Design Thinking Handbook and Work Guide

2024 Design Sprint

CENTER FOR GROWTH MARKETS BerkeleyHaas

DESIGN THINKING AND HUMAN CENTERED DESIGN

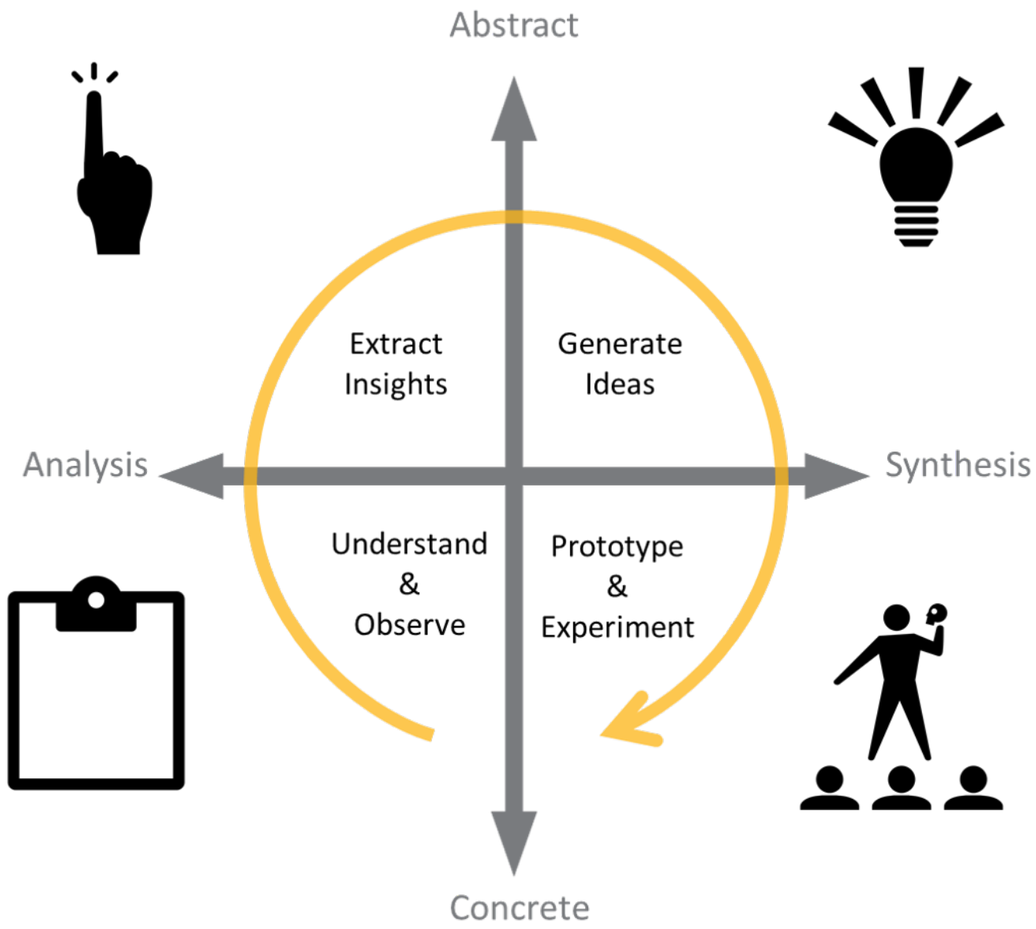
As a philosophy:	Starting with and maintaining a good understanding of people and the needs that your product/service /solution is intended to meet.
As an approach:	Putting human needs and behaviors first (desirability) – and then designing solutions with viability and feasibility in mind.
As a process:	Creating and innovating though an iterative and disciplined approach from opportunity identification through finished prototype.
As a mindset:	Focusing on curiosity and empathy, and embracing iteration, divergent thinking, and learning through imperfection and feedback.

