Design Thinking:
Efficacy, Adoption, and Evolution

HCI 5900 - HCI and Innovation, Spring 2025 **Matthew Hadick**

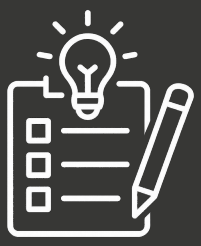
Hi everyone, my name is Matthew Hadick, and this is my presentation titled Design Thinking: Efficacy, Adoption, and Evolution.

Today, I'm going to walk us through a layered look at design thinking – not just what it is, but where it came from, how it's evolved, and what we can learn from its application across industries.

We'll start with a general overview, then I'll connect design thinking to frameworks we've studied in HCI and innovation. From there, we'll move into industry case studies – Apple, Google, IBM – and then pivot into academic research on its efficacy. I'll finish with some personal reflections about what all this means for me as a designer and researcher, and I'll wrap up with a few takeaways that I hope resonate beyond this talk.

Agenda

1. Overview of Design Thinking
2. HCI and Innovation Frameworks
3. Case Studies Across Industry
4. Academic Research Insights
5. Reflections and Career Application
6. Key Takeaways



So again, here's our path:

We'll start with design thinking's background,

Then explore how it connects to human-computer interaction and innovation frameworks,

Followed by some rich industry examples,

A dive into what the research actually says about its effectiveness,

Some reflections and questions I've been asking as I prepare to graduate and step into industry,

And we'll end with key takeaways – practical and philosophical.

What is Design Thinking?

Origins

- Popularized by IDEO in the 1990s
- Systematized at Stanford d.school
- Rooted in disciplines like architecture, engineering, and psychology

Human-Centered Innovation

- Starts with empathy, not tech
- Seeks desirability, not just feasibility
- Drives innovation by understanding real human needs

Sources: 1, 4, 5

Alright – so what exactly is design thinking?

Design thinking was popularized by IDEO in the 1990s, but its roots run deeper. It was really systematized at Stanford's d.school, and you can trace its lineage back through architecture, engineering, even psychology.

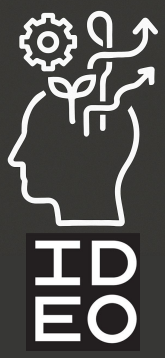
It's not just a method. It's a mindset. One centered on human-centered innovation.

And that part matters – because instead of starting with, "What can we build?" design thinking starts with, "What do people need?" And not just on a functional level, but on a human one.

It reframes innovation around desirability, not just feasibility. That's powerful. Especially in tech, where it's easy to get lost in what's possible and forget to ask: is this meaningful? Does this actually serve someone in a way that matters?

What is Design Thinking?

"A way of thinking that leads to transformation."



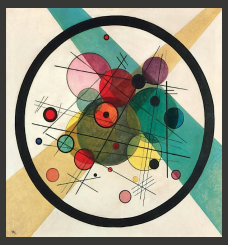
Sources: 1

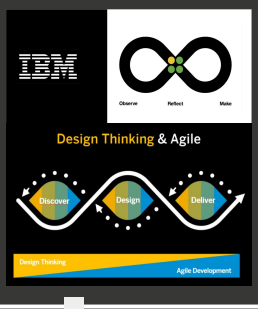
As IDEO puts it, it's "a way of thinking that leads to transformation."

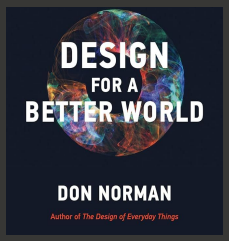
It's a creative, iterative approach to problem solving – but I'd argue it's more than that. It's an orientation toward uncertainty. It relies on empathy, prototyping, user feedback.

And while it's often associated with product teams or designers, it's just as applicable to social systems, education, policy – anywhere there are problems worth solving creatively.

Evolution of Design Thinking







Pre-1990s:
Design traditions in architecture, engineering, and HCI. Early participatory and user-centered design.

1990s-2000s
IDEO & Stanford d.school formalize DT as a repeatable framework/process.

2010s
Design thinking enters the enterprise (IBM, SAP, etc). Business-wide culture shifts.

2020s
Expansion into ethics, inclusion, systems thinking, and sustainability.

Sources: 1, 4, 5

So how did this evolve?

Before the 1990s, you had a lot of foundational work happening in design-heavy disciplines -- architecture, engineering, and early HCI. Things like participatory design and user-centered design were taking shape.

