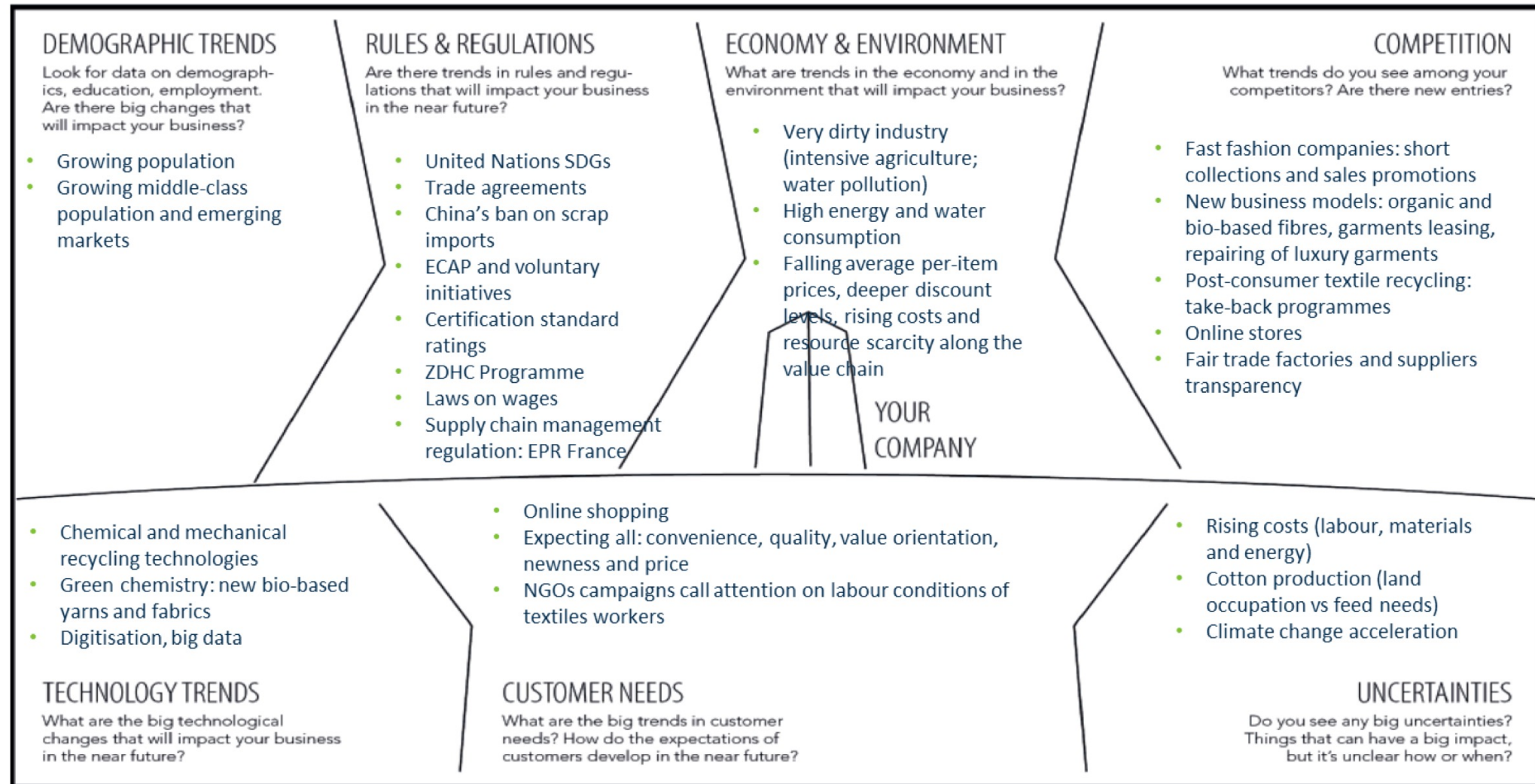
Example!

The different factors that affect the context of the fashion industry, from a Circular Economy perspective (Pereira, A., for *r2piproject funded by EU)*

DEMOGRAPHIC TRENDS

Look for data on demographics, education, employment. Are there big changes that will impact your business?

- Growing population
- Growing middle-class population and emerging markets

RULES & REGULATIONS

Are there trends in rules and regulations that will impact your business in the near future?

- United Nations SDGs
- Trade agreements
- China's ban on scrap imports
- ECAP and voluntary initiatives
- Certification standard ratings
- ZDHC Programme
- Laws on wages
- Supply chain management regulation: EPR France

ECONOMY & ENVIRONMENT

What are trends in the economy and in the environment that will impact your business?

- Very dirty industry (intensive agriculture; water pollution)
- High energy and water consumption
- Falling average per-item prices, deeper discount levels, rising costs and resource scarcity along the value chain

YOUR COMPANY

COMPETITION

What trends do you see among your competitors? Are there new entries?

- Fast fashion companies: short collections and sales promotions
- New business models: organic and bio-based fibres, garments leasing, repairing of luxury garments
- Post-consumer textile recycling: take-back programmes
- Online stores
- Fair trade factories and suppliers transparency

TECHNOLOGY TRENDS

- Chemical and mechanical recycling technologies
- Green chemistry: new bio-based yarns and fabrics
- Digitisation, big data

What are the big technological changes that will impact your business in the near future?

CUSTOMER NEEDS

- Online shopping
- Expecting all: convenience, quality, value orientation, newness and price
- NGOs campaigns call attention on labour conditions of textiles workers

What are the big trends in customer needs? How do the expectations of customers develop in the near future?

UNCERTAINTIES

- Rising costs (labour, materials and energy)
- Cotton production (land occupation vs feed needs)
- Climate change acceleration

Do you see any big uncertainties? Things that can have a big impact, but it's unclear how or when?

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THIS VERSION BY **DESIGNABETTERBUSINESS.COM**

Empathy Map

Empathy Map Canvas

GOAL

1 WHO are we empathizing with?

Who is the person we want to understand?
What is the situation they are in?
What is their role in the situation?

2 What do they need to DO?

What do they need to do differently?
What job(s) do they want or need to get done?
What decision(s) do they need to make?
How will we know they were successful?

7 What do they THINK and FEEL?

PAINS
What are their fears,
frustrations, and anxieties?

GAINS
What are their wants,
needs, hopes and dreams?

3 What do they SEE?

What do they see in the marketplace?
What do they see in their immediate environment?
What do they see others saying and doing?
What are they watching and reading?