As you can see above, there are many ways to describe design thinking and human centered design. The simplest explanation is that it is a method of approaching problems and finding new opportunities the way a designer would. But how do designers think? Charles Eames – one of the most famous designers of the 20th century said that "The role of the designer is that of a good, thoughtful host anticipating the needs of his guests." So not surprisingly, the tools of design are focused heavily on understanding your users and customers and their needs. Two of the most successful entrepreneurs of our century - Steve Jobs and Jeff Bezos - both believe that "you have to start with the customer experience and work your way back to technology." But often, the people you are trying to solve for can't articulate exactly what they want – in fact they may not know they have a problem at all! As Henry ford said, "If I had asked people what they wanted, they would have said faster horses." So first and foremost, design thinking is a way of using empathy, observation and discovery to understand your user and find new ways to satisfy and delight them.

What are the tools? Rather than use desk research, design thinkers engage the user. Rather than surveys, they use ethnography. Rather than a scripted interview, they have guided conversations. Design thinkers ask and listen first rather than answer first. And they process this data by picking up on cues and contradictions, orthodoxies and absurdities, and looking for patterns. This work is usually done in teams, since it requires lots of unstructured data and a diverse set of skills – both divergent and convergent. Good designers also never assume that a single answer exists. They go wide – considering many solutions – and they iterate, realizing that there first try may not work exactly for the user, and that quickly and cheaply "learning forward" is a part of developing a solution which delights. Intuit is a great example: Design thinking is taught to all employees through a formula called "Design for Delight." On any given day, some 1,800 experiments are going on throughout Intuit. They believe in fielding rapid experiments with real customers- with an emphasis on learning and iterating.

Certainly many opportunities are of the "better horse variety," or are focused on solving constrained problems. In these cases the methods used by strategy firms work quite well: Bain uses an "answer first" methodology, and McKinsey has traditionally used a "hypothesis driven methodology." It's Occam's razor - if you follow the facts, then the simplest explanation is usually the right one. *But*…. design thinking exists to help us with the extremes – either unconstrained and ambiguous questions, or cases where the simplest or most confident answer is not working. It is not a coincidence that these are cases where innovation is required.

Design thinking provides the framework, tools, and mindset necessary to innovate. It is a messy and ambiguous process – and much different than the precise modeling and analytical frameworks that characterize traditional business disciplines. But it is useful for tackling ambiguity, identifying more creative approaches, and re-framing opportunities in a way that opens up new possibilities.



While there are many frameworks for design thinking – including IDEO's 5 tiles, IBM's infinite loop, and the "double" diamond, they all share the same DNA:

- Seek to deeply understand users
- Use this knowledge to identify key insights that create problem frames
- Use these problem frames to identify a portfolio of possible solutions
- Use low latency prototyping and experimentation to iterate and validate

The frameworks invariably start with the user, feature feedback loops rather than linear stage-gating, and for each "step" in the process, feature both a divergent and convergent state. Diverging means to think openly and create multiple possibilities rather than a single answer. Converging means to narrow these down and make decisions based on internal knowledge/intuition AND external feedback.

David Kolb's work on learning styles revealed that most people have a preference for one of these areas: Some prefer to analyze and observe, others to synthesize knowledge. Some prefer to think of solutions, others to build them. The dilemma is that all four are needed to effectively create/innovate in a human centered way. One method of solving this is through a well-balanced team, and tools that leverage it. The other is framework discipline. Skipping steps leads to sub-optimal results.

The Project Journey

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Insights:
Key findings related to your challenge

Problem Frame:
Shaping insights as a “how might we” design challenge

Ideas:
Developing a range of possible solutions

Concept development
alignment on solutions

De-risk and iterate:
Key variables to explore
Low fidelity testing

Design research:
Explore and understand Users’ attitudes, needs, and behaviors

SENSING AND OBSERVING (DESIGN RESEARCH)

The design thinking process starts with discovery and observation – grounding yourself deeply in the context of the problem to be solved, rather than trying to solve it. We use “diverge“ techniques to collect both quantitative and qualitative information from – and about – others.

