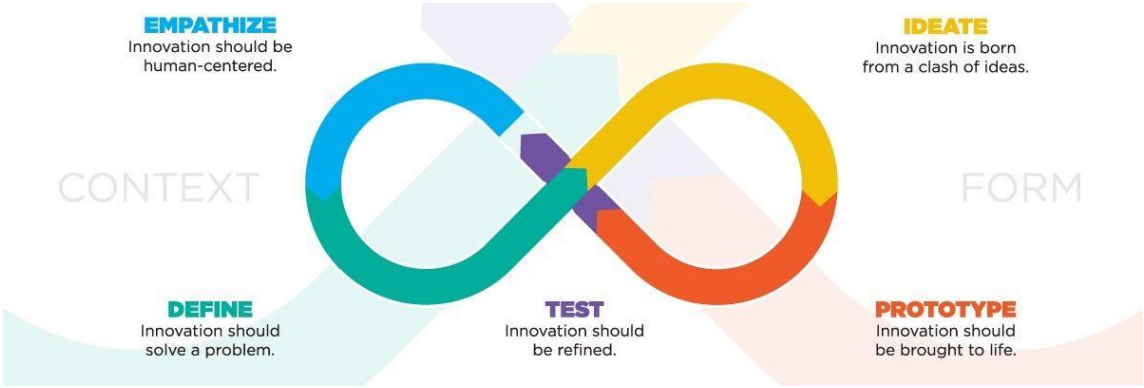
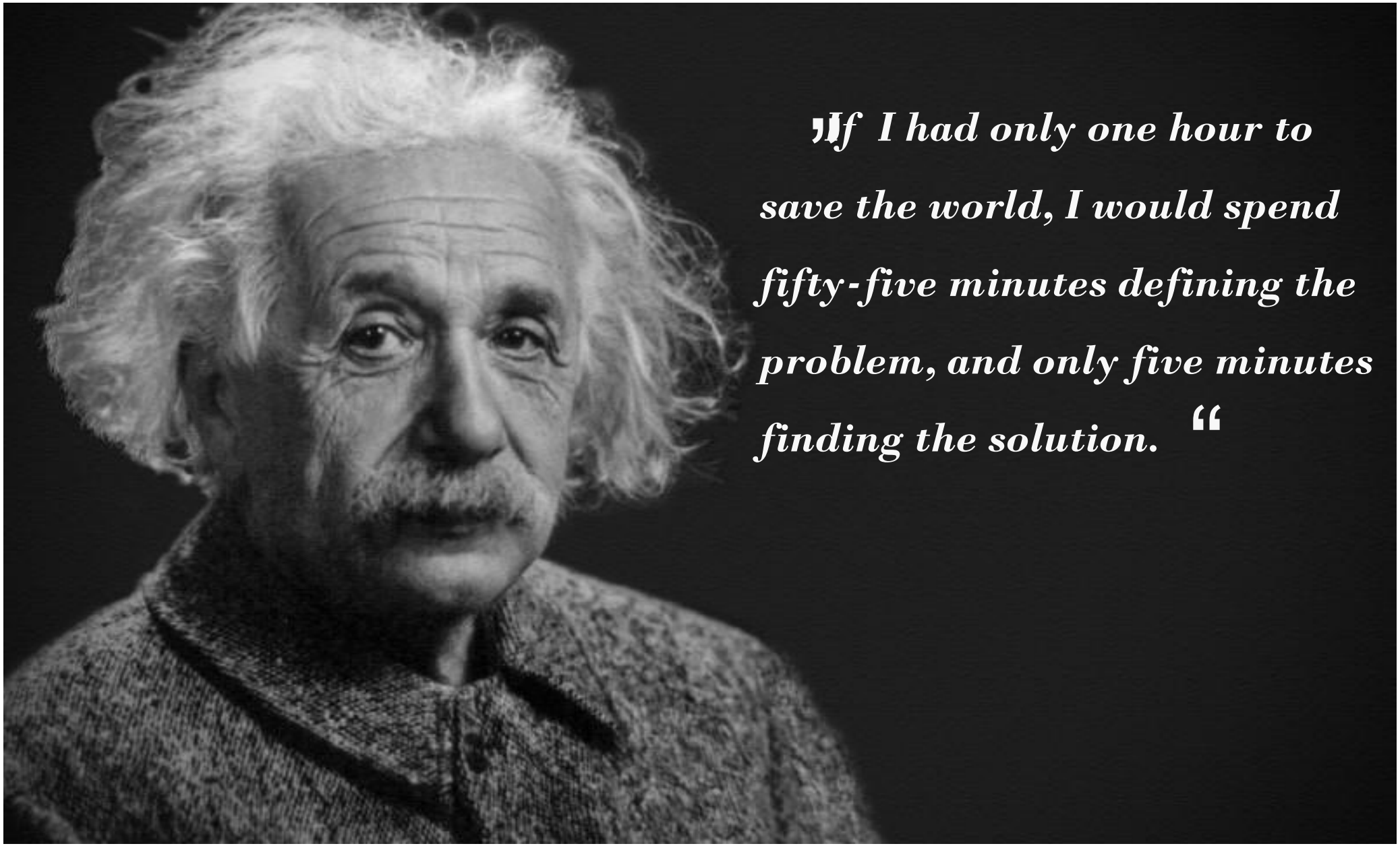
Diagnosis Problem solving & solution generation by creative approach