6 What do they HEAR?

What are they hearing others say?
What are they hearing from friends?
What are they hearing from colleagues?
What are they hearing second-hand?

What other thoughts and feelings might motivate their behavior?

4 What do they SAY?

What have we heard them say?
What can we imagine them saying?

5 What do they DO?

What do they do today?
What behavior have we observed?
What can we imagine them doing?

Example!

Empathy Map Canvas

GOAL

① WHO are we empathizing with?

Who is the person we want to understand?
What is the situation they are in?
What is their role in the situation?

The interviewee is a student that lives in the outskirts and is highly dependent over transport to go to the university.

② What do they need to DO?

What do they need to do differently?
What job(s) do they want or need to get done?
What decision(s) do they need to make?
How will we know they were successful?

The interviewee said that is very difficult to park in the cities because there are a lot of cars and payment zones. This makes it difficult for them to use this means of transport.

The interviewees see that there is a problem but the solutions to that problem are not easy. They have seen alternatives, but they are very complex and not feasible due to regulations. But they also see that in the future it could appear another way to transport that could solve, or reduce, these problems.

⑦ What do they THINK and FEEL ?

PAINS

What are their fears, frustrations, and anxieties?

The interviewees said that is very difficult to park in the cities because there are a lot of payment zones. This makes difficult for them to use this means of transport. This causes that they give more laps when parking and spend more gas and time. And this means is not the fastest and most economical option.

GAINS

What are their wants, needs, hopes and dreams?

The interviewees said that they want to be able to park easier within the cities without paying as much as the current parking zones cost.

What other thoughts and feelings might motivate their behavior?

The feeling that motivates this is the routine that they do when they need to access into university and make that behavior.

③ What do they SEE ?

What do they see in the marketplace?
What do they see in their immediate environment?
What do they see others saying and doing?
What are they watching and reading?

⑥ What do they HEAR ?

What are they hearing others say?
What are they hearing from friends?
What are they hearing from colleagues?
What are they hearing second -hand?

Transport problems is a very commented problem between people. Most of them say that is a pity to get these problems to access at the university, but they assume that it is for control of density areas and also ecological aspects.

④ What do they SAY ?

What have we heard them say?
What can we imagine them saying?

The interviewees said that there are a lot of pedestrian areas and the parking prices are quite expensive for people coming out of the city.

⑤ What do they DO?

What do they do today?
What behavior have we observed?
What can we imagine them doing?

The interviewee said that with all these parking problems they had to take public transport. The behavior that we have observed apart from all this is that of annoyance on the part of the users who use the car for the prices of the parking.
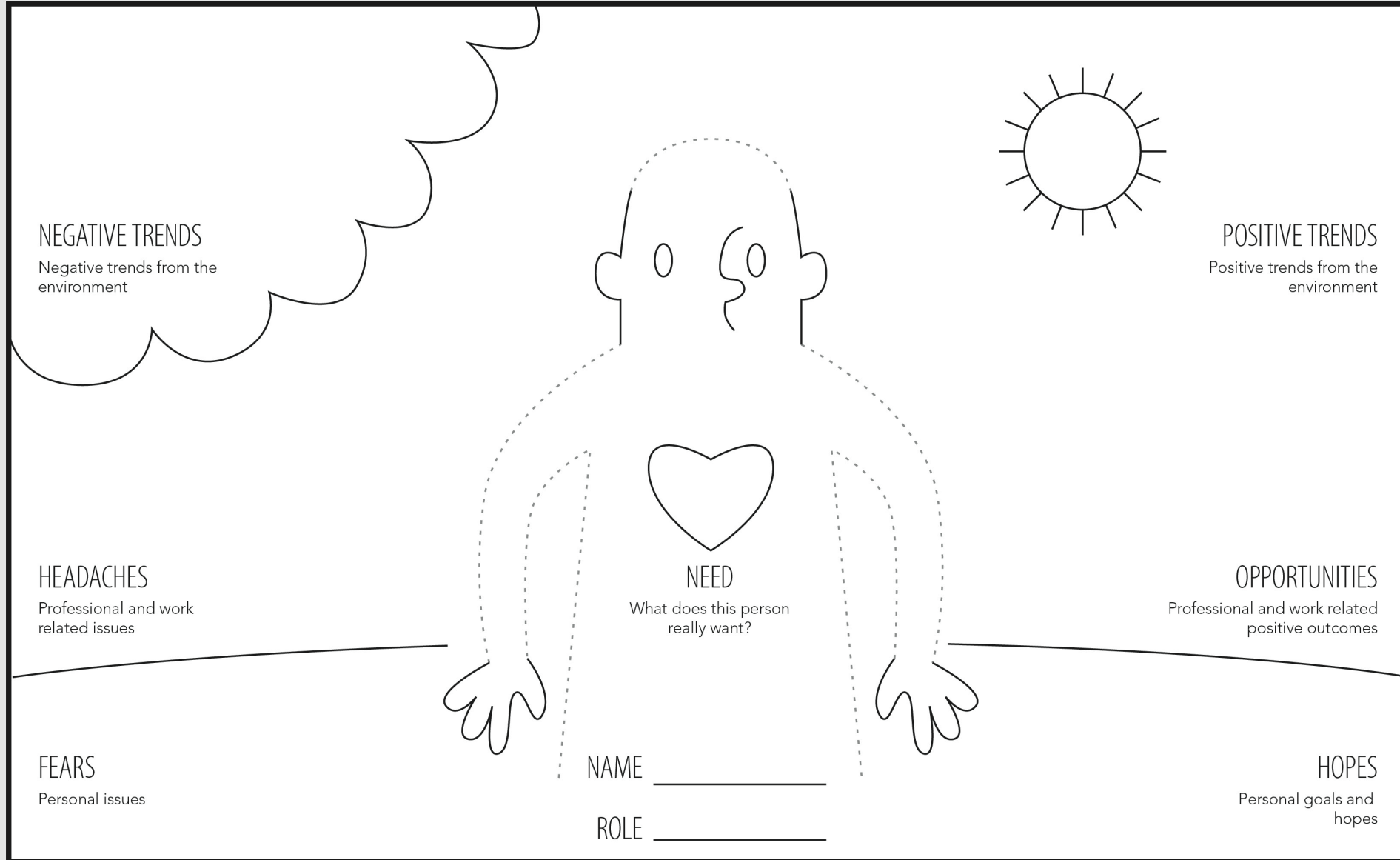
Source: IDWS (2019)
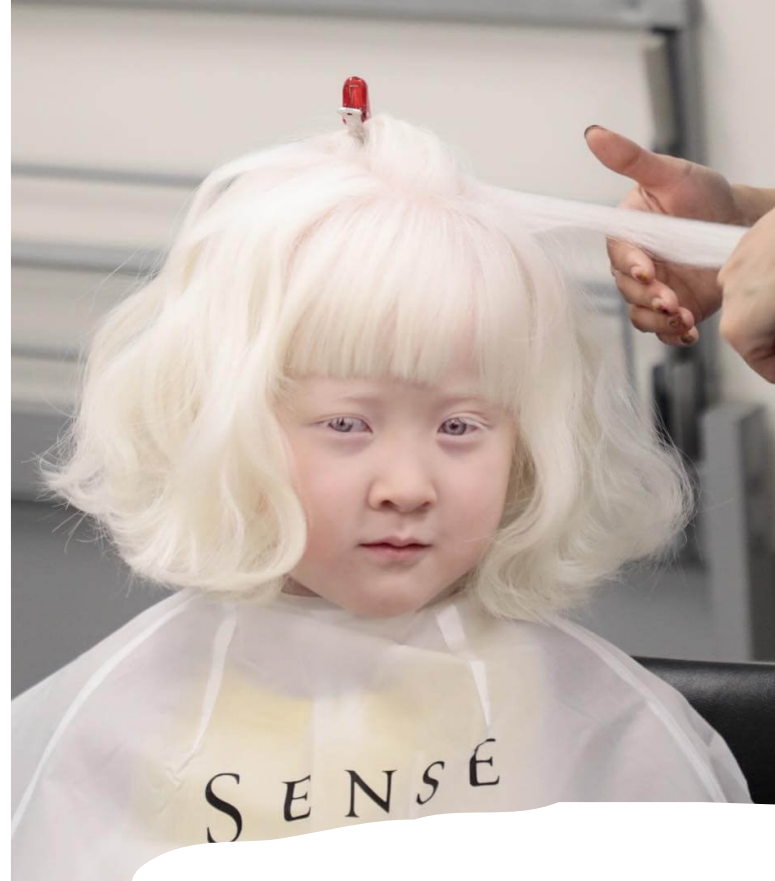
Bagaimana caranya berempati?