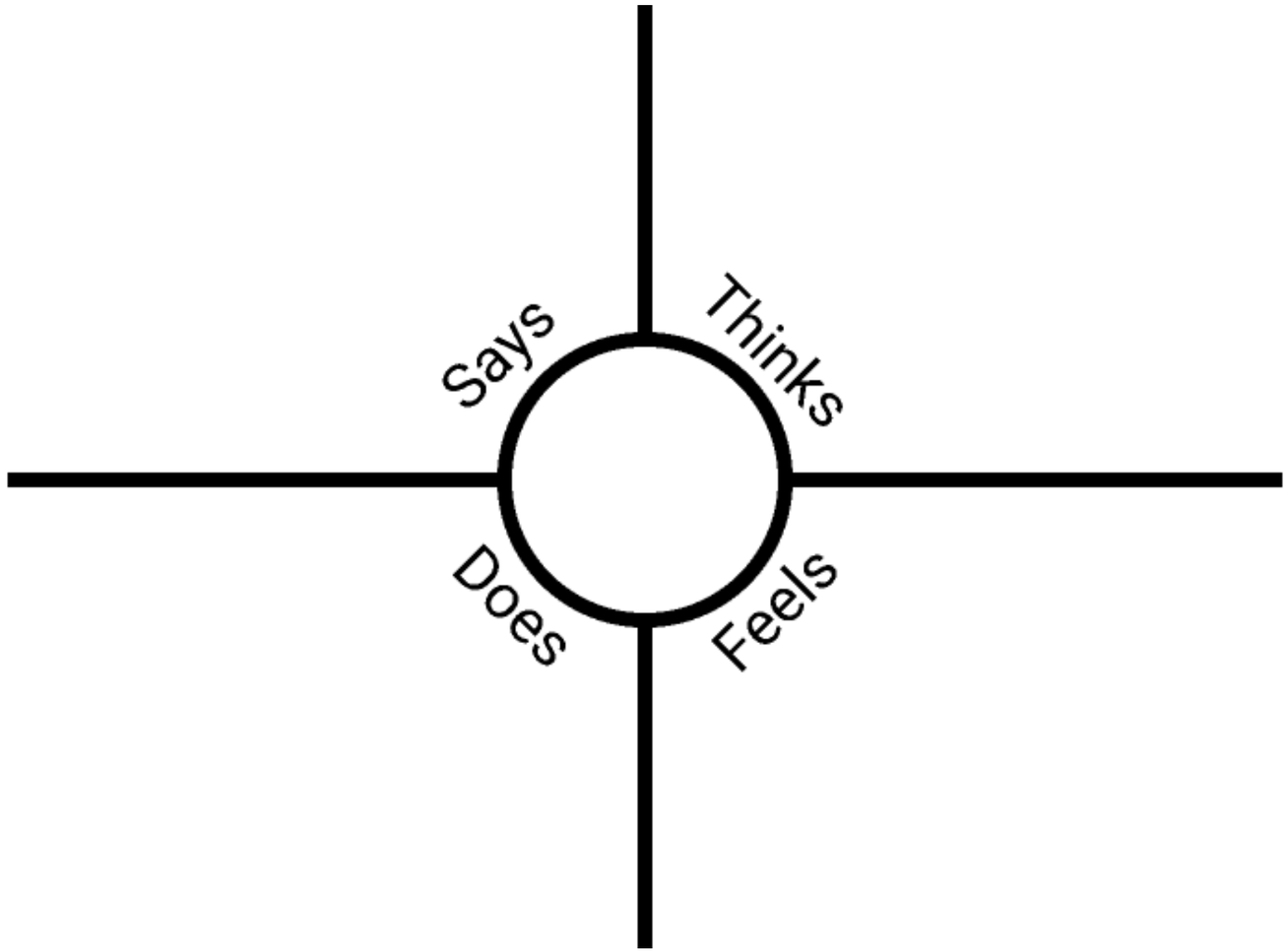
- Identify Sources for secondary research and observation _____
- Considerations / What to look for:
  - What absurd, frustrating, or counter-intuitive behaviors are embedded in you project area?
  - What orthodoxies (unquestioned assumptions) might be driving the way things are today?
  - What strikes you as worth investigating or makes you curious?