Problem solving & creativity by design thinking


"If I had only one hour to save the world, I would spend fifty-five minutes defining the problem, and only five minutes finding the solution."

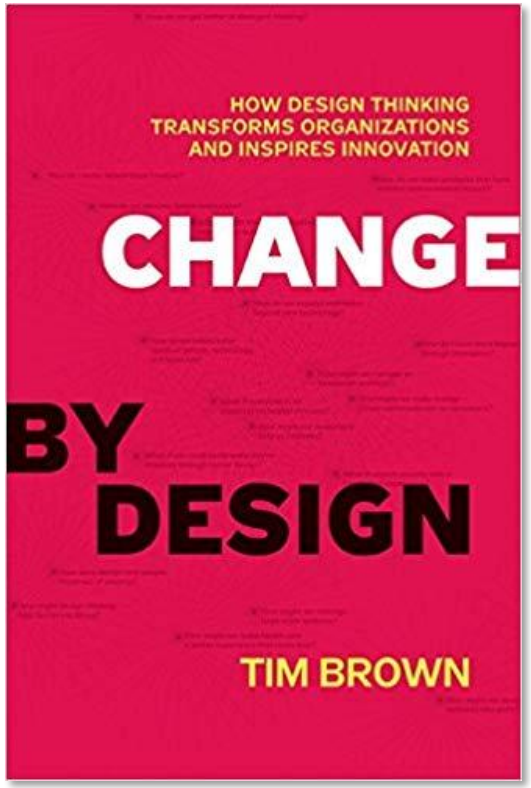
Problem solving & creativity by design thinking

- The geneses of Design Thinking date back to the 50s, with the brainstorming technique. The idea was to get a team together and stimulate its creativity to solve a problem. In the 90s, David Kelley and Tim Brown have theorized the concept and popularized it with the IDEO agency.

- According to Tim Brown "Design Thinking is a framework that uses the sensibility, tools and methods of designers to enable interdisciplinary teams to innovate on the basis of user expectations, technological feasibility and economic viability".

