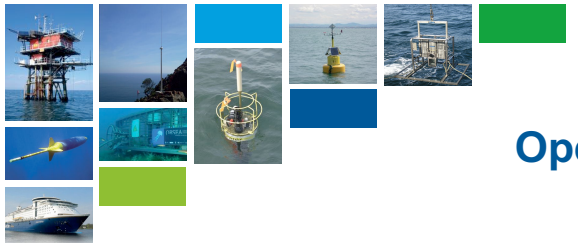


Malta Summer School 2018
Operational Oceanography for Blue Growth

Alex Borg

User Centred Design
Focus on Problem Definition

9h July 2018

About me as an intrapreneur...

About me as an ocean lover

Putting you into context

Government agency for ICT

- 340 ICT professionals
- Service +25,000 users
- Deliver IT/IS projects and services to public administration
- Advisers on ICT policy

MITA off-site innovation centre

- Founded 2014
- Spin-off team of 3-4 people
- Digital entrepreneurship and innovation

Startup acceleration programme

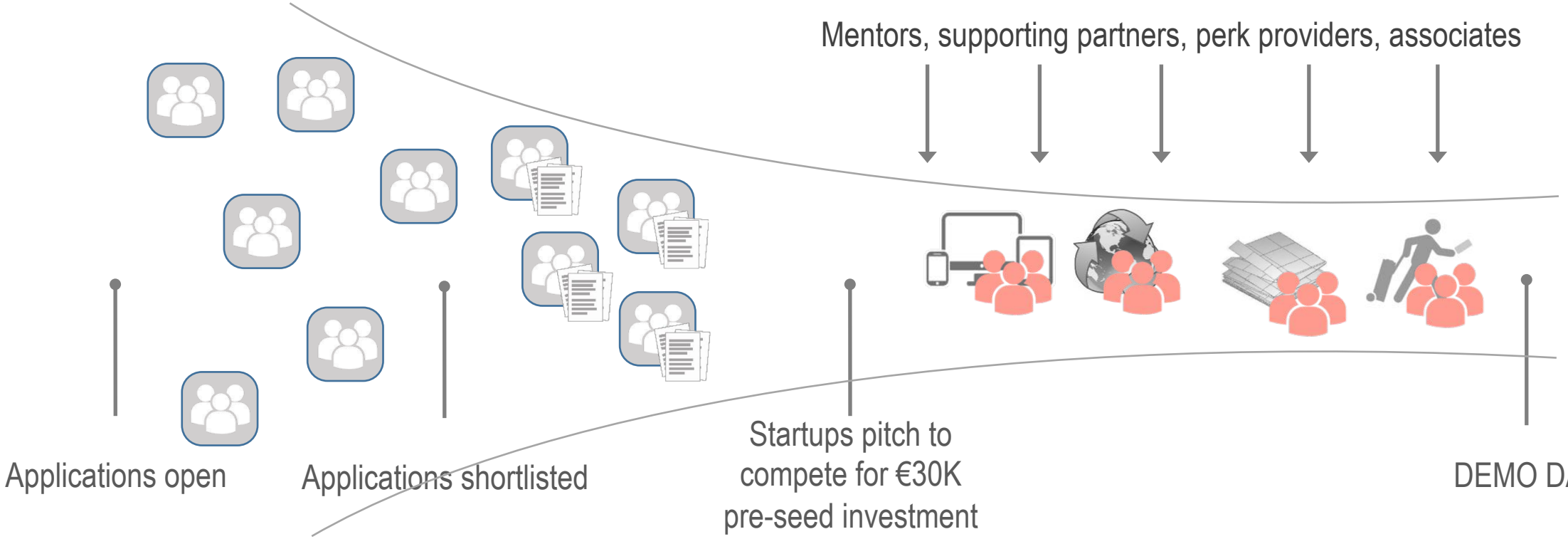
- Managed by the MIH
- 28 startups supported
- Qtr Million Euro disbursed
- Blockchain & Emerging Technologies

YOU START IT

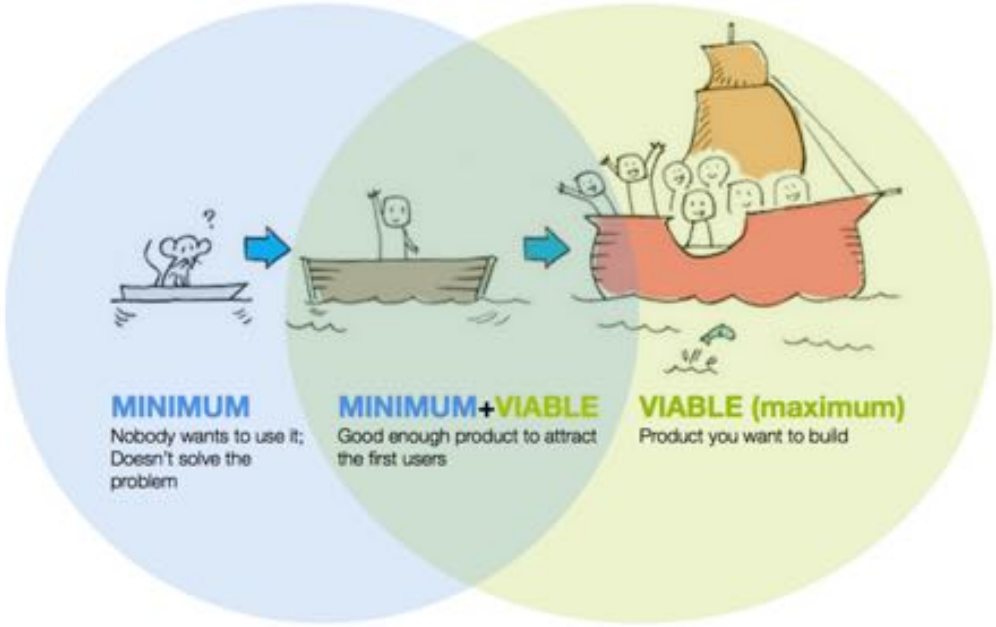
Promotion (12 wks)
e-marketing campaign, events

Pre-acceleration (2 wks):
training, bootcamp, interviews, selection

Acceleration (20 wks):
execute business idea, prototype, test, iterate, showcase using Lean Startup methodology; ongoing training & mentoring



YOU START IT allows startups to:



Discover potential for digital entrepreneurship

Validate problem and target market

Test business idea through rapid prototyping

Build and test their first product

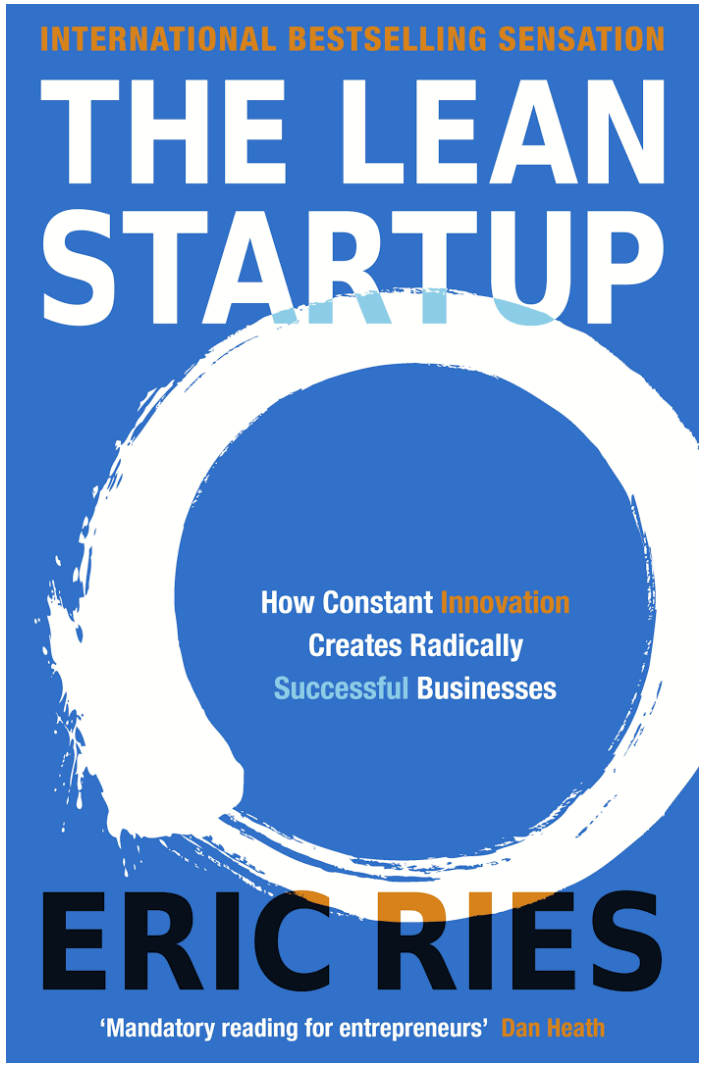
Gain their first customer/s

Develop their own IP and productise

Why am I saying all this?

A common occurrence: designing the solution without first understanding the problem!

Typical questions one should ask



1. Is the customer aware of the problem?
2. Are they happy with their current solutions?
3. Would they buy the solution?
4. Would they buy it from you?
5. Can you build a solution to that problem?

Technologists tend to jump to question 5!

“If I had only one hour to save the world, I would spend 55 minutes defining the problem, and only 5 minutes finding the solution.” Albert Einstein

Waterfall approaches

Classic desk-based business plans:

- Don’t prove your idea will work
- Are sold to higher management
- Are not based on hard evidence

Many assumptions are made, <u>often untested</u>

Osterwalder, A (2015)

Think like an entrepreneur (or intrapreneur)

Use lean approaches:

- Define the problem
- Is it a tier 1 problem – a pain point?
- Look at existing solutions – competition?
- Do you have the resources to build the solution?
- Is your customer willing to buy your solution?

Why is defining a problem important?

- A common, shared understanding
- Understand what resources & skills are needed
- Know how many resources to assign
- Understand how long it could take us
- Understand the value of solving the problem

Classic systems engineering approach

- Establish the need to solve the problem
- Justify the need
- Contextualise the problem
- Write the problem statement

Ask a set of questions for each.

Classic systems engineering approach

- What is the problem or need?
- Who has the problem or need?
- Why is it important to solve?

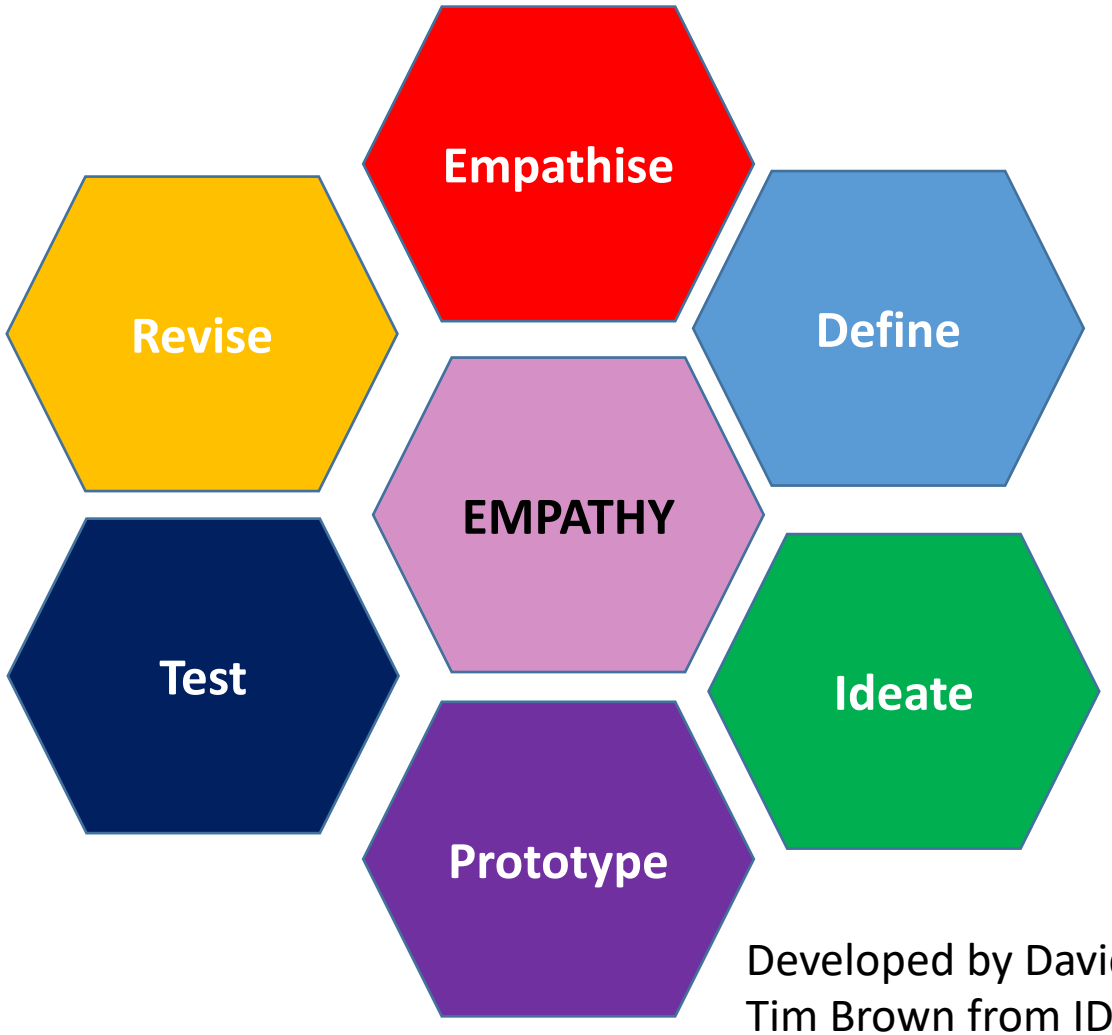
Who need(s) **what** because **why**.
_____ need(s) _____ because _____.

Design Thinking

Human-centred innovation begins with developing an understanding of customers' or users' unmet or unarticulated needs