INTERVIEW GUIDE

- Who are you targeting? _____
- Warm-ups/rapport /explain purpose _____
- Grand tour (open ended questions)
  - Layer One _____
    - Follow ups _____
  - Layer Two _____
    - Follow ups _____
  - Layer Three _____
    - Follow ups _____

Often users can not (or will not) describe what it is they want or need. An empathy map is a tool used to gain deeper insights into customer experiences and perspectives. By capturing what users think, feel, say, and do, empathy maps help teams understand their customers on a more human level. This understanding is crucial for creating products or services that truly meet customer needs and resonate with their emotions.

An empathy map encourages a shift from a product-centric to a customer-centric mindset, and surfaces the nuances of customer behavior that might otherwise be overlooked. Moreover, empathy maps facilitate better collaboration and communication within teams. They serve as a visual representation of customer insights, making it easier for team members from different departments to align on a common understanding of the target audience. This shared understanding helps ensure that marketing strategies, product designs, and service improvements are all informed by genuine customer insights. By fostering a holistic view of the customer, empathy maps contribute to more effective and empathetic decision-making processes within organizations. In debriefing the key points from your interviews, it is a helpful tool to extract meaning.



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PERSONAS

Personas bring your users to life. A detailed and realistic representation of target users helps teams empathize with users' needs, behaviors, and goals, ultimately guiding more user-centered design decisions.

Name:

Age:

Living location:

Picture of persona here

Short bio/ Day-in-the-life

Education background:

Current Job/work:

How they spend free time:

How they spend money:

What keeps them up at night?

Hopes/dreams/aspirations:

Headline / Quote

Needs and Wants

-
-
-
-
-

ORGANIZING REASEARCH

One of the most challenging parts of the design thinking approach and processes is synthesizing insights from the complex and often unstructured data collected in the observation/discovery phase. The goal is to uncover insights that define the deeper level of problems to be solved and opportunities to be captured. The first step is organizing.

Key Themes (Clusters)

-
-
-
-
-
-
-
-

Customer Journey Mapping

From research, we can uncover insights that define the deeper level of problems to be solved and opportunities to be captured. These usually involve user dilemmas or needs (no dilemma/need, no opportunity). The insights can then by used to develop a problem frame which guides the design challenge.

DEVELOPING KEY INSIGHTS

PROBLEM FRAME (How Might We…?)
(Avoid embedded solutions, include a stakeholder and outcome)

Current State (from research)_____

Dilemma or need _____

Insight (I wish/I want) _____ → HMW _____

Current State (from research)_____

Dilemma or need _____

Insight (I wish/I want) _____ → HMW _____

Current State (from research)_____

Dilemma or need _____

Insight (I wish/I want) _____ → HMW _____

IDEATION

Ideation in design thinking is a critical phase where the goal is to generate a large number of ideas to solve a problem or address a need. The principle of "quality from quantity" underpins this process, emphasizing that the more ideas generated, the higher the likelihood of finding innovative and effective solutions. By encouraging a free flow of ideas, without immediate judgment or criticism, teams can explore a wide range of possibilities, which increases the chances of identifying truly novel concepts that might not emerge in a more restrictive brainstorming session.

During ideation, creativity is paramount. This phase is characterized by a deliberate suspension of practical concerns and feasibility, allowing for the wildest and most imaginative ideas to come to the forefront. This approach helps to break down mental barriers and promotes a culture of innovation, where participants feel free to suggest bold, out-of-the-box solutions without the fear of immediate rejection or criticism.

The power of a team in the ideation phase cannot be overstated. A diverse group brings a variety of perspectives, experiences, and expertise to the table, which enriches the pool of ideas and enhances the creative process. Collaborative ideation leverages the collective intelligence and creativity of the group, fostering a dynamic environment where ideas can be built upon and refined through constructive feedback and discussion. At the same time best practices dictates thinking and ideating individually, and sharing and building on ideas collectively, and – depending on how similar or diverse they are – the best solutions can solve for multiple user needs. And there is never only one idea – the portfolio leased to a more innovative result.

VAILIDATION AND DISCOVERY

After generating a portfolio of ideas based on your problem frames, you need to build out the most promising. This is not the final step, but rather a method to align with your team, identify what needs validation, and decide what your low latency protype is designed to do.

IDEA (Version One)

What is it?