- The framework is based on :
  - Encouraging various people working together to stimulate collective intelligence. Unleash the creativity of the teams and decompartmentalize the different skills within the company to activate synergies
  - Develop and test products with very short iterative cycles
  - Focus on the human aspect at every stage of the product development cycle

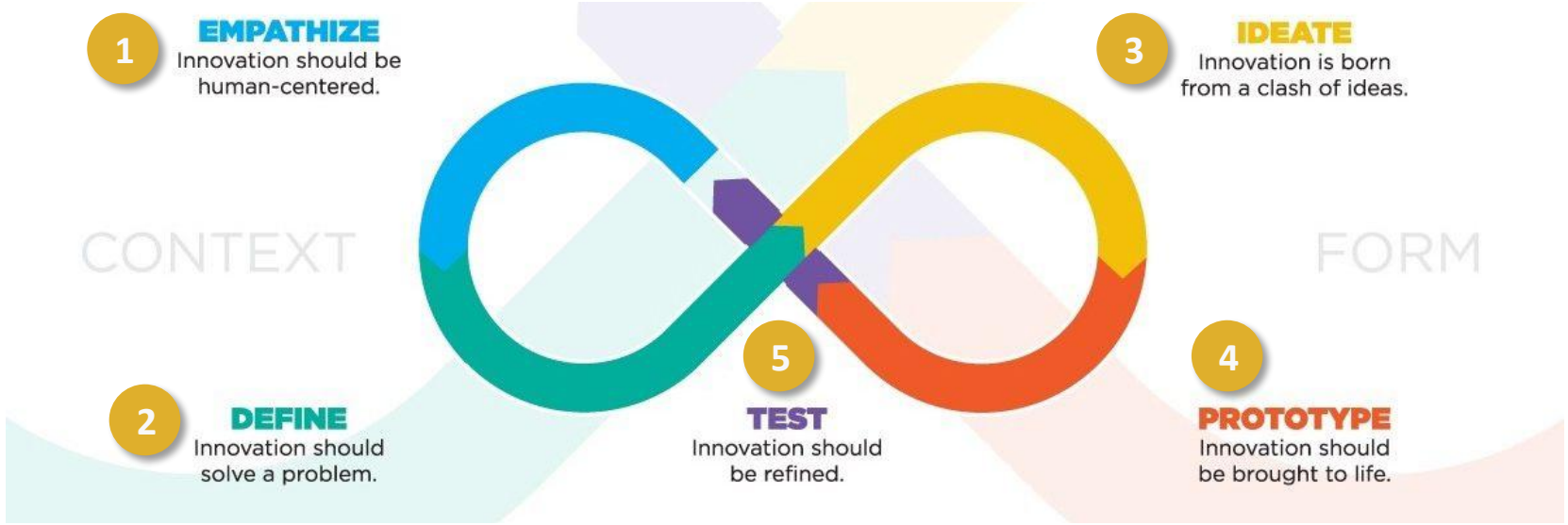
    ⇨ Human-centered problem-solving based on empathy, creativity and iteration.



“Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation” Tim Brown, 2009

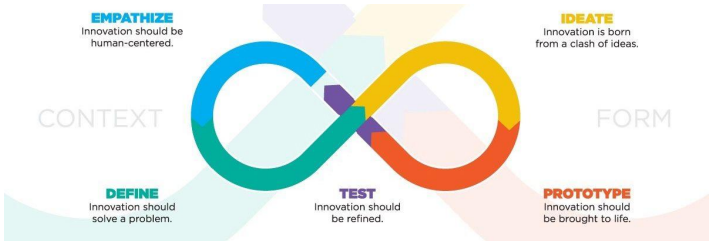
Design thinking a framework for innovation