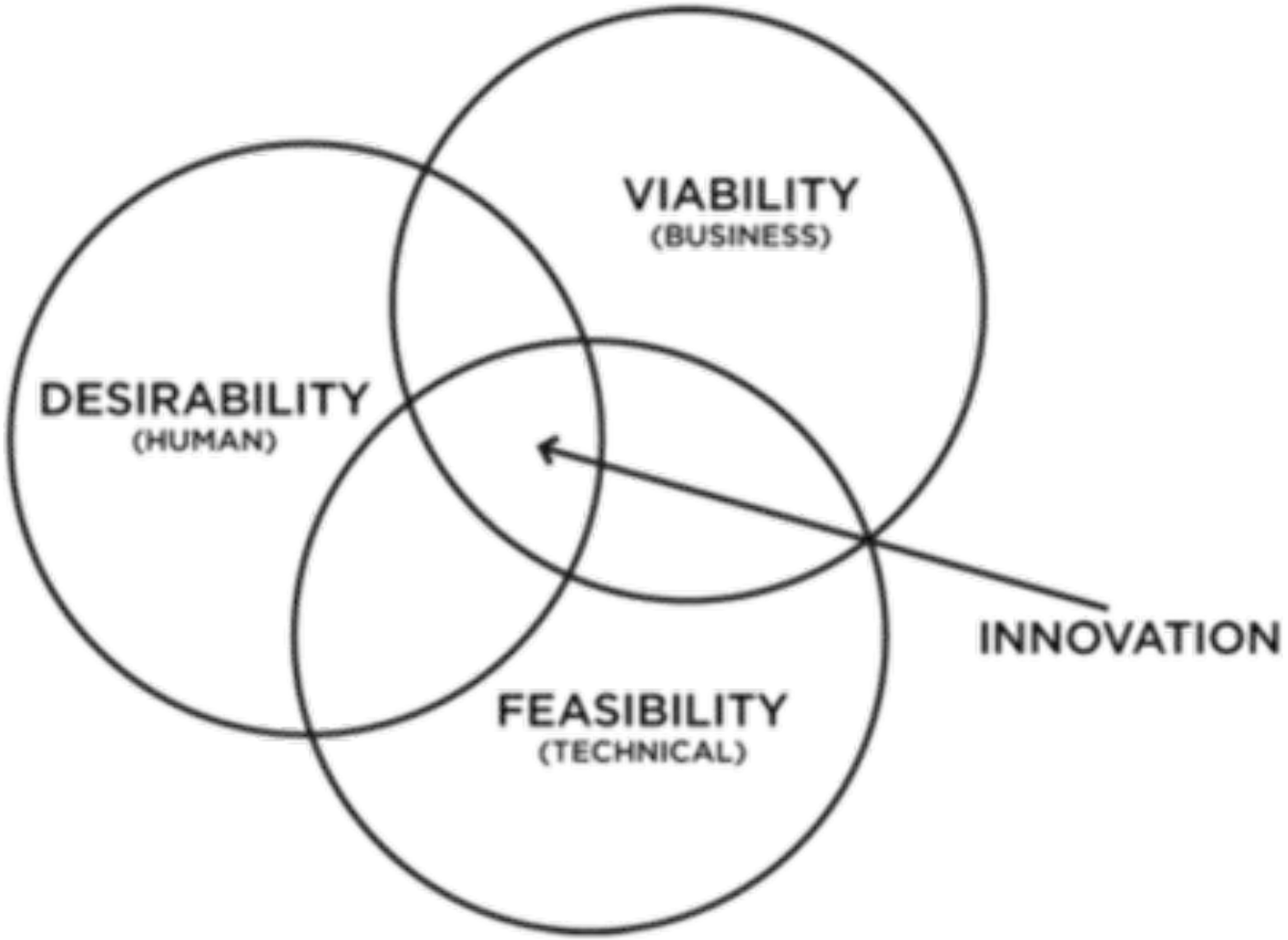
It is not the final veneer you apply to a product!

"Uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity."
– Tim Brown CEO, IDEO