Then in the '90s and early 2000s, IDEO and Stanford codified what we now recognize as the design thinking process: empathy, define, ideate, prototype, test. A now-ubiquitous five-stage model.

By the 2010s, design thinking was moving into the enterprise -- IBM, SAP, Airbnb. These companies didn't just adopt it for product teams, they embedded it across business operations. It became part of how they thought about services, strategy, and transformation.

And now, in the 2020s, we're seeing design thinking evolve again -- to include inclusive design, sustainability, AI ethics, systems thinking. One great example of this is Microsoft's Inclusive Design initiative. It's a reflection of this trend: businesses leveraging design not just to optimize products but to engage with problems -- problems that are often social, structural, systemic.

Why Design Thinking Matters

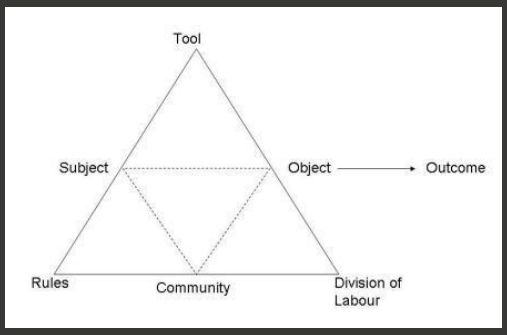
In Human Computer Interaction

User-Centered Design

- Focus on usability and user feedback
- Design thinking expands to emotion, business, and context

⚙️Activity Theory

- Understands tech use within real-life systems
- Design thinking mirrors this by beginning with user context



Sources: 3, 6, 13

So why does this matter in the context of human-computer interaction?

Well, design thinking is often seen as a contemporary evolution of user-centered design. But where UCD focuses more narrowly on usability and interface improvement, design thinking zooms out.

It includes the emotional dimension, the contextual, even the economic. It reframes the problem space itself.

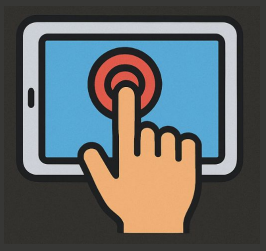
And this connects closely to activity theory, which emphasizes that technology doesn't exist in a vacuum. It's part of a system -- of tasks, motivations, environments, social structures.

When we empathize and define in design thinking, we're often doing exactly what activity theory prescribes: understanding how people act within real-world systems, not just how they click or tap.

And that opens the door to something bigger: design that understands what people are trying to do in life -- not just what button they're trying to press.

HCI Fields That Support Design Thinking

HCI FIELD	ROLE IN DESIGN THINKING
Interaction Design	Enables rapid prototyping and usability testing of ideas
Cognitive Psychology	Informs affordance, usability, and mental models
Ethnographic Methods	Supports deep user research and contextual understanding
Inclusive Design	Encourages solutions that serve diverse populations
Value-Sensitive Design	Brings attention to ethics, equity, and long-term impact



Design thinking is not a method borrowed from HCI, but they are deeply intertwined. Design Thinking is shaped by, and contributes to, HCI's conceptual foundations.

Sources: 1, 4, 12

Zooming out even more, there are multiple fields within HCI that actively support -- or even co-evolved with -- design thinking.

Interaction Design enables rapid prototyping and usability testing.

Cognitive Psychology gives us insights into affordances, mental models, and usability.

Ethnographic Methods allow for deep contextual understanding, not just of users but of the social and cultural environment they're embedded in.

Inclusive Design pushes us to build for diverse populations.

And Value-Sensitive Design keeps ethics, equity, and long-term impact at the forefront.

Design thinking isn't just used by HCI -- it's shaped by it, and vice versa.

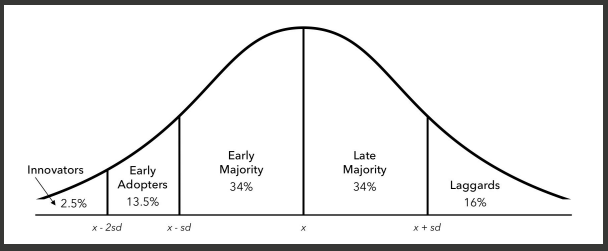
Why Design Thinking Matters

For Innovation and Adoption

Technology Adoption (Rogers, TAM)

- DT enhances relative advantage, ease of use, and behavioral compatibility

Human-centered design smooths the path to adoption and improves product-market fit.