- The 5 stages of Design Thinking

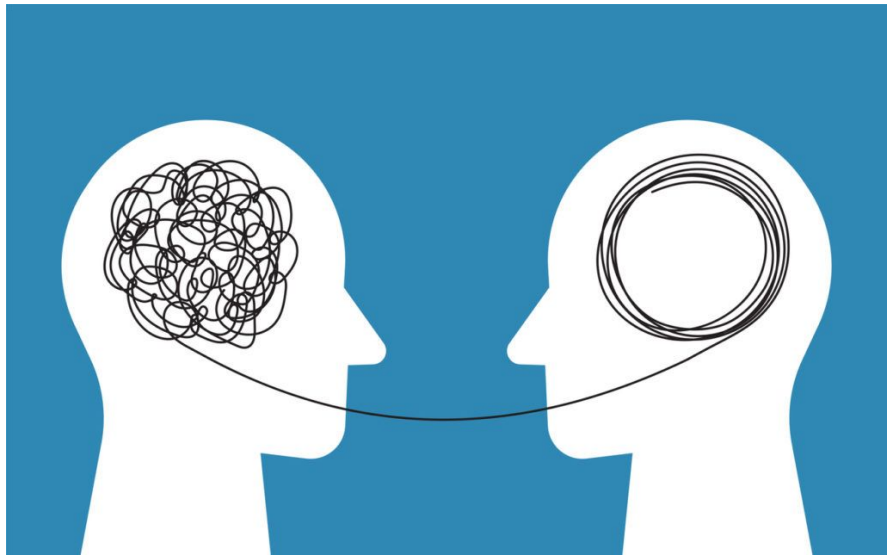


1. Stage 1: Empathize - Understanding users' needs and experiences.
2. Stage 2: Define - Clearly formulating the problem to be solved.
3. Stage 3: Ideate - Generate a large number of creative ideas.
4. Stage 4: Prototype - Creating tangible solutions in the form of prototypes.
5. Stage 5: Test & iterate - Gathering feedback to improve solutions.

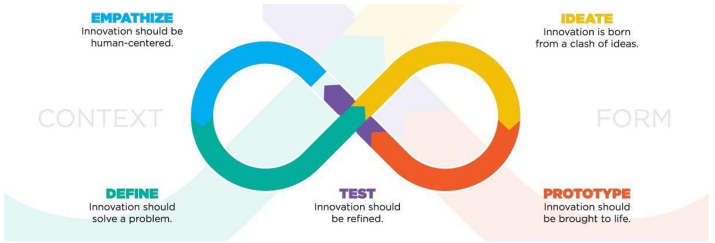
Design thinking a framework for innovation
1-The Empathy phase to understand user's need



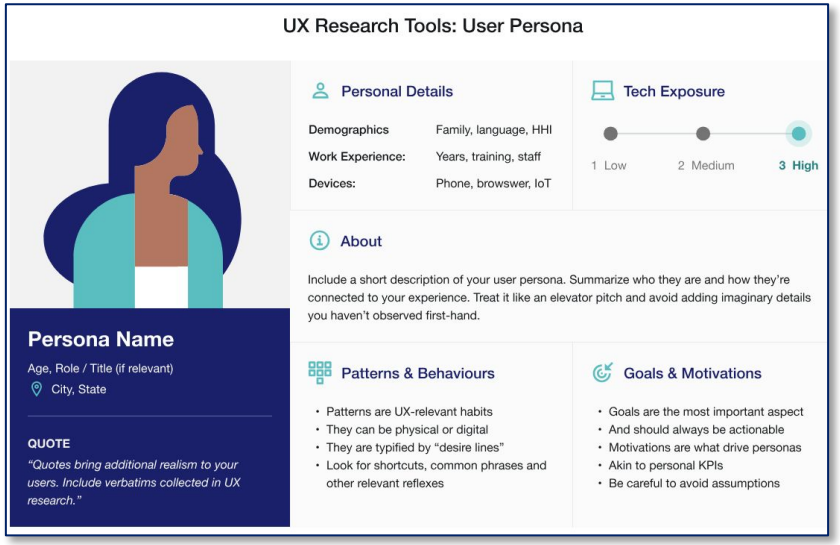
- Empathy enables to understand users' needs in depth and to design solutions that are tailored to them.
- The first step is to develop an empathic understanding of the problem to be solved. It literally means putting yourself in the user's shoes. This involves gathering as much information as possible about the user's experience. The aim is to understand what users experience during their interactions with the product or service.
- Information gathering methods: interviews, observations, immersion in the user context…
- Key questions:
  - What do users and customers experience when they interact with products?
  - What are the most difficult aspects of this process?
  - What are the easiest?
  - How can we imagine the ideal customer experience?