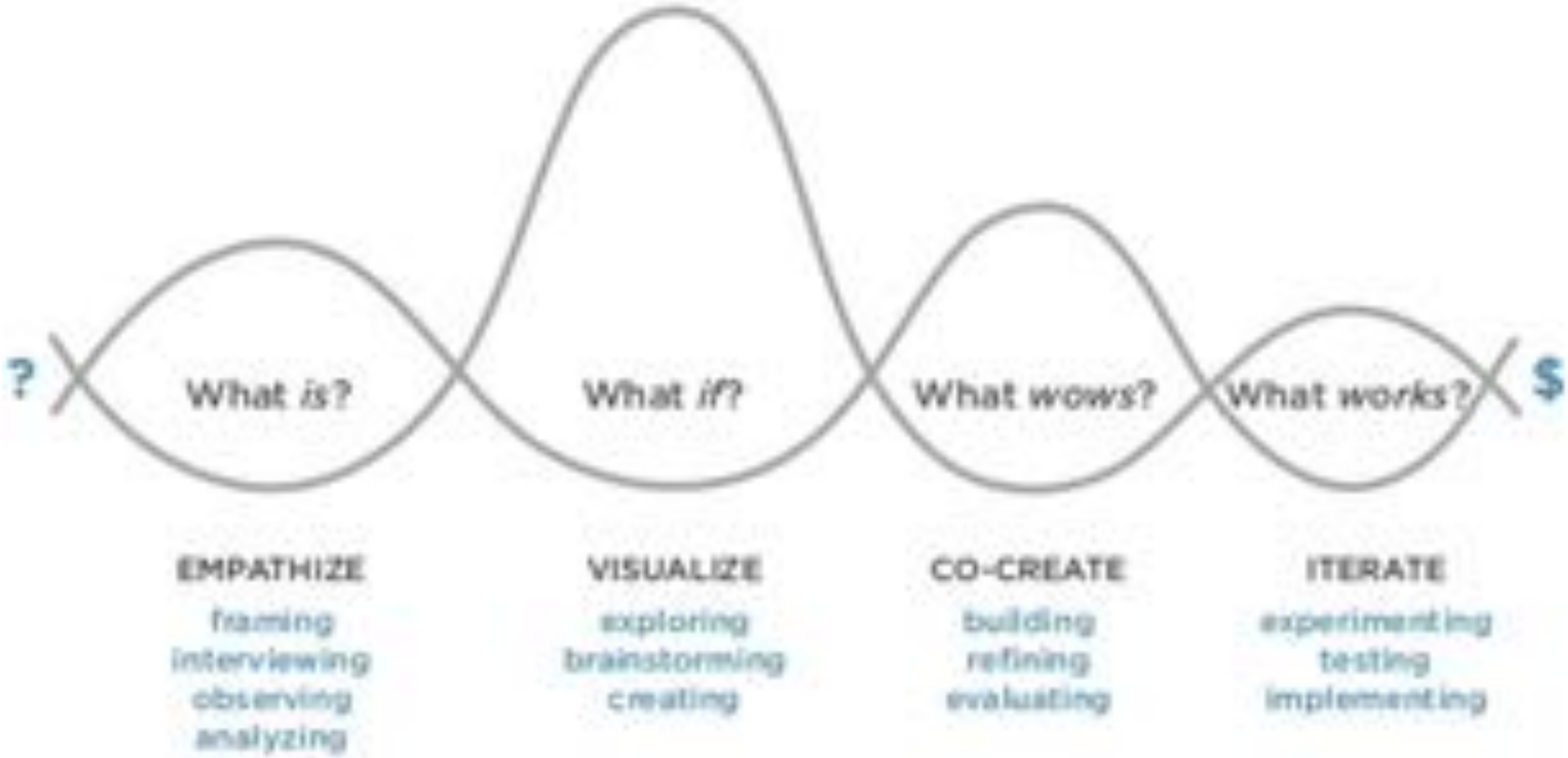


Developed by David Kelly and Tim Brown from IDEO

Three principles of Design Thinking



Design Thinking



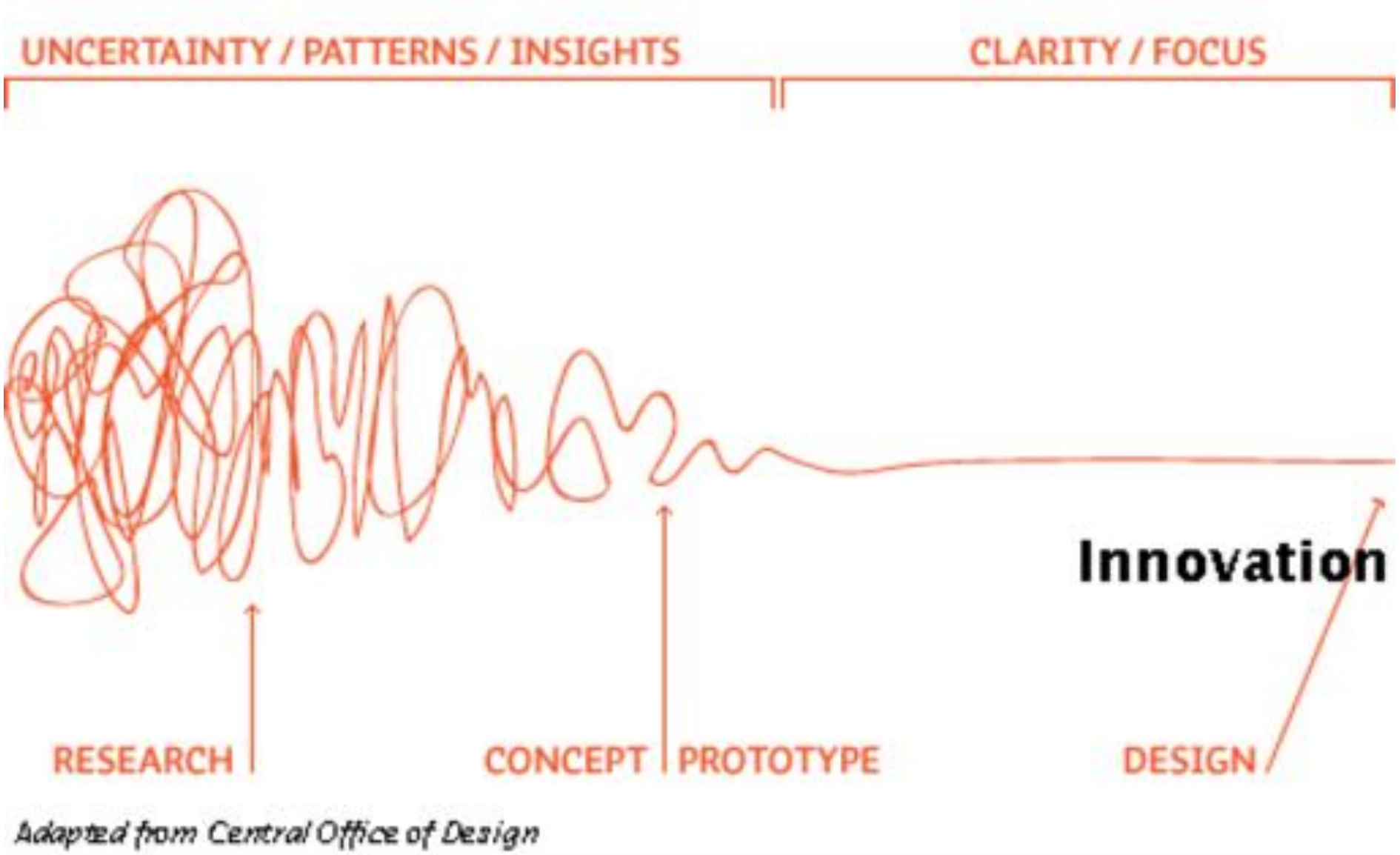
Source: Jeanne Liedtka and Tim Ogilvie

Communicating ideas

From “thinking to build” to “building to think”

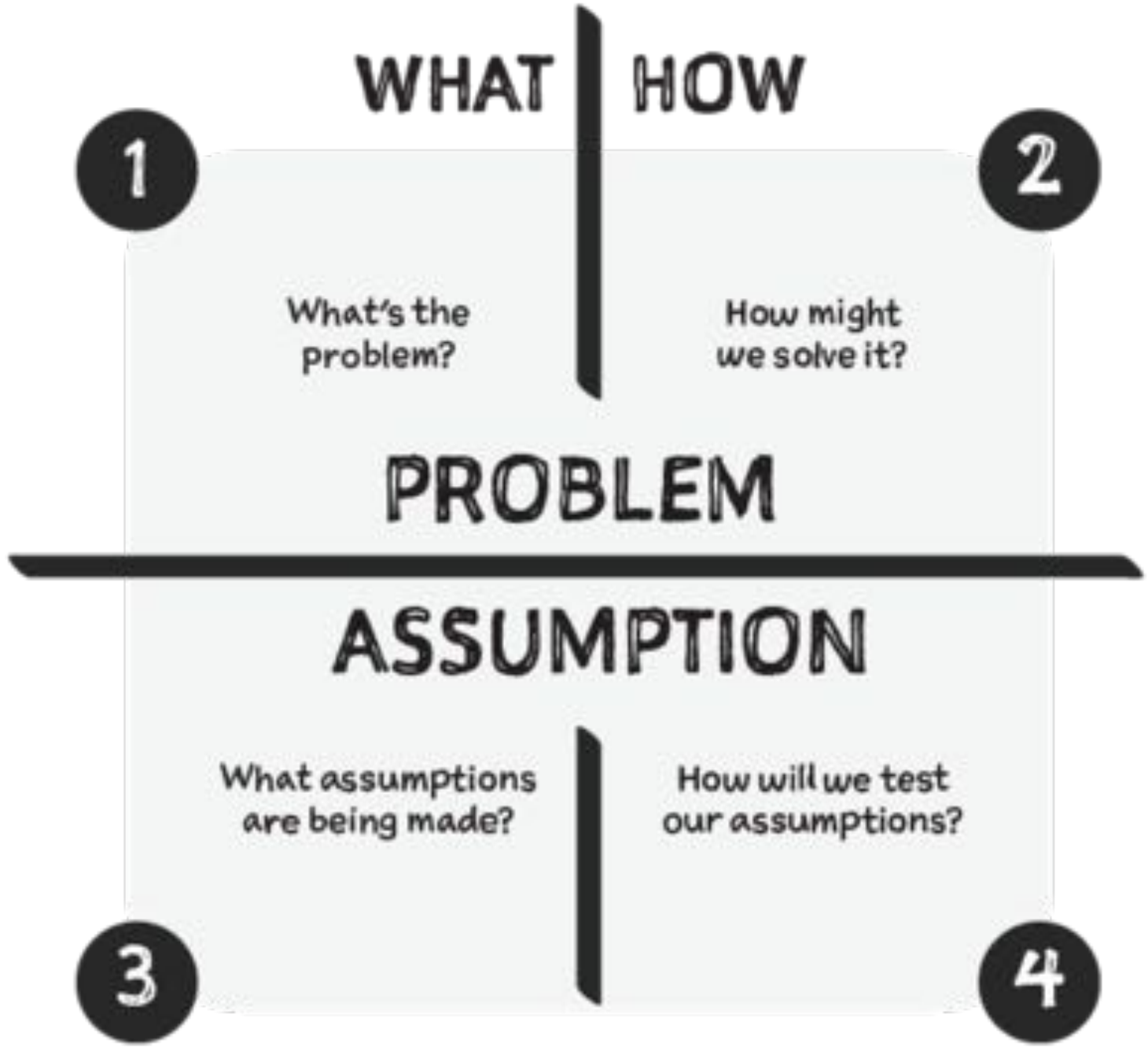
made by MinuteVideos.com

Design Thinking



Adapted from Central Office of Design

Three mindsets of product development


WHAT
HOW
1
2
What's the problem?
How might we solve it?
PROBLEM
ASSUMPTION
What assumptions are being made?
How will we test our assumptions?
3
4
@jonnyschneider and @barryoreilly


Design Thinking

Empathy with people

- starts with people - ends with new, tailor-made solutions
- building a deep empathy with the people you're designing for;
  - generating tons of ideas;
  - building a bunch of prototypes;
  - sharing what you've made with the people you're designing for;
  - putting your innovative new solution out in the world.

What Can the Approach Be Used For?

- PRODUCTS

  - How might we design a cook stove that reduces the amount of smoke inhaled by a person while cooking?
  - How might we design a solution that allows fishermen to easily download, process and interpret satellite data to predict weather conditions or tides?
  - How might we design a toilet for families living in areas with no sanitation infrastructure?

What Can the Approach Be Used For?

