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Design Kit

Adaptive Impact Design Framework

The **Adaptive Impact Design Framework** aims to help startups and innovators design sustainable solutions while avoiding unintended consequences, commonly referred to as the **"Cobra Effect.**" This framework uses Human-Centered Design (HCD) principles to identify potential negative ripple effects early in the design process, ensuring that products, services, or policies are resilient, scalable, and aligned with user needs.

How We Came Up with the Framework

The Adaptive Impact Design Framework was developed as a response to the challenges many startups and businesses face when implementing solutions that inadvertently lead to unintended consequences, a phenomenon known as the "Cobra Effect." In our research and experience working with startups, we noticed a recurring theme where well-meaning innovations created secondary issues, often due to a lack of comprehensive systems thinking during the design phase.

Drawing from real-world examples of the Cobra Effect, we sought to build a framework that not only addressed this challenge but also integrated Human-Centered Design (HCD) principles. Our goal was to help startups design solutions that are both user-centered and resilient against unforeseen ripple effects.

We analyzed how existing design methods, like empathy mapping, user testing, and systems thinking, could be adapted to focus on identifying and mitigating unintended consequences. Through iterative testing and collaboration with various stakeholders, ranging from entrepreneurs and designers to researchers and facilitators, we refined the framework to provide a structured approach that supports sustainable innovation.

The result is a framework that goes beyond problem-solving and ideation, challenging startups to critically examine the broader ecosystem, anticipate risks, and design safeguards that ensure their solutions deliver long-term, positive impacts.

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Framework Element	Description	Purpose	Key Questions to Ask	Facilitator's Flow
1. Empathy & User Research	Deep dive into user needs, pain points, and behavior to understand the root problem.	Gain a deep understanding of who the solution is for and what their real challenges are.	- Who are the users? - What problems do they face? - How might solutions fail to meet their needs in practice?	**Start with a user research exercise.**Facilitators guide participants through empathy mapping, user interviews, and defining personas.
2. Systems Mapping	Map the entire ecosystem surrounding the problem, identifying all stakeholders, processes, and feedback loops.	Understand how the solution interacts with the larger system and anticipate potential unintended effects.	- How does the solution fit into the broader ecosystem? - What external factors could affect its success or failure?	**Facilitate system mapping.**Encourage participants to map stakeholders, system inputs/outputs, and any external factors that might influence outcomes.

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3. Cobra Effect Identification	Introduce the concept of unintended consequences and use it as a lens to analyze potential ripple effects of the solution.	Identify how well-intentioned solutions could backfire or lead to new problems.	- Could the solution create new issues (e.g., perverse incentives)? - What unintended outcomes could arise?	**Discuss the Cobra Effect and case studies.** Facilitators lead discussions on real-world examples where unintended consequences occurred and prompt participants to apply this thinking to their ideas.
4. Ideation for Resilience	Generate diverse ideas using creative techniques like SCAMPER, Crazy 8s, or brainstorming, ensuring resilience against unintended outcomes.	Build a wide range of solutions with consideration of long-term effects.	- How can the solution adapt to prevent unintended consequences? - What safeguards can be built in?	**Facilitate ideation.** Encourage participants to think beyond quick fixes, focusing on scalable, adaptable solutions that anticipate challenges.

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5. Prototyping for Sustainable Impact	Create low-fidelity prototypes to visualize solutions and gather early feedback on potential pitfalls.	Quickly validate if the solution meets user needs and avoids negative impacts.	- How does the prototype solve the user's core problem? - What blind spots might be uncovered through user testing?	**Guide rapid prototyping.** Support teams as they build and iterate on prototypes, focusing on key user pain points and potential Cobra Effect scenarios.
6. User Testing & Feedback Loops	Test solutions with real or simulated users to gather feedback, iterate, and identify early signs of unintended consequences.	Ensure the solution meets user needs while minimizing risks of unintended effects.	- What feedback indicates potential unintended consequences? - How might users exploit or misuse the solution?	**Facilitate user testing sessions.** Help participants run user tests, observing feedback on both functionality and potential for unintended exploitation.