What is the value?

How/where delivered?

Who is it for?

Needed clarifications?

PROTOTYPE (v1) Planning

What are you testing / trying to learn?

What is the simplest way to learn this?

Who targeting for feedback?

SECOND IDEA (Version One)

What is it?

What is the value?

How/where delivered?

Who is it for?

Needed clarifications?

PROTOTYPE (v1) Planning

What are you testing / trying to learn?

What is the simplest way to learn this?

Who targeting for feedback?

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ITERATION

After leaning from your low latency protypes, refine your concept/protype an develop your story for further testing.

Final Idea

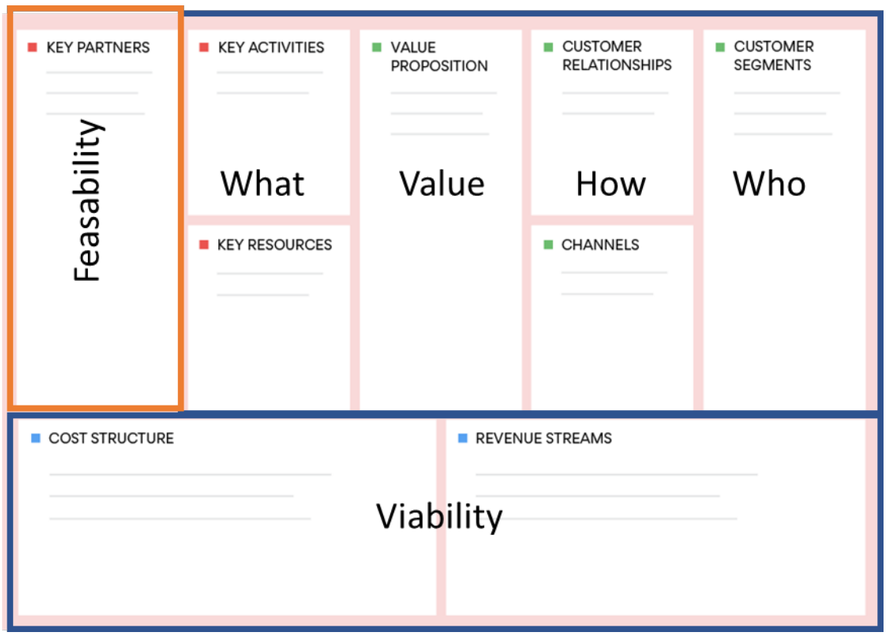
Name

What is it?

What is the value?

How/where delivered?

Who is it for?



Story elements

Who is your user?

What is the inherent dilemma?

Your problem frame

Your solution

How it solves the problem

Details on feasibility/viability (business model canvas)

THINKING IN TERMS OF PORTFOLIOS

Design thinking is iterative. After completing a full cycle of the design thinking process, the next steps involve evaluating and refining concepts/solutions. The evaluation phase is crucial as it allows teams to assess the effectiveness of their prototypes and solutions based on user feedback and performance metrics. This phase involves revisiting the initial problem statement and objectives to ensure that the developed solutions align with the intended goals, and re-validating the user need/insights. Additional deeper work on feasibility and viability is also needed.. It may also involve bundling desirable but incomplete features for a more holistic offering.

Teams may go through multiple iterations, continually refining the product or service until it reaches a satisfactory level of usability, effectiveness and user delight , and the feasibility and viability are aligned with the solution. (Note: Many innovations fail because they sacrifice desirability in pursuit of the other two.) This emphasizes the iterative nature of design thinking, reinforcing the idea that continuous improvement is integral to developing successful solutions.

At this point a pilot or MVP may be developed for market feedback.

Finally, planning for implementation is the next critical step. This involves developing a detailed roadmap for rolling out the refined solution. Teams must consider various aspects such as resource allocation, timelines, potential risks, and strategies for scaling the solution. Effective communication and collaboration among all stakeholders are essential to ensure a smooth transition from the design phase to actual implementation. Additionally, teams should establish mechanisms for ongoing feedback and monitoring to continue improving the solution post-implementation. This ensures that the solution remains relevant and effective in addressing user needs over time.