- SERVICES

  - How might we design a water delivery service providing clean drinking water along with health and nutrition products?
  - How might we design new services engaging low-income parents in after-school education for their children?
  - How might we design a drone delivery service for people in a remote mountain region?

What Can the Approach Be Used For?

- SPACES

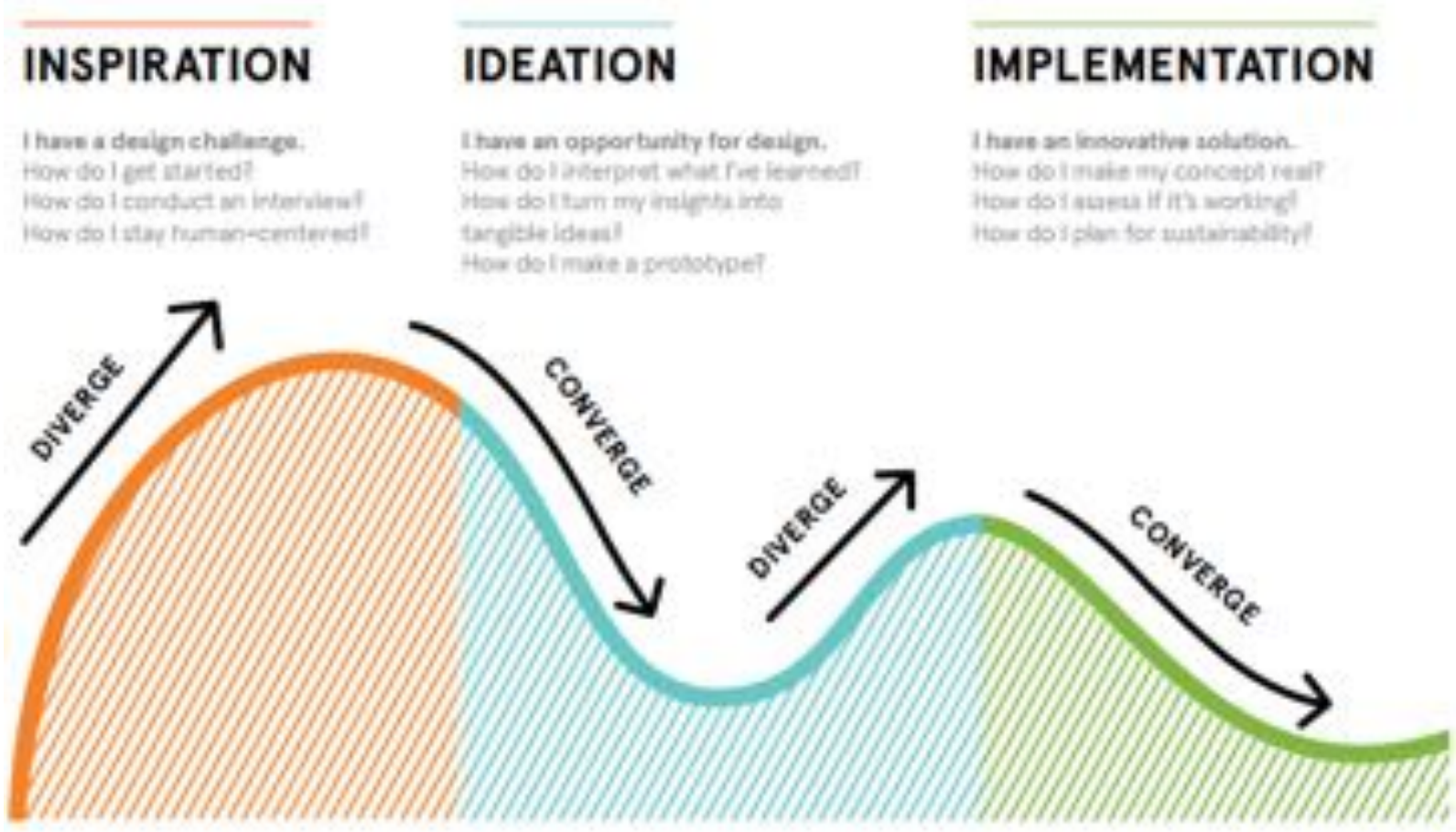
  - How might we design hospital waiting rooms to mitigate the transmission of airborne diseases?
  - How might we redesign the common areas of a community housing structure to encourage connecting and cooperation among neighbors?
  - How might we make the space inside a bank less intimidating for first-time savers signing up for a new account?

What Can the Approach Be Used For?

- SYSTEMS

  - How might we redesign the school lunch program for an entire city while providing for differences in individual schools?
  - How might we design a system linking social entrepreneurs from around the world?
  - How might we redesign a banking system for low-income citizens who have limited knowledge of banks?

The Design Process

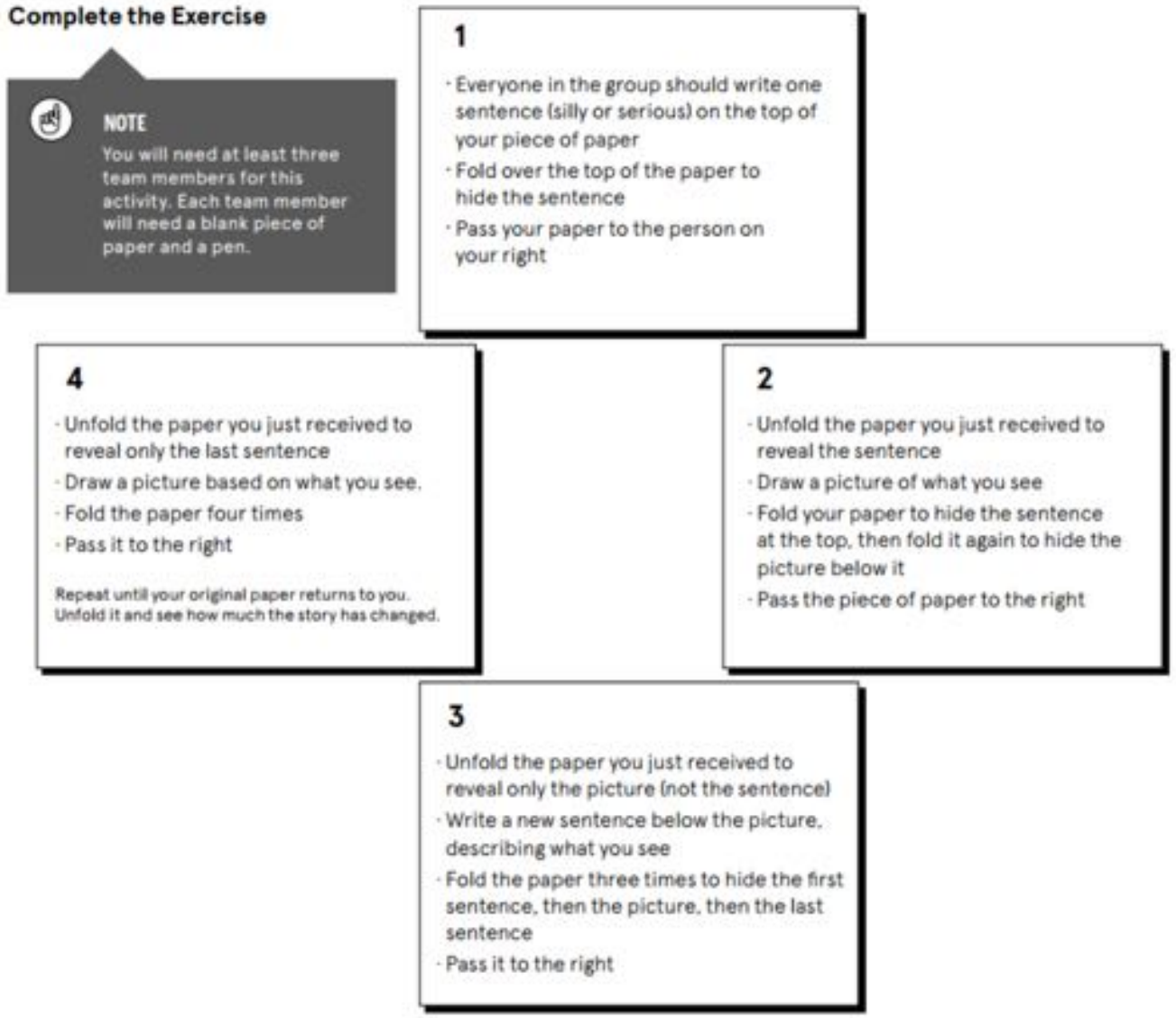


Mindsets of a Human-Centred Designer

- Learn from Failure
- Creative Confidence
- Empathy
- Embrace Ambiguity
- Be Optimistic
- Iterate, Iterate, Iterate