Sources: 1, 4, 5

Another consideration here, especially in the context of this course, is adoption.

If you think back to innovation theory -- Rogers, TAM -- the success of a new technology depends on things like relative advantage, ease of use, compatibility with existing habits.

Design thinking helps us tackle those head-on. By involving users early -- through empathy, observation, testing -- we spot friction before launch.

That means less friction, better alignment with real needs, and a smoother path to adoption. In short, good design makes innovation easier to accept -- and easier to love.

But does it work?

So all of this sounds good -- but the question becomes: does it actually work?

We're going to start answering that by looking at case studies. Apple. Google. IBM. Then we'll pivot to academic research. We'll look at real-world metrics. Psychological insights. Product outcomes.

So that brings us to the question: how does it work -- and where?

CASE STUDY

Apple and Visionary Design Thinking

Approach

- Apple famously "focused on people's needs and desires, rather than just business needs" after Steve Jobs's return in 1997
- Jobs instilled a design ethos: build empathy with users, make products simple and user-friendly, and consider design holistically (form and function)
- Instead of adding endless features, Apple obsessed over *how a product works for the person using it.*

Implementation:

- Apple's design process was (and is) secretive but extremely iterative internally – frequent prototypes and demos to perfect the experience
- Apple designers deeply understood user pain points (e.g. complicated interfaces) and aimed to surprise and delight users with solutions they hadn't imagined.

Sources: 14

Let's start with Apple.

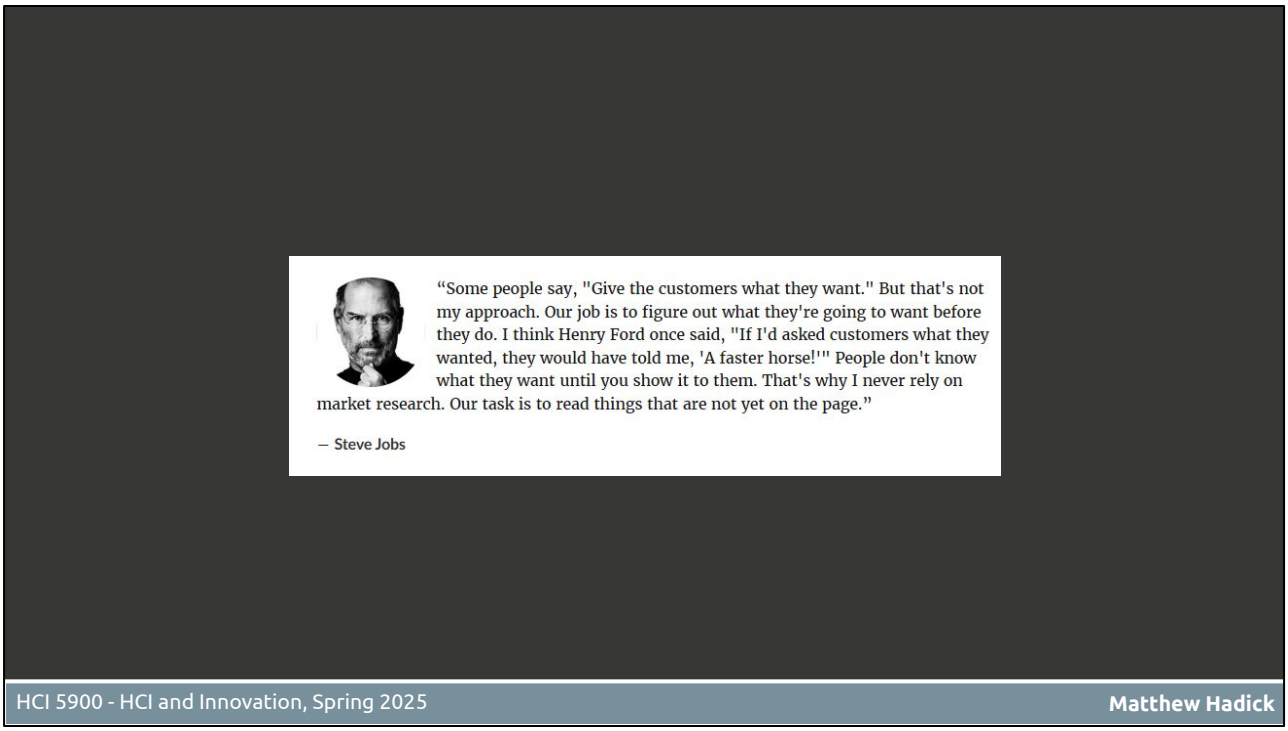
After Steve Jobs returned to Apple in 1997, the company famously pivoted to focus not just on business needs, but on people's needs and desires.

He embedded a design ethos into the culture: build empathy with users, make things simple and beautiful, and think about design holistically. That's not just UX or UI -- it's form and function.

Rather than cramming in features, Apple obsessed over how a product feels to use. How it fits into someone's life.

Their internal process is secretive, but we know it's highly iterative: rapid prototyping, frequent demos, and deep focus on user experience.

It's a classic example of visionary design thinking -- deep empathy, strong point of view, and relentless refinement toward simplicity and delight.



And that brings us to this quote from Jobs himself:

“Some people say, 'Give the customers what they want.' But that's not my approach. Our job is to figure out what they're going to want before they do... People don't know what they want until you show it to them. That’s why I never rely on market research. Our task is to read things that are not yet on the page.”

This gets at something essential about Apple’s version of design thinking. It’s not just reactive. It’s visionary.

It’s empathy -- but it’s also intuition and boldness. Apple doesn’t just respond to users' stated needs. They anticipate needs people haven’t even fully articulated yet.

That’s what makes their approach so powerful. It’s not ignoring the user -- it’s seeing the user more clearly than they may even see themselves.

"People will never love a product that you do not love. If you do not love it yourself, they feel it ... they smell it."
– **Steve Wozniak, cofounder of Apple, in *Overcrowded***

And on the flip side, Steve Wozniak framed it beautifully too:

"People will never love a product that you do not love. If you do not love it yourself, they feel it … they smell it."

That emotional connection, again -- it's not secondary. It's core.

The love, care, and integrity a designer brings to a product... those things don't hide behind pixels. They show up in the interface. In the weight of a scroll wheel. In the silence of a waking iMac.

People feel when a product was made with intention -- and when it wasn't.

Apple - Product Outcomes

iMac (1998):

- Quiet, elegant, and approachable
- Prioritized holistic user experience over raw specs
- Instant wake, simplified setup, high-quality display

iPod:

- Scroll wheel simplified digital music navigation
- Focused on emotional connection to music
- Clean interface + white earbuds = iconic UX branding

iPhone:

- Introduced multi-touch UI -- natural gestures (pinch-to-zoom)
- Reduced interface complexity to a single button
- Designed as a daily life tool -- communication, media, utility

Sources: 14

And we can see that philosophy play out in Apple's products.

Take the original iMac -- it wasn't the fastest computer. But it was quiet, elegant, easy to set up, and it actually made people want to be near it. It treated the user experience holistically, not just as a checklist of specs.

The iPod? Same thing. It simplified the entire relationship to digital music with that scroll wheel. The white earbuds became part of the brand. It wasn't just about playing music -- it was about how it felt to carry your collection with you.

And then the iPhone, which introduced multitouch gestures and got rid of dozens of buttons. It didn't just add functionality -- it removed complexity.

All of these were, in one way or another, outcomes of design thinking embedded into the culture. Products that were not only useful, but loved.

CASE STUDY

Google and Data-Driven, User-Centered Design

Approach

- Characterized by user research at scale and rapid experimentation.
  Google integrates UCD with a data-driven culture – they conduct usability studies, A/B test design changes with millions of users, and iterate quickly.
  A notable methodology popularized by Google (via Google Ventures) is the Design Sprint, a focused 5-day process to ideate, prototype, and test a solution to a pressing problem
- This compresses the design thinking cycle into one workweek – ensuring speed without losing the user-centric lens.

Implementation:

- Rapid prototyping via design sprints – five day, Design Thinking oriented process.
  - map → ideate → prototype → test
- Data-informed decision making, combines qualitative research with quantitative precision
- Culture of UX iteration – feedback loops are crucial
- Scalable design systems – consistency across platforms enhances usability, design can happen quickly without having to reinvent patterns and conventions

Sources: 2

Google, on the other hand, leaned hard into scale and iteration. They combined user-centered design with a data-driven culture. Constant testing, continuous improvement. The Design Sprint is one example -- five days to ideate, prototype, and test. It's basically a compressed design thinking cycle. Fast, focused, and iterative.In terms of implementation, Google emphasizes low-friction experimentation. They're known for building internal tools to support rapid prototyping, and they test interfaces at a scale few companies can match. Feedback loops are deeply embedded -- not just in the design sprint, but in daily decision-making. UX researchers work alongside PMs and engineers, and findings from A/B tests influence live products in near-real time. Their design systems, like Material Design, help ensure consistency while still leaving space for creativity.

Google, of course, took a different path.

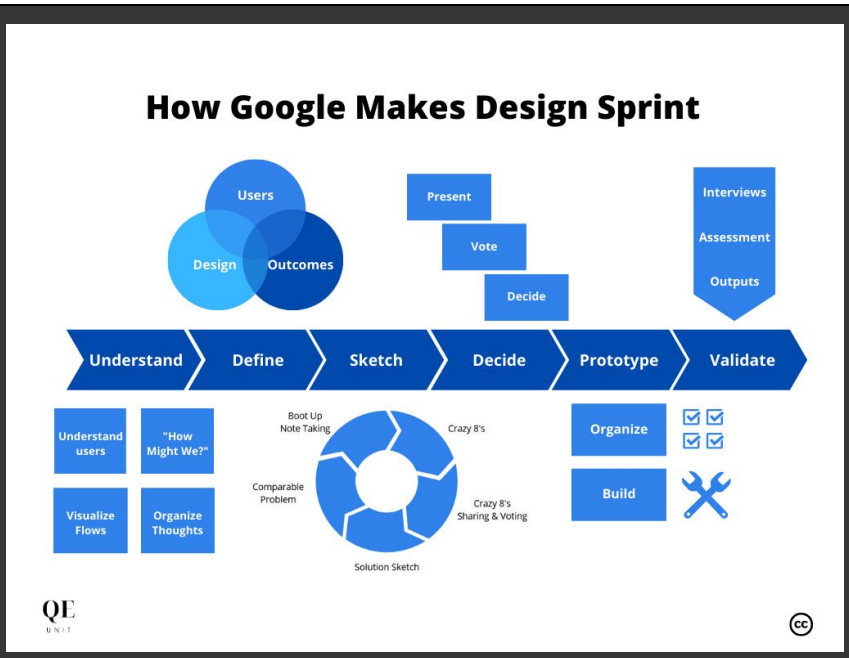
Their approach is heavily rooted in data-driven experimentation and user-centered design at scale. They're known for A/B testing everything -- from button colors to algorithms -- with literally millions of users.

But what's interesting is how that scale doesn't override the empathy. They still conduct usability studies, and they've baked user-centered design into their process.

A great example of this is the Google Ventures Design Sprint -- a five-day

process that condenses the design thinking cycle. It's built around mapping, ideating, prototyping, and testing.

So instead of taking weeks or months to validate ideas, teams get answers in days. And that speed matters in their environment.



Sources: 1, 4, 5

The Google design sprint is basically design thinking with a stopwatch.

It starts with a map, then moves into ideation, rapid prototyping, and testing -- all within a week. That compression forces clarity. You can't hide in long timelines.

What's more, their process combines quantitative precision with qualitative insight -- they care about what people do and why they do it.

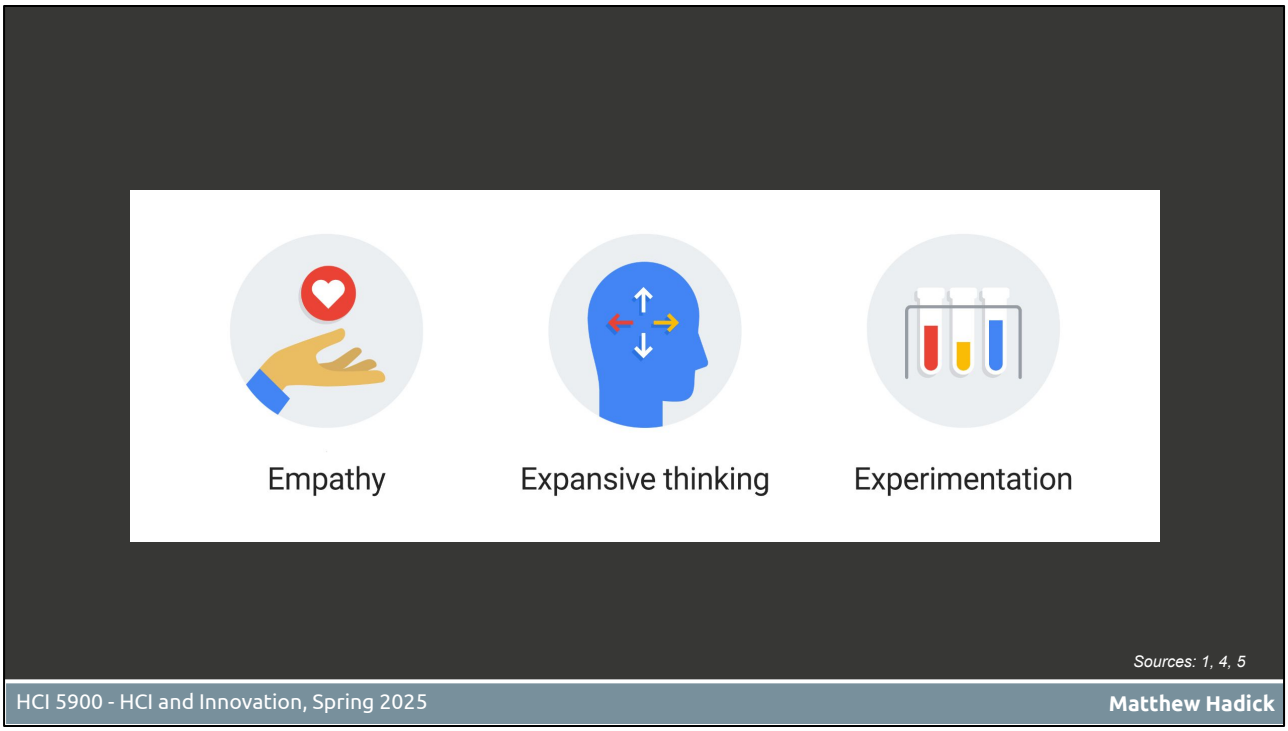
They also lean heavily on feedback loops -- think of this almost as a cybernetic system: inputs, outputs, correction, refinement. It's very systems-oriented.

And they support all this with scalable design systems like Material Design, which allows for fast, consistent interface building across products.

Here's the Google Sprint visual. You can see how closely it maps to traditional design thinking.

The difference is tempo. And maybe scale. But the core ideas -- empathy, ideation, iteration -- are the same.

This is one of the reasons design thinking works so well: it adapts to context. Google needed speed and rigor, and they tuned the model to fit.



What I find powerful about Google's model is how they institutionalized iteration.

They didn't just make room for design -- they engineered processes that demand learning.
They value expansive thinking, and yet they're not afraid to prototype half-baked ideas. Because every test, even a failed one, helps the next step emerge.

And that's something that applies far beyond Google. Whether you're in a startup or a nonprofit or a school district, that ability to test and refine quickly with real people is invaluable.

Google - Product Outcomes

Google Search -

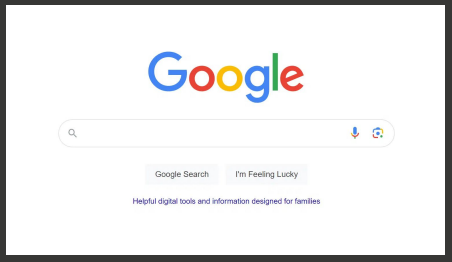
- Google's clean, minimalist search homepage is a classic case of design simplicity winning adoption.
- At launch, it stood out against cluttered portals, aligning perfectly with users' desire for quick, no-friction search.

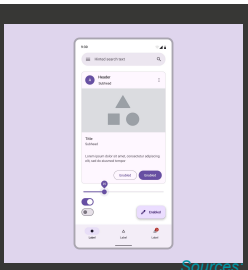
Google Maps

- improved through observing real user behavior, leading to features like offline maps, traffic data overlays for user goals

Material Design

- Google's affordance-rich design system
- It uses visual cues like shadows and bold iconography to signal interactive elements, making apps instantly understandable.
- This consistency across Google apps improved usability and brand feel.





Sources: 2

We see the outcomes in products we all use.

Google Search is a model of minimalist interaction. It was radically simple compared to the cluttered portals of the late '90s -- and that simplicity won people over.

Google Maps improved through direct observation of user behavior -- adding features like offline maps, live traffic, and overlays based on real-world context.

And Material Design, again, is their affordance system. It's bold, consistent, intuitive. It teaches users what to expect just through visual language.

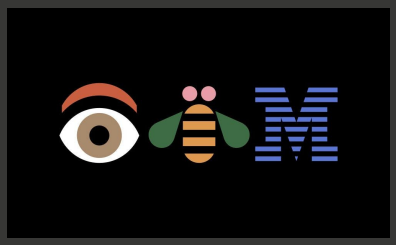
All of these are signs of a feedback-rich, user-focused culture -- a system of continuous refinement with empathy at its core.

CASE STUDY

IBM - Scaling Design Thinking to Enterprise

Approach

- IBM is a prime example of a large corporation embracing design thinking to drive innovation at scale.
- IBM Design Thinking is a tailored framework based on the classic model but adapted to enterprise needs.
- It introduced concepts like Hills (vision statements from the user's perspective), Sponsor Users (actual users who partner in the design process), and Playbacks (regular cross-functional design reviews) to ensure the user's voice is continually heard.
- Also created the "Loop": a continuou **Observe–Reflect–Make** cycle, emphasizing ongoing iteration rather than a one-off process.



Implementation:

- IBM didn't just silo design in a corner – it trained over 500,000 employees in design thinking fundamentals (internally and even clients/partners) to build a widespread human-centered mindset.
- Rather than forcing a rigid one-size-fits-all process, IBM learned to adapt design thinking to its culture: executives realized a "forced roll-out of generic d.school processes will fall short" and instead adjusted the approach for their context
- This adaptability in method helped overcome internal skepticism and "methodology misfit"

Sources: 11

Now let's move to IBM. This is where we see design thinking scaled to massive enterprise levels.

IBM didn't just use design thinking -- they created their own framework, tailored to their size and structure.

It includes things like:

Hills: which are vision statements framed from the user's perspective,

Sponsor Users: actual users who co-design alongside teams, and

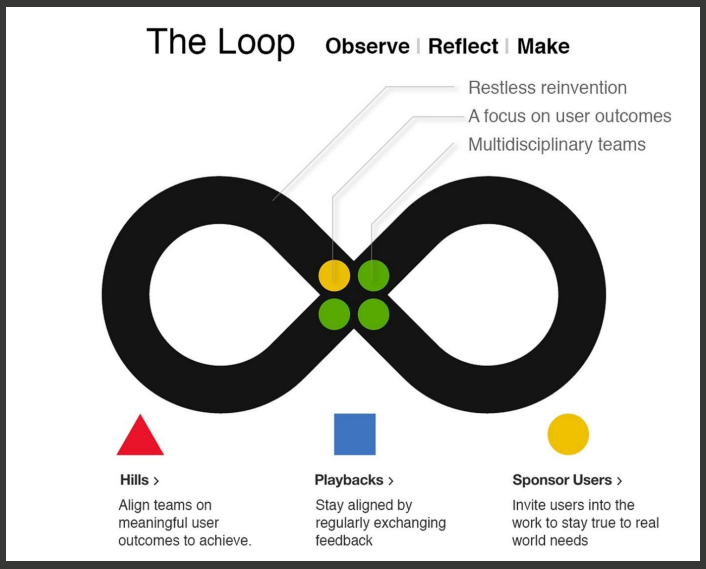
Playbacks: frequent cross-functional review sessions to ensure alignment.

And at the heart of it is The Loop -- an ongoing cycle of Observe → Reflect → Make. It's meant to keep design from becoming a one-off activity. Instead, it becomes a living rhythm.

IBM didn't roll this out overnight. They trained over 500,000 employees -- internally, and across client organizations too.

They also learned early on that forcing a cookie-cutter d.school process wouldn't work. So they adapted the approach to their internal culture.

That flexibility helped them overcome resistance -- skepticism around process fit, methodology fatigue. They made design thinking feel like something that belonged inside IBM, rather than something bolted on from outside.



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IBM- Outcomes and Impact

Accelerated Development Timelines
- Teams reported up to 75% faster development
- Faster iteration → quicker time to market

Strong Return on Investment
- Forrester study showed >300% ROI
- Gains from reduced costs, faster sales, and improved product-market fit

Cultural Transformation & Mindset Shift
- 92% of employees said design thinking improved their innovation capacity
- Design became a shared language across teams, not a siloed function

Tangible UX & Adoption Improvements
- One product redesign led to a 45% increase in adoption
- 10% year-over-year UX score improvements via IBM's Design Performance Index
- Reinforces the mantra: "Good design is good business"

Sources: 11

And the outcomes speak for themselves.

Teams reported up to 75% faster development.

A Forrester study showed over 300% return on investment.

Employees -- 92% of them -- said it improved their ability to innovate.

Design became a shared language across departments.

In one case, a product redesign led to a 45% increase in adoption. Another saw a 10% year-over-year improvement in UX scores, tracked through a design performance index IBM built to measure this stuff.

And honestly, these are more than just numbers -- they represent a cultural shift. The mantra here is:

"Good design is good business."

What does the research say?

Let's look at what peer-reviewed studies reveal about Design Thinking's impact across key product development metrics.

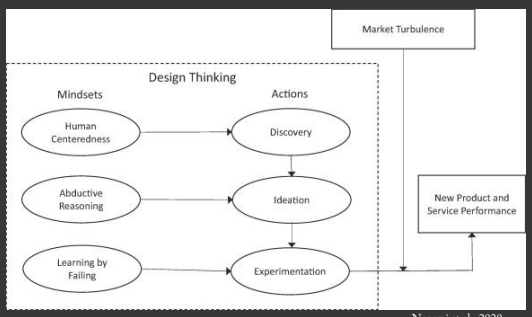
So, we've looked at industry case studies -- Apple's visionary ethos, Google's data-driven iteration, IBM's enterprise-scale transformation.

But what about the academic perspective? What does peer-reviewed research actually say about design thinking's effectiveness?

Because it's one thing to say "design thinking works" based on anecdotes or branding -- but I wanted to look at real studies, real outcomes.

Design Thinking Boosts Innovation & Product Success

- DT increases product usefulness and appropriate novelty, leading to better alignment with user needs and higher chance of market success *(Nagaraj et al., 2020; Nakata & Hwang, 2020)*
- DT improves innovation effectiveness (solution quality) *(Magistretti et al., 2025)*
- Firms using DT show stronger innovation performance and product success rates *(Robbins & Fu, 2022; Nakata & Hwang, 2020)*



Nagaraj et al., 2020

Sources: 7, 8, 9, 10

What I found is that design thinking isn't just popular -- it's demonstrably effective.

A number of studies show that design thinking improves both product usefulness and novelty -- not novelty for its own sake, but appropriate novelty. That's a key distinction.

When we combine empathy, ideation, and iteration, we get products that are aligned with actual user needs -- but still innovative enough to stand out.

Nagaraj et al. (2020), Nakata & Hwang (2020), Magistretti et al. (2025) -- they all found that firms using design thinking show stronger innovation performance and better product success rates.

And I think this makes sense. You're testing early, refining constantly, and embedding the user's voice throughout the process. That leads to outcomes that are both novel and right.

Better Teams, Faster Outcomes

- DT empowers teams, enhancing team collaboration and performance *(Zhang et al., 2024; Robbins & Fu, 2022)*
- Early prototyping = faster innovation with fewer resources *(Magistretti et al., 2025)*
- DT teams report:
  - Greater ownership
  - More creative input
  - Shorter development timelines *(IBM/Forrester, 2020)*

Sources: 9, 10, 11

And it's not just about the products -- it's about the people.

Research also shows that design thinking empowers teams. It improves collaboration, ownership, and performance.

Zhang et al. (2024) and Robbins & Fu (2022) both found strong links between design thinking and team effectiveness.

One of the key drivers here is early prototyping. When you're working with real ideas -- when you can see and touch the direction you're headed -- it shortens feedback loops and reduces wasted effort.

Teams report faster development, more creative input, and a stronger sense of shared ownership. That shows up not just in the timeline, but in the culture.

And this echoes what we saw in the IBM case study: those results weren't just product metrics -- they were cultural outcomes, driven by the process itself.

Reflection

In 2025, does Design Thinking still represent a "competitive advantage"?

HCI 5900 - HCI and Innovation, Spring 2025 **Matthew Hadick**

So, we've seen the research. We've seen that design thinking works -- across metrics, industries, and teams.

But here's where I start to zoom in -- not on companies, but on myself.

Because the reason I'm interested in design thinking isn't just academic. It's personal.
I'm interested in it because I