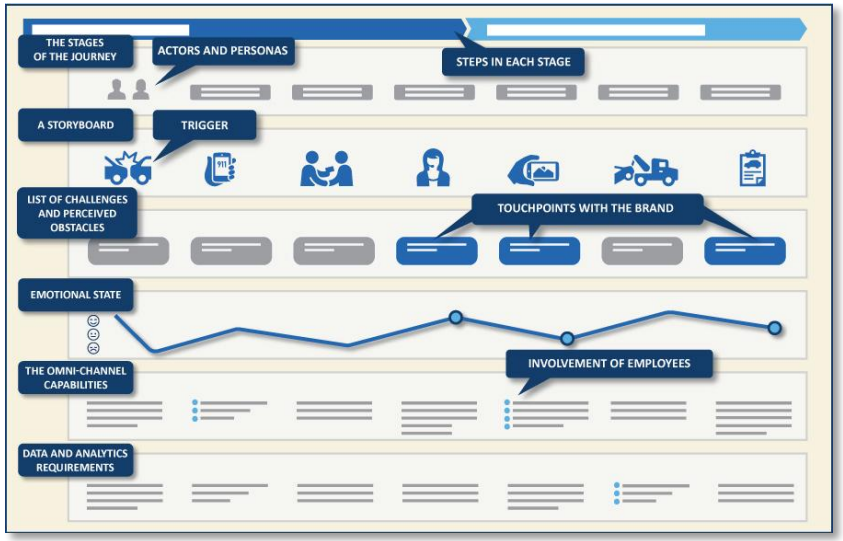
Design thinking a framework for innovation
2-The problem definition phase to focus



- The second stage consists of defining the fundamental problems of the user journey. This involves translating the problems of the customer experience into a concrete challenge, identifying pain points and challenges.
- Two main tools used:



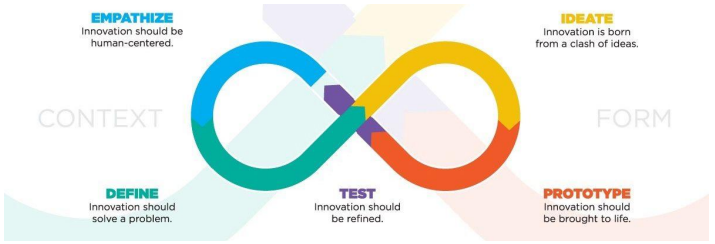
- Persona (serves to create a detailed and empathetic understanding of the target user, guiding the development of user-centered solutions.)



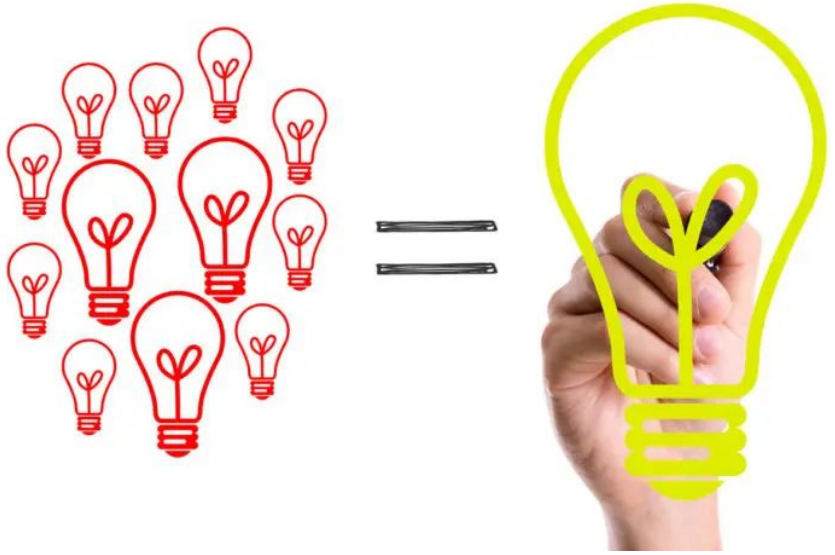
- User journey map (serves to visualize the entire user experience, highlighting pain points and opportunities for improvement throughout the user's interaction with a product / service.)