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7. Iteration & Refinement	Continuously improve the solution based on feedback, reinforcing scalability, sustainability, and user alignment.	Refine the solution to better align with user needs and minimize systemic risks.	- How can the solution be improved to avoid negative outcomes? - What is still left unaddressed in the design?	**Encourage iterative design.** Guide teams in refining their solutions after testing, focusing on eliminating unintended effects and enhancing user alignment.
8. Final Solution & Safeguards	Present final solutions, ensuring built-in safeguards to prevent future negative consequences and promote long-term positive outcomes.	Launch a solution that is both user-centered and resilient to negative ripple effects.	- What measures are in place to prevent unintended consequences? - How will the solution be monitored long-term?	**Conclude with final presentations.**Each team presents their solution along with the identified risks and the built-in safeguards to prevent unintended consequences.

Facilitator's Flow for a Workshop Session

1. Introduction & Framing (30 minutes)

- **Objective:** Set the tone for the workshop by introducing participants to the concept of the Cobra Effect and the importance of Human-Centered Design (HCD) in creating resilient solutions.

- **Key Points to Cover:**
  - Brief explanation of the **Cobra Effect** and how unintended consequences arise.
  - Overview of the **Adaptive Impact Design Framework** and how it helps startups avoid such pitfalls.

2. Empathy & Research (1.5 hours)

- **Facilitator's Role:**
  - Guide participants through creating user personas, empathy maps, and conducting user interviews.
  - Ensure teams deeply understand their users' needs, behaviors, and pain points.
- **Output:** Detailed user profiles and empathy maps that set the foundation for problem-solving.

3. Systems Mapping (1 hour)

- **Facilitator's Role:**
  - Help teams map out the system surrounding their problem, including stakeholders, processes, and possible external influences.
  - Encourage them to think about the full ecosystem in which their solution exists.
- **Output:** A system map that reveals potential touchpoints where unintended consequences might occur.

4. Cobra Effect Identification (1 hour)

- **Facilitator's Role:**
  - Introduce case studies where the Cobra Effect happened and lead discussions on how to prevent it.
  - Encourage participants to critically analyze their system maps for potential risks.
- **Output:** A list of potential unintended consequences their solution might face.

5. Ideation for Resilience (1.5 hours)

- **Facilitator's Role:**
  - Lead ideation sessions using **SCAMPER** or **Crazy 8s** to generate ideas that are both innovative and resilient.
  - Ensure participants focus on avoiding unintended consequences while designing solutions.
- **Output:** A wide range of ideas that take systemic risks into account.

6. Prototyping & Testing (2 hours)

- **Facilitator's Role:**
  - Support teams in rapidly prototyping their ideas.
  - Facilitate a user testing session where prototypes are presented to real or simulated users.
  - Help participants gather feedback on potential risks and unintended consequences.
- **Output:** Prototypes and feedback loops that inform how to improve the design.

7. Iteration & Refinement (1 hour)

- **Facilitator's Role:**
  - Guide teams through refining their prototypes based on feedback.
  - Emphasize minimizing risks while ensuring the solution addresses user needs.
- **Output:** Improved solutions with built-in safeguards to prevent unintended consequences.

8. Final Presentations & Review (1 hour)

- **Facilitator's Role:**
  - Oversee final presentations where each team presents their refined solution, along with how they've accounted for unintended consequences.
  - Provide feedback and encourage discussions on long-term sustainability and monitoring.
- **Output:** Completed solutions with risk-mitigation strategies embedded.

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Adaptive Impact Design Framework Outcomes

By the end of the workshop, participants will:

1. Understand how the Cobra Effect can undermine their innovation.
2. Learn how to apply Human-Centered Design principles to prevent unintended consequences.
3. Develop user-centered, resilient solutions ready for real-world implementation.
4. Have a strategy for continuous improvement and safeguarding against negative ripple effects.

This framework is specifically designed to help startups and innovators navigate the complexities of product development and policy-making, ensuring that solutions scale sustainably and without unintended harm.

Send us comments and feedback;
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