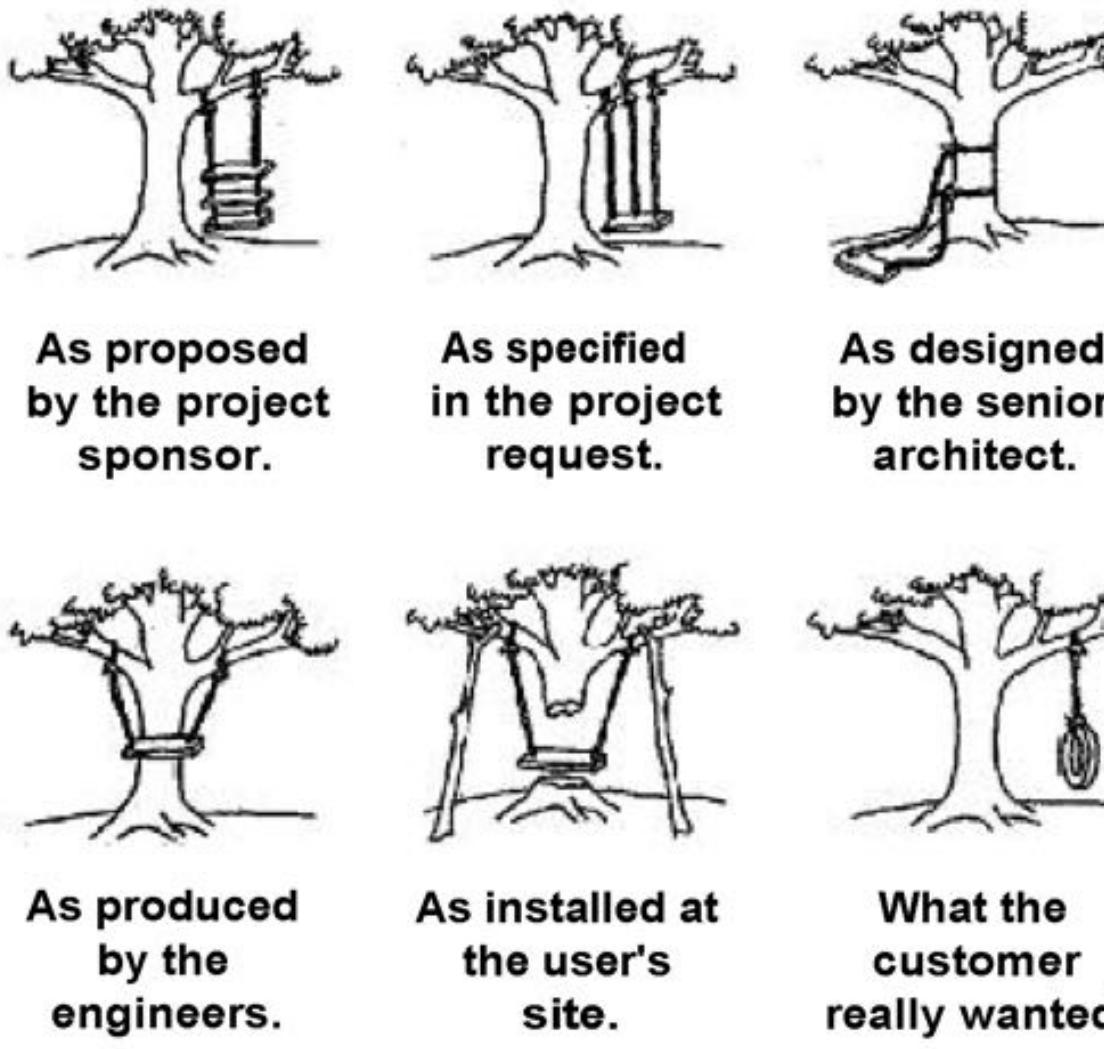
Icebreaker – Session

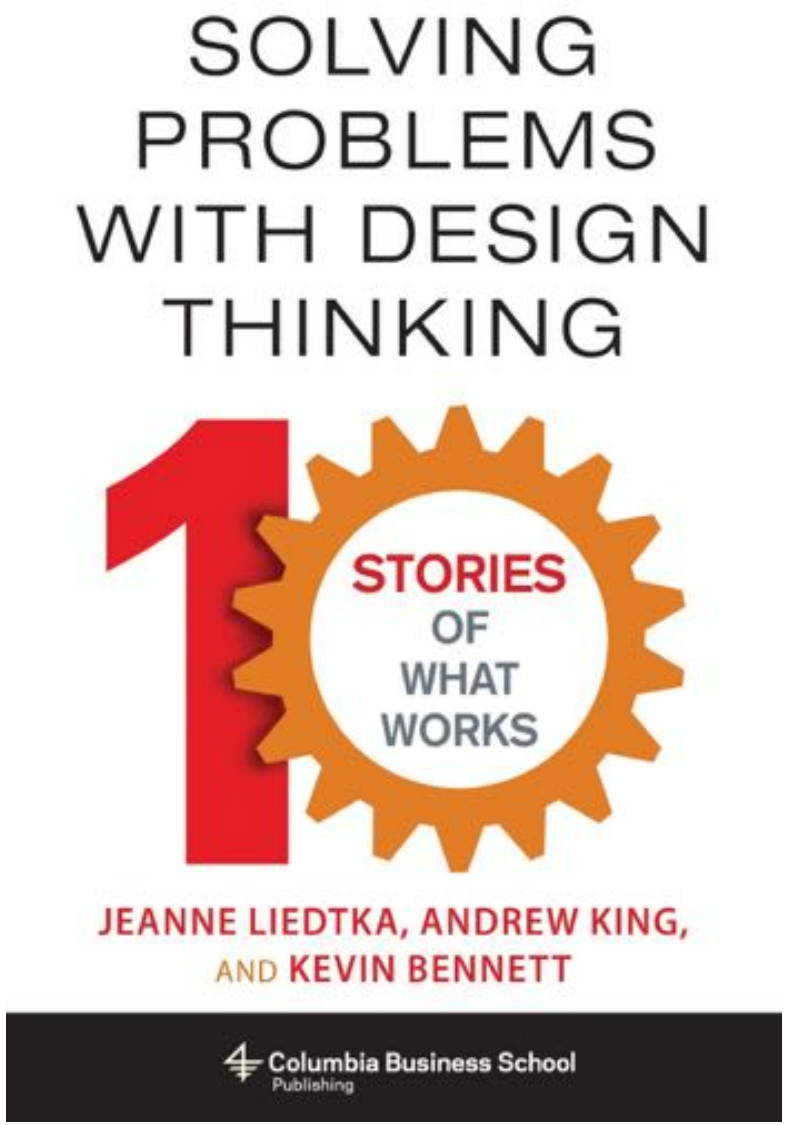
In the sentence focus on defining a problem