- The aim is to build a target customer journey that optimizes the user experience, subject to the dual constraints of technical feasibility and economic viability.

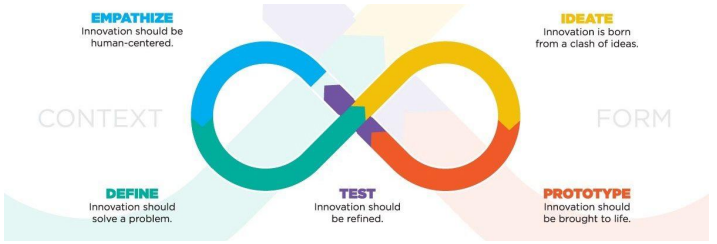
Design thinking a framework for innovation
3-Ideate for gathering many innovation proposals



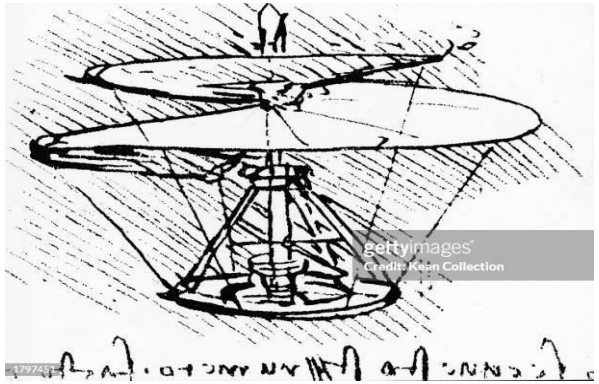
- Ideation encourages divergent thinking and creativity.
- Methods: Brainstorming, mind mapping, role-playing…
- The first two stages provide an in-depth understanding of the gaps in the existing product or service.
- The aim of the ideation phase is to collectively design a large number of innovation proposals, to assess which ones have the most potential to be developed as a priority, with a view to prototyping.

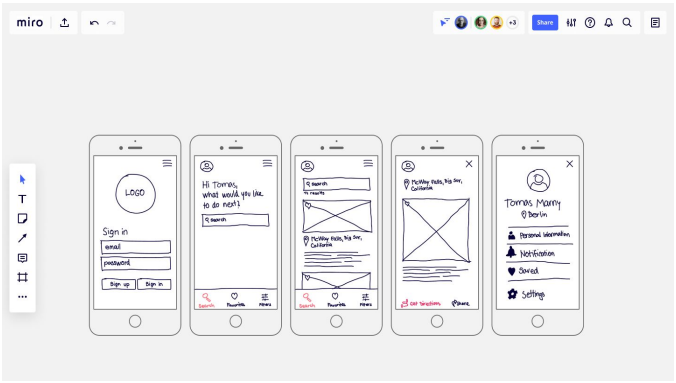


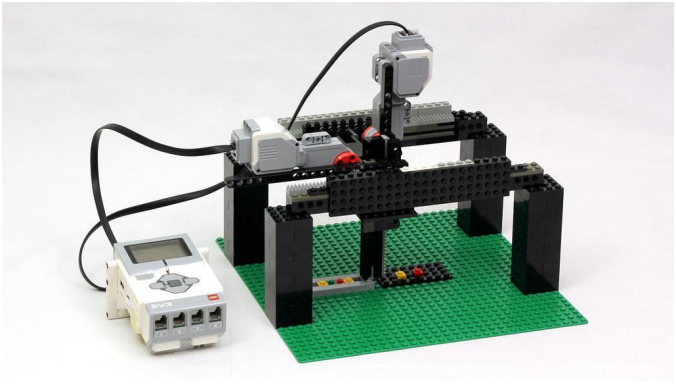
Design thinking a framework for innovation 4&5-Prototype & test fast to iterate



- The prototyping stage is where ideas are put into practice, with a focus on product design.
- Prototypes enable ideas to be transformed into tangible solutions to obtain real feedback from users.
- At the end of this process, the prototypes must be ready for testing. This experimentation stage aims to identify the best solution answering the problems.
- Fine-tuned the solution by iterating & keeping a focus on user feedback

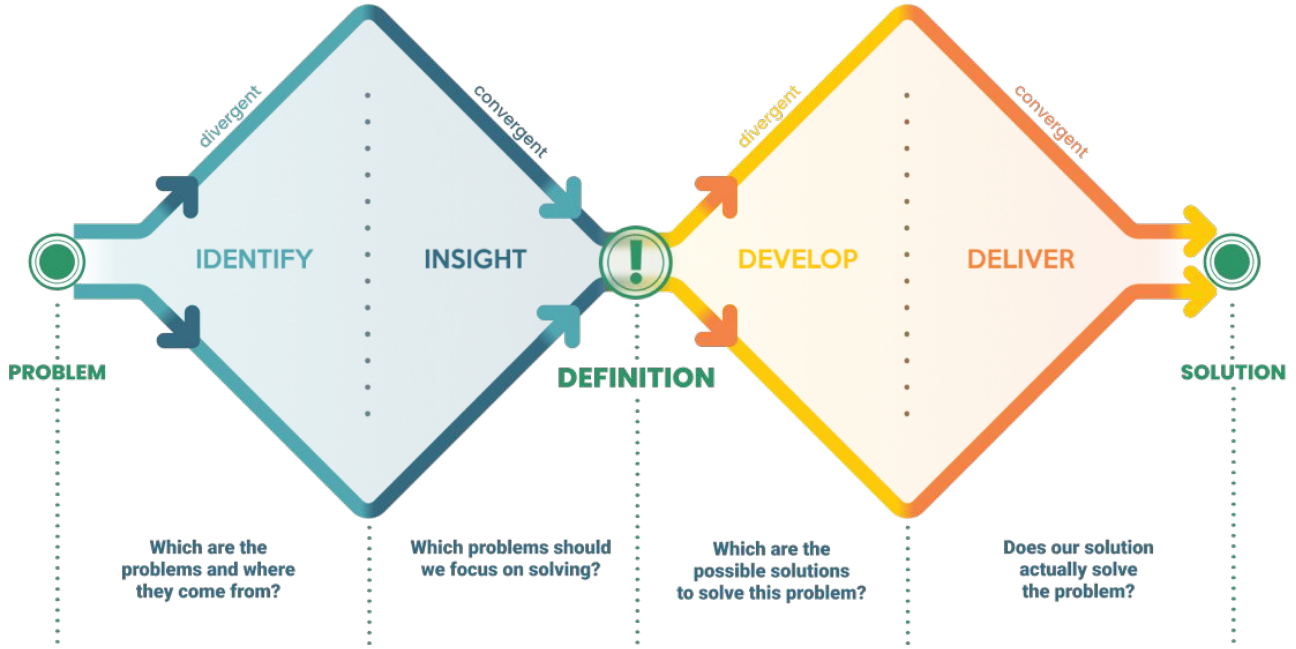






The "double diamond" is the visual representation used to describe the Design Thinking

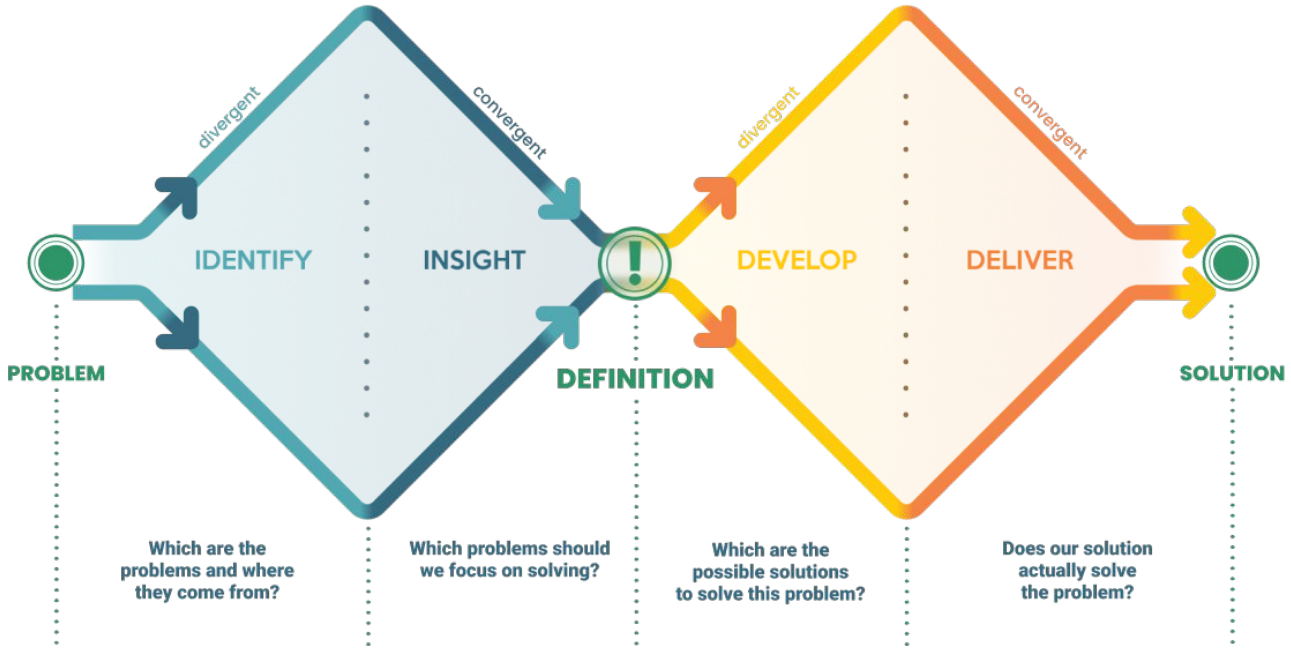
- The "double diamond" illustrates how design thinking first encourages divergence to explore a wide range of ideas, then convergence to refine and develop the best possible solutions.



- After the four stages, the process often returns to the first phase (diverge) to continue exploring ideas. This iterative process continues until an optimal solution is found. Design Thinking is a non-linear process; designers can go back, jump from one stage to the next and explore different avenues to find the best possible solution.

The "double diamond" is the visual representation used to describe the Design Thinking

- **Phase 1:**
  Diverge
  (the first diamond)



- **Phase 2:**
  Converge
  (the second diamond)

- **Stage 1: Empathy**
  (Understanding/putting yourself in their shoes): understanding users' needs, emotions, motivations and challenges (interviews, observation, immersion in the user context, ethnographic data collection).

- **Stage 2: Definition** (Define): reformulate the problem clearly and precisely. Identify the challenge to be solved so as to approach it creatively. Often involves asking repeated "whys" to dig deeper.

- **Stage 3: Ideation** (Imagining): brainstorming stage where the aim is to generate a large number of ideas. Dare to think out of the box and explore unusual avenues. (mind mapping, collaborative brainstorming and role-playing).

- **Stage 4: Prototyping** (delivrer): once many ideas have been generated, some are selected to be transformed into prototypes (from simple sketches to functional mock-ups and models). The aim is to create tangible solutions that can be tested and iterated.

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