PERSONA CANVAS

NEGATIVE TRENDS
Negative trends from the environment

POSITIVE TRENDS
Positive trends from the environment

HEADACHES
Professional and work related issues

NEED
What does this person really want?

OPPORTUNITIES
Professional and work related positive outcomes

FEARS
Personal issues

NAME _____

ROLE _____

HOPES
Personal goals and hopes

Persona Canvas

Negative Trends
Negative trends from the environment

Positive Trends
Positive trends from the environment

Headaches
Professional and work related issues

Need
What does this person really want?

Opportunities
Professional and work positive outcomes

Fears
Personal issues

Name _____

Role _____

INVO

Persona Canvas

Negative trends

Positive trends

Photos and appearance

Need

Headaches and daily problems

Opportunities and positive events

Name and role

Fears for the future

Personal details

Hopes for the future

Based on the Persona Canvas from DesignABetterBusiness.tools

WRKSHP

TAHAP 2: DEFINE

Problem Statement

Voting

Di tahap ini tujuan anda adalah berusaha untuk **mendefinisikan masalah dan merumuskan** *problem statement*

Untuk itu, anda harus melakukan upaya **empati** terhadap kondisi, konteks, sudut pandang, dan apa yang dirasakan pengguna.

DEFINE PROBLEM STATEMENT

GAINS

PROBLEM STATEMENT
"HOW MIGHT WE"
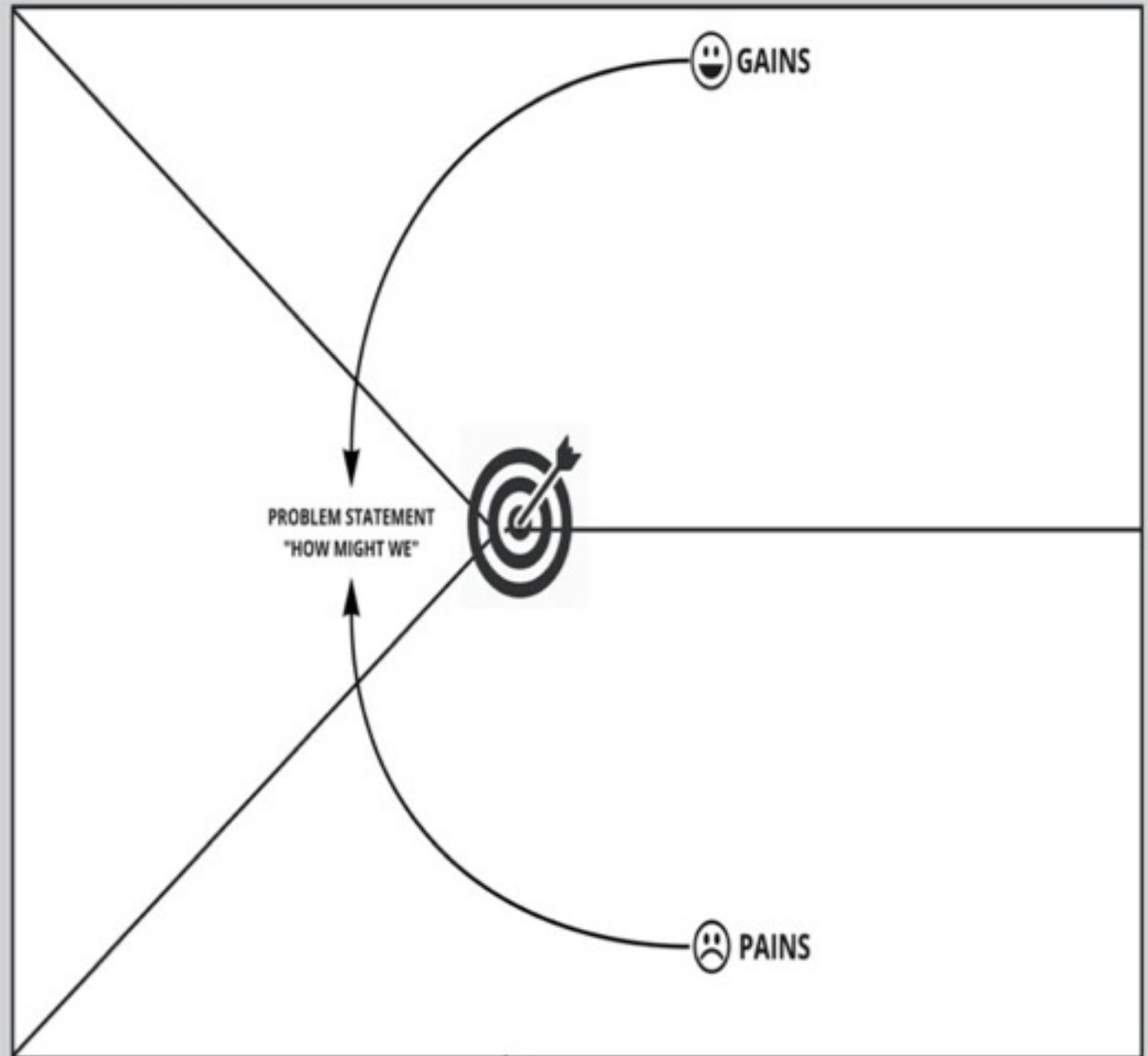
PAINS

Pains vs Gains

- **Pains:** hal-hal yang menghambat anda dalam menjawab *problem statement*

- **Gains:** hal-hal yang membantu anda dalam menjawab *problem statement*

DEFINE PROBLEM STATEMENT

GAINS

PROBLEM STATEMENT "HOW MIGHT WE"
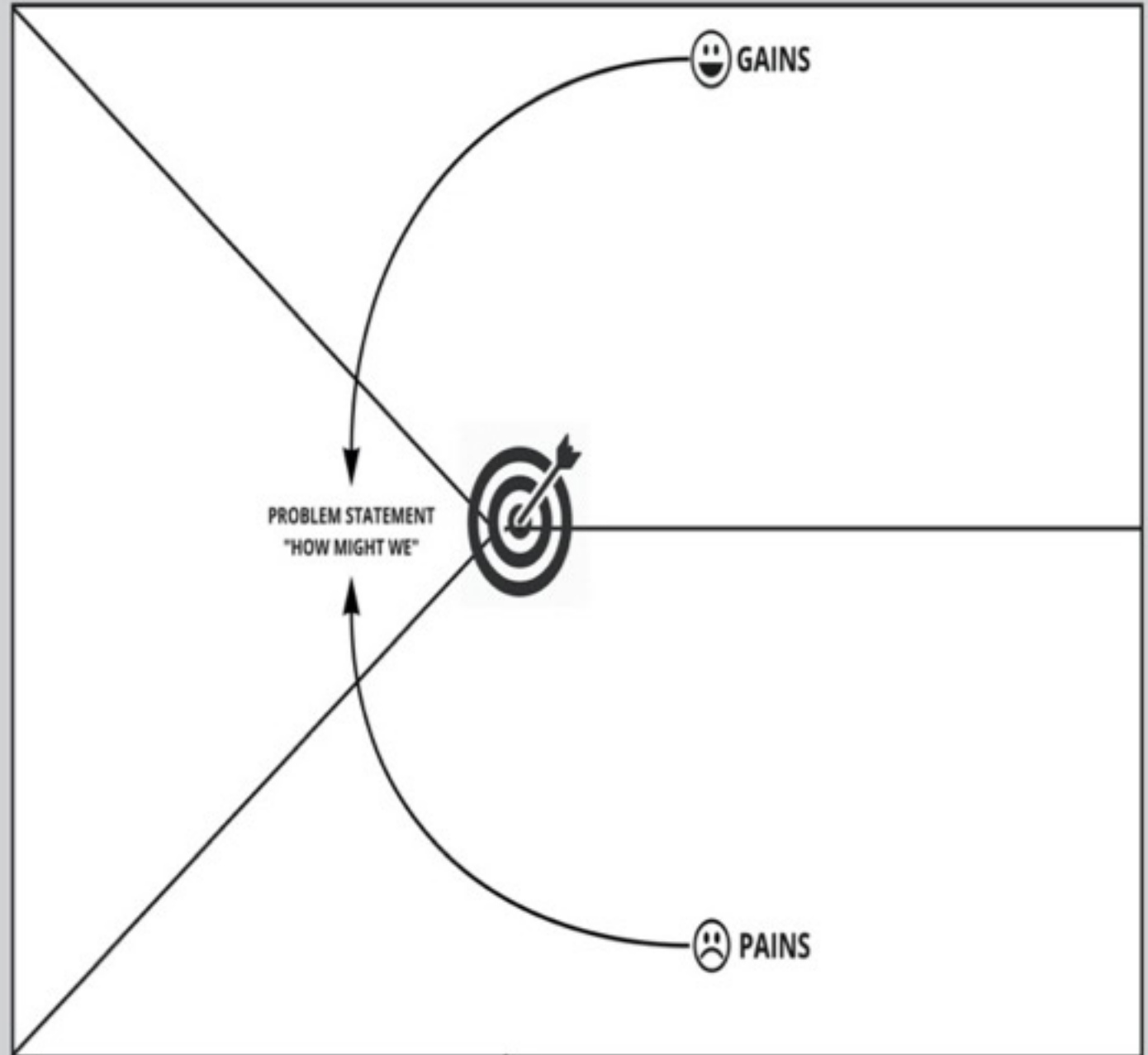
PAINS

Voting time!

- Pahami, analisis, dan pertimbangkan baik-baik seluruh *pains* dan gains yang anda tuliskan di *problem statement graphic.*
- **Seleksi prioritas utama dari masing-masing *Pains* dan *Gains***

TAHAP 3: IDEATION

IDEATE Solution!

GENERATING SOLUTION

GAINS CREATOR

What Can You Offer to Achieve The Gains?

PRODUCT & SERVICES

PAINS RELIEVER

How to Releive The Pains?
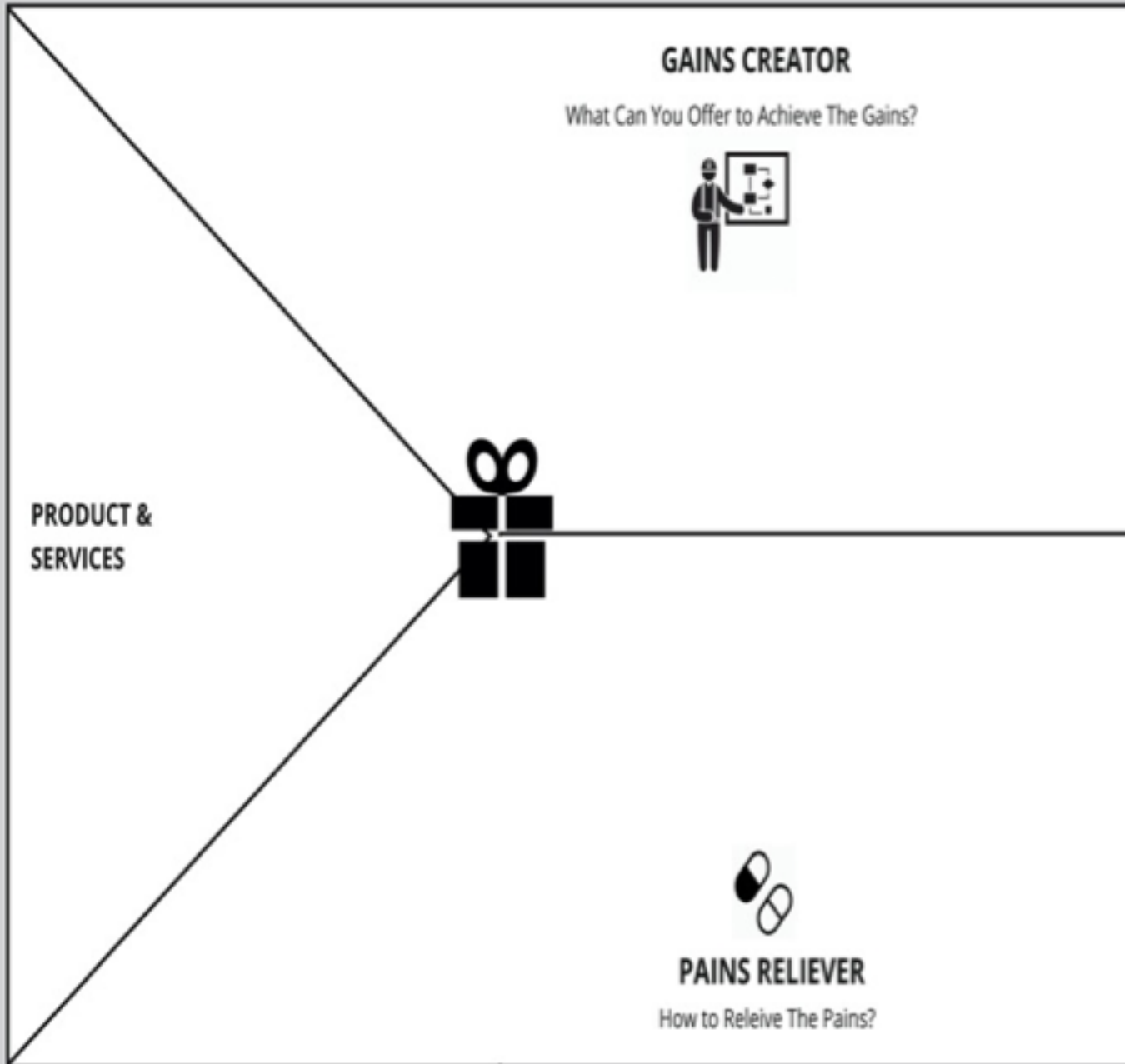
Tentukan **gain creator** (solusi untuk meningkatkan *gains*)

Tentukan **pain reliever** (solusi untuk menurunkan *pain*)

Tentukan *product & services* (solusi utama yang meramu *gains creator* dan *pains reliever* untuk dapat menjawab *problem statement*)

Double Diamond
Design Thinking

Sumber: https://www.designorate.com/the-double-diamond-design-thinking-process-and-how-to-use-it/
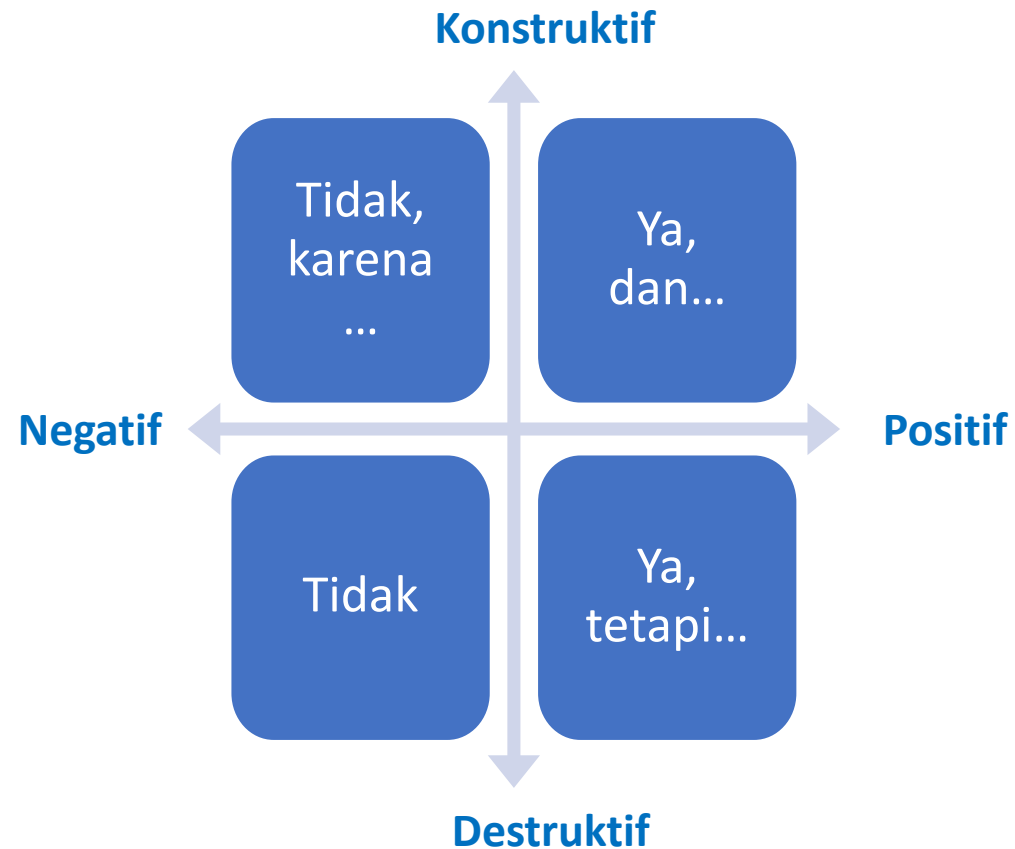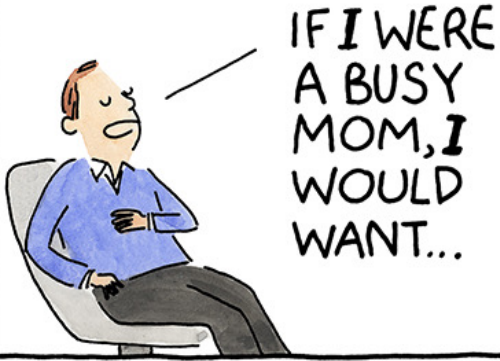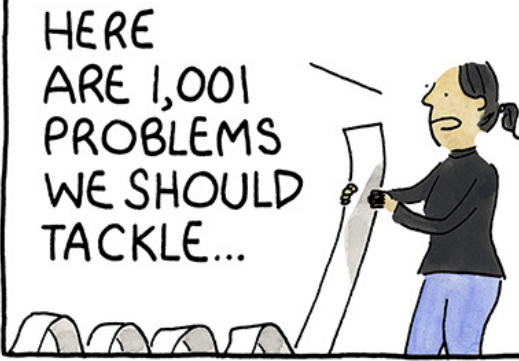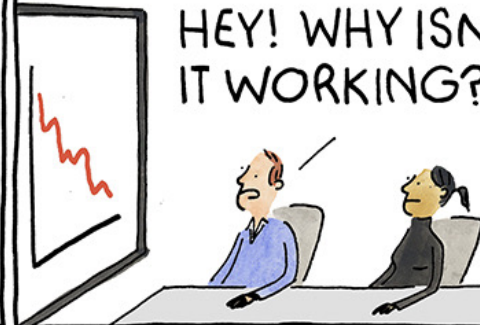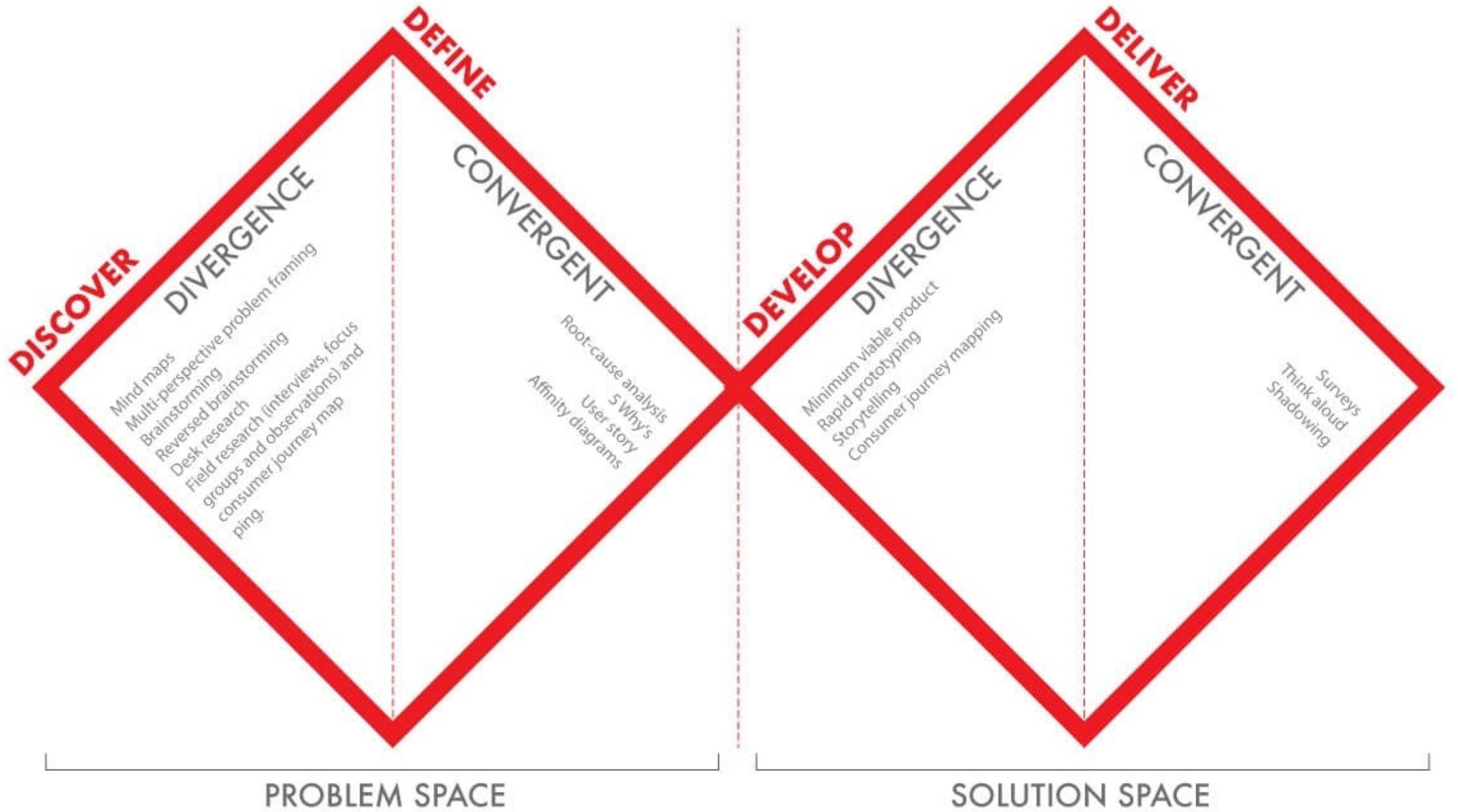
Langkah: Berlian Pertama

- DISCOVER: membantu memahami seseorang atau sesuatu, bukan hanya berasumsi. Untuk memahami masalah dan tantangan yang dihadapi maka diperlukan berbicara, berdiskusi, berempati dengan orang-orang yang mengalami dan/atau terpengaruh oleh masalah tersebut.

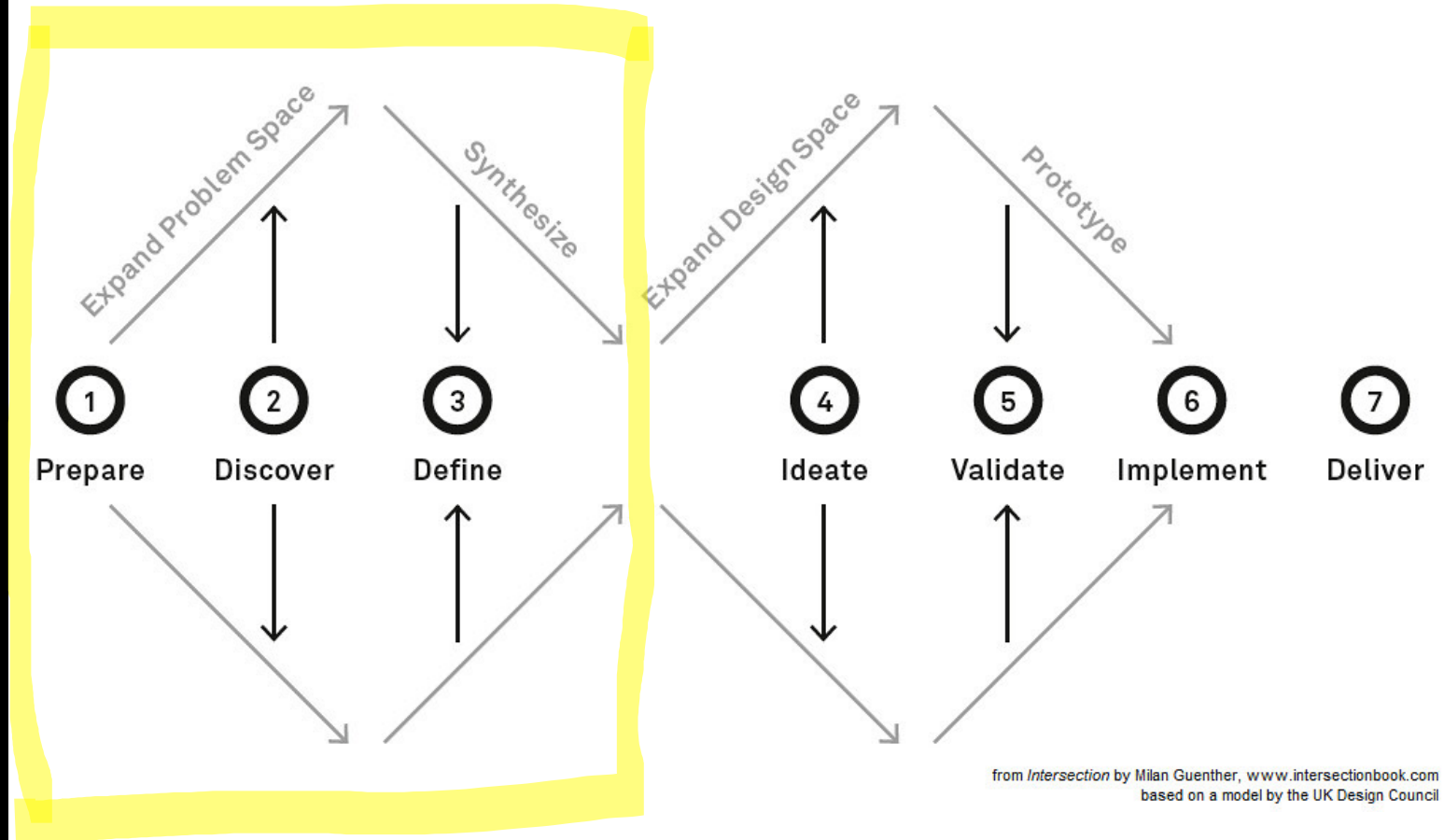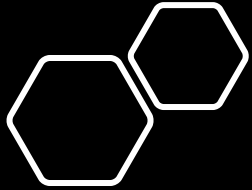- DEFINE: mendefinisikan masalah dan tantangan berdasarkan wawasan yang dikumpulkan dari fase discover.

from *Intersection* by Milan Guenther, www.intersectionbook.com based on a model by the UK Design Council

Image Source: intersection by Milan Guenther, www.intersectionbook.com based on a model by the UK Design Council

Langkah: Berlian Kedua

- DEVELOP: mencari inspirasi dari tempat lain dan merancang bersama dengan berbagai orang yang berbeda dalam upaya mencari solusi.

- DELIVER: menguji berbagai solusi pada skala kecil, reduksi solusi yang tidak relevan dan mengoptimalkan solusi yang relevan.
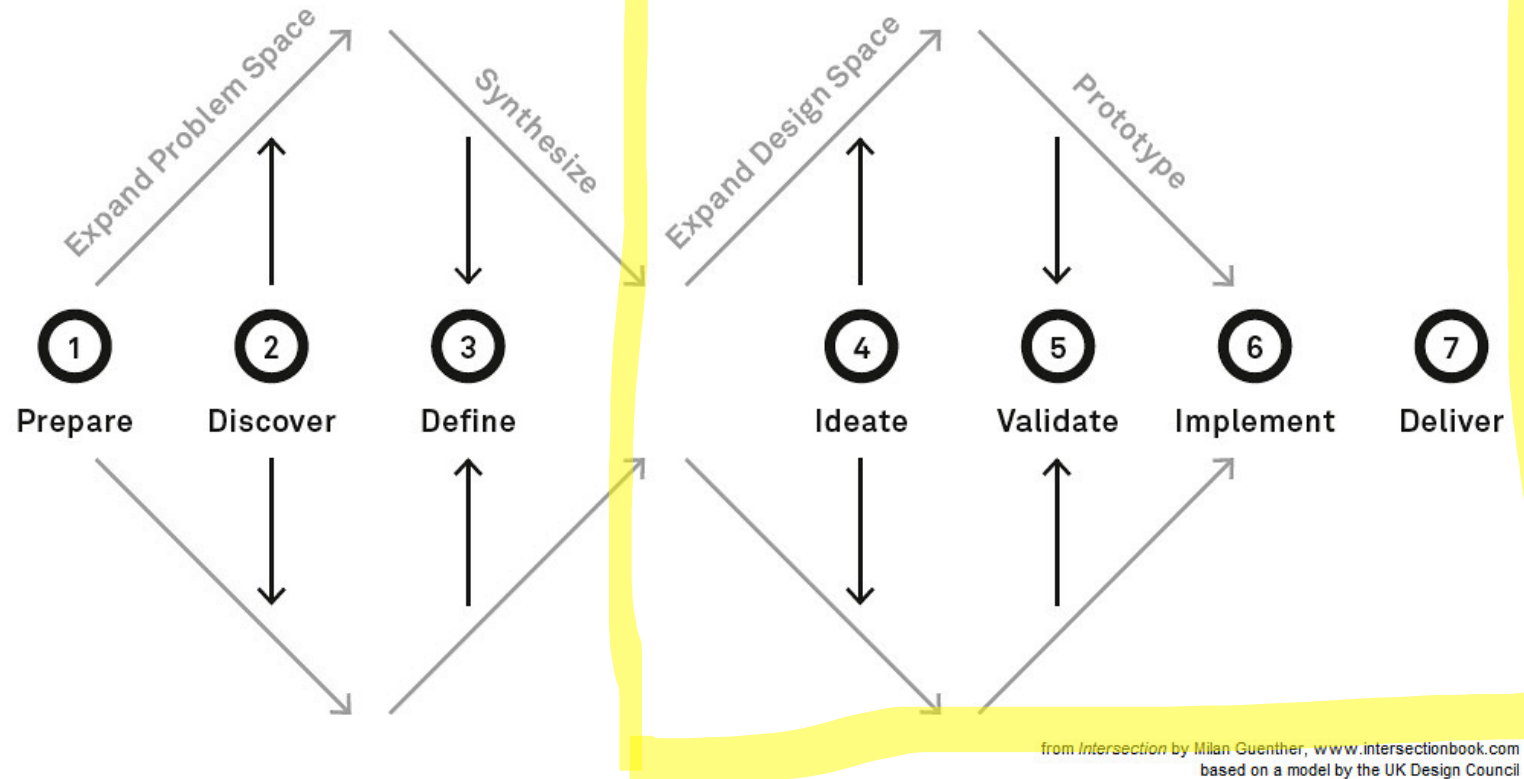

Image Source: intersection by Milan Guenther, www.intersectionbook.com based on a model by the UK Design Council

IDEO HCD process, img source: https://cdn.evbuc.com/eventlogos/160332149/designthinkingphases.png
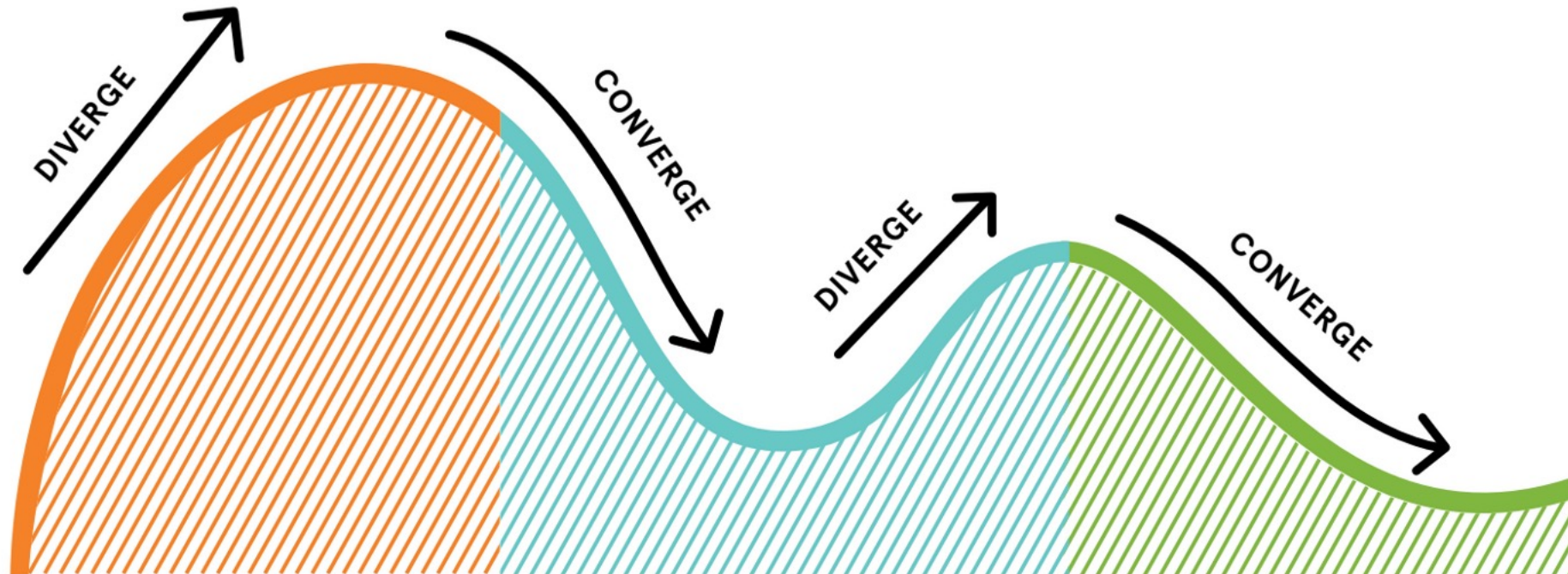
Prinsip Design

- **Put people first:** mulailah dengan memahami tentang orang yang menggunakan layanan, kebutuhan, kekuatan, dan aspirasi mereka.

- **Communicate visually and inclusively:** memfasilitasi orang untuk mendapatkan pemahaman bersama tentang masalah dan ide.

- **Collaborate and co-create:** bekerja sama untuk mendapatkan inspirasi dari apa yang dilakukan.

- **Iterate, iterate, iterate:** menemukan kesalahan lebih awal, menghindari risiko, dan membangun kepercayaan pada ide.

Source: Design Council (2019)

Exercise

- Audience dibagi menjadi 2 kelompok besar
- Kelompok A
- Kelompok B

Kelompok A

- Sepakati nama kelompok kalian

- Tentukan 1 orang volunteer untuk dijadikan sebagai champion

- Anggota kelompok yang lain melakukan 'wawancara' dan diskusi terhadap champion menggunakan design thinking by Stanford terkait opsi karir yang cocok untuk champion tersebut

- Merumuskan solusi opsi karir apa yang cocok untuk champion dari hasil wawancara dan diskusi yang sudah dilakukan

- Presentasi

Kelompok B

- Sepakati nama kelompok kalian

- Tentukan 1 orang volunteer untuk dijadikan sebagai champion

- Anggota kelompok yang lain melakukan 'wawancara' dan diskusi terhadap champion menggunakan double diamond design thinking terkait opsi karir yang cocok untuk champion tersebut

- Merumuskan solusi opsi karir apa yang cocok untuk champion dari hasil wawancara dan diskusi yang sudah dilakukan

- Presentasi

Any questions?

THANK YOU!

INSTITUT TEKNOLOGI SEPULUH NOPEMBER
SURABAYA