Conclusions on communicating a concept

- No one single reality
- Each has their own mind map (filters)
- Prejudices, interpretations
- Feedback: was it correctly interpreted?
- Senses used to communicate
- Time
- Formality





- Visualisation
- Journey mapping
- Value chain analysis
- Assumption testing
- Rapid prototyping
- Brainstorming
- Customer co-creation
- Concept development

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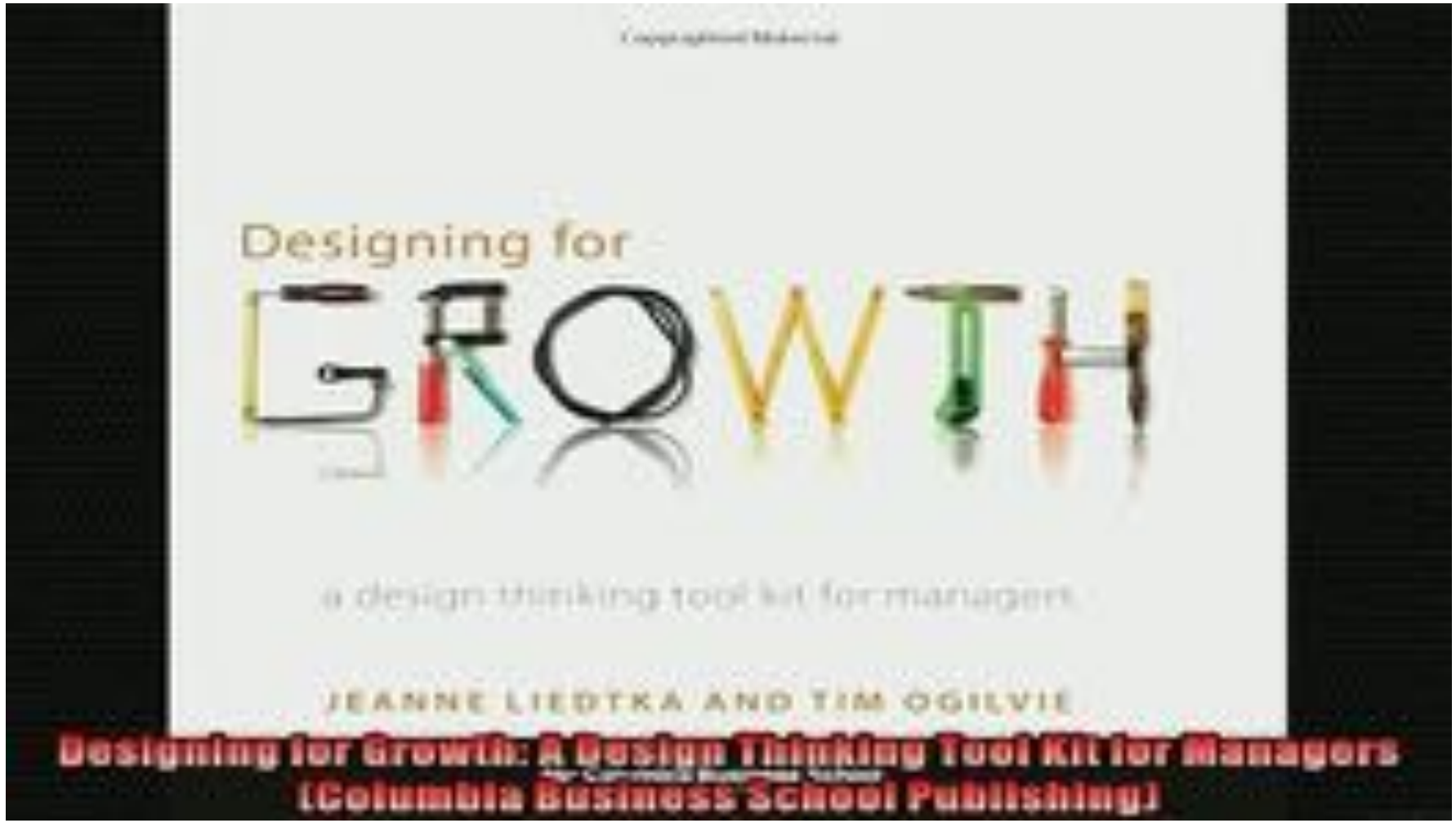
mita
INNOVATION HUB

Inspired by AR

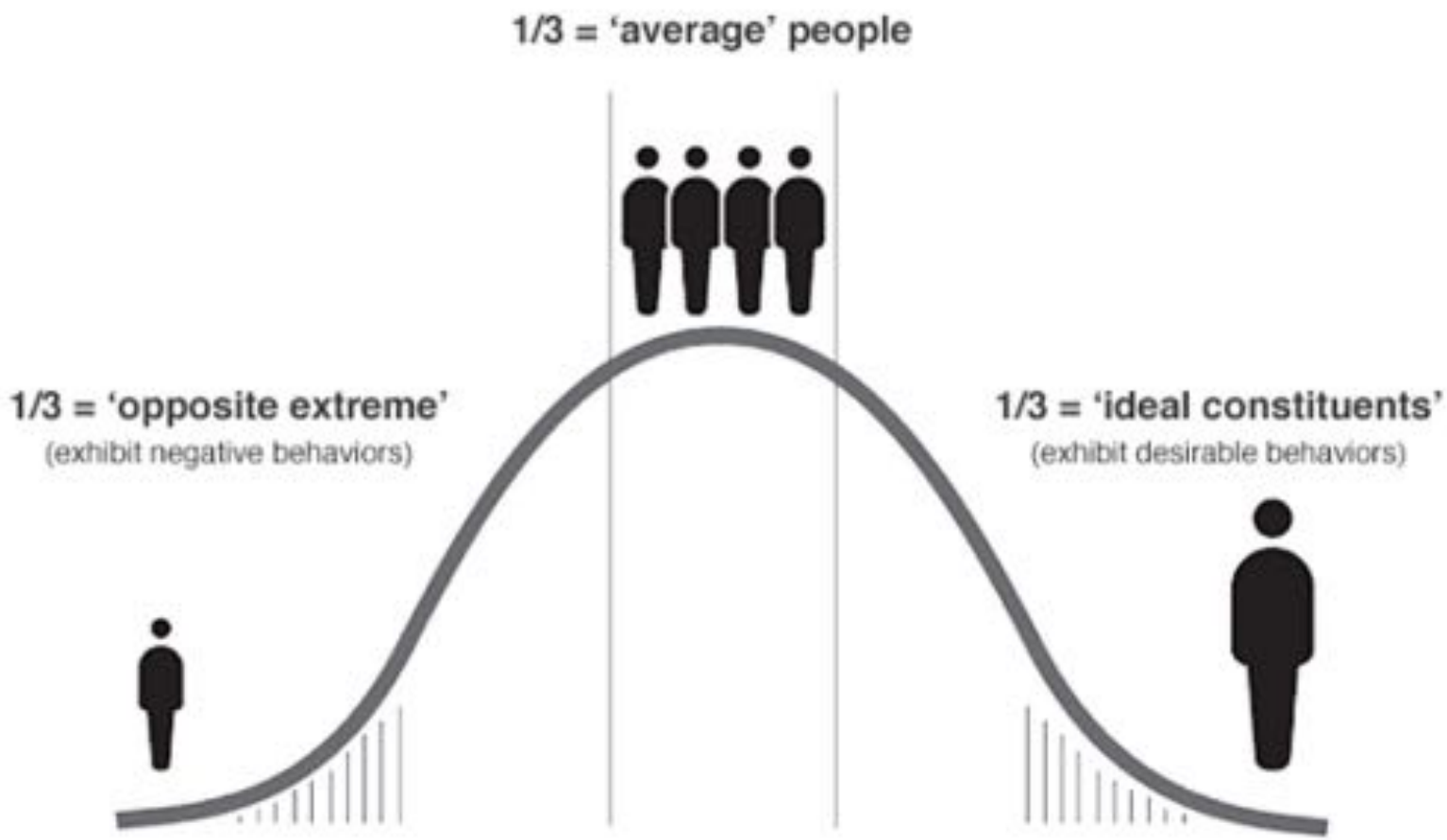
Pioneered by Kurt Lewin

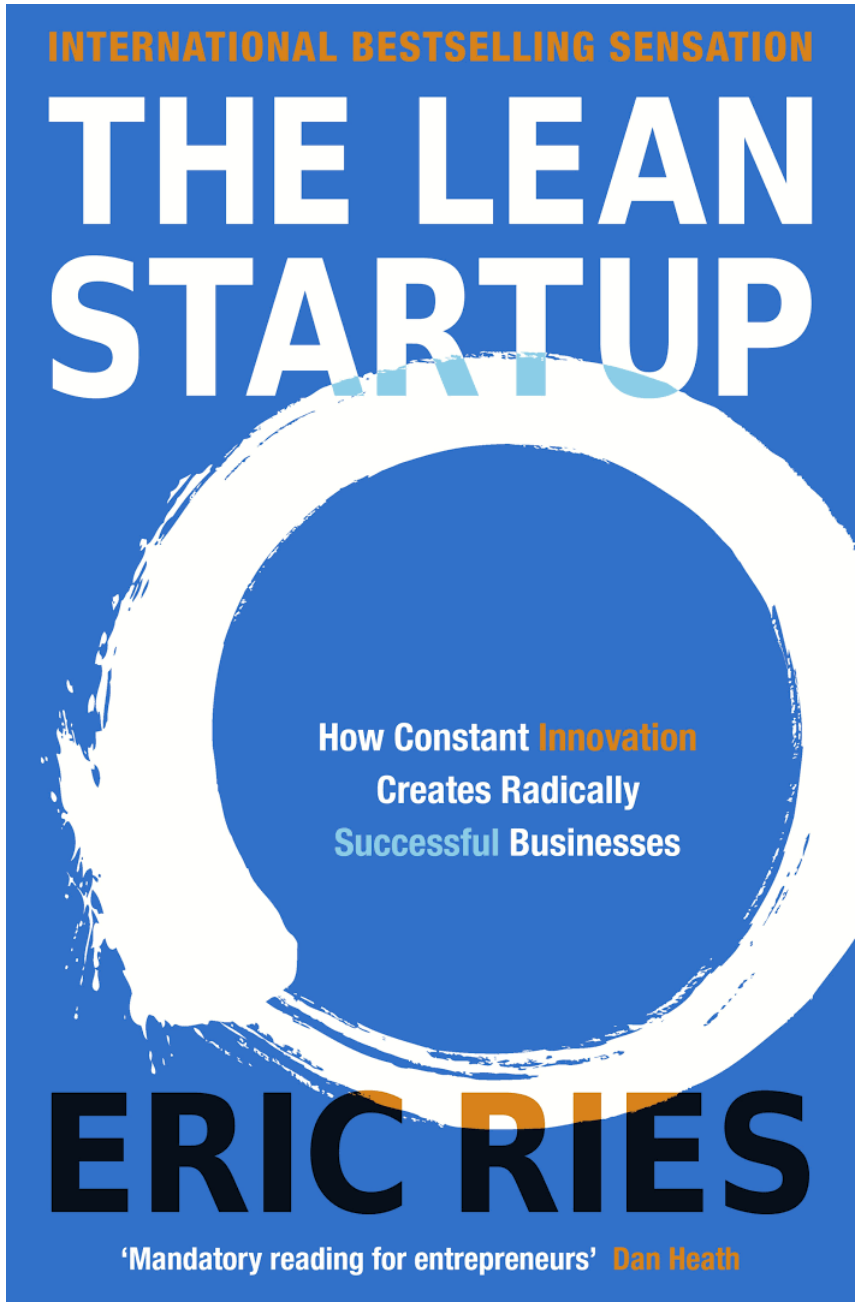
How do we get to solve a problem?



Designing for Growth: A Design Thinking Tool Kit for Managers (Columbia Business School Publishing)

Extreme users = Innovation opportunities

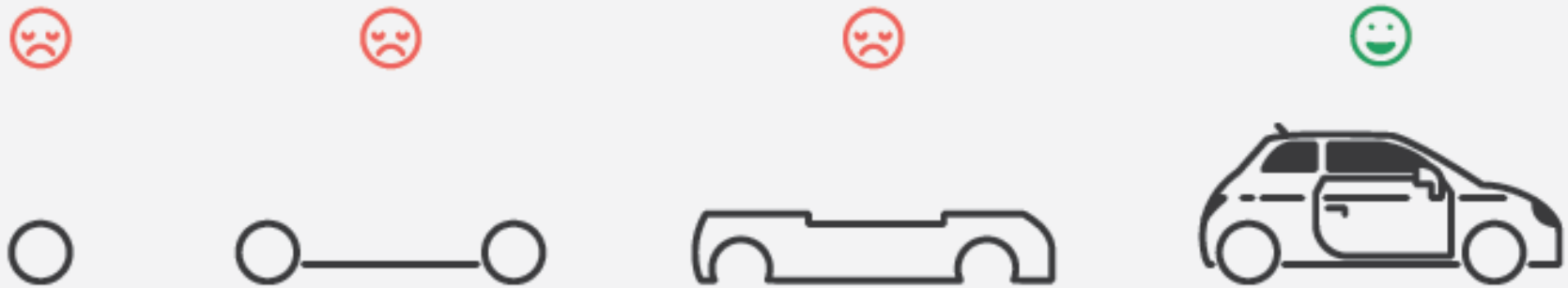




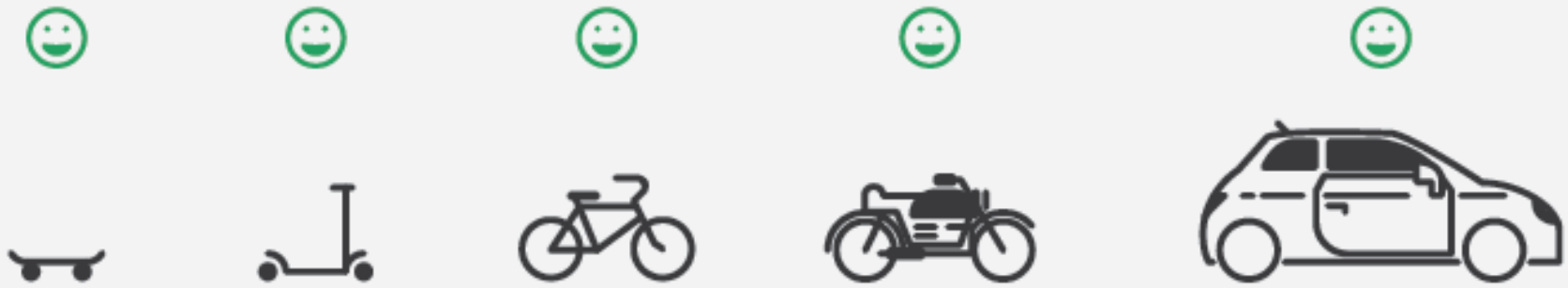
- Build
- Measure
- Learn

Revolves around the concept of an MVP to enable validated learning

How not to build a minimum viable product



How to build a minimum viable product



Eric Ries' viewpoint on problem definition

1. Is the customer aware of the problem?
2. Would they buy the solution?
3. Would they buy it from you?
4. Can you build a solution to that problem?

Technologists tend to jump to question 4!

Hands-on example

- Identify a problem, e.g.
  - Personal experience
  - Theories
  - Priority areas
- Use MIH template
- Deliver a two-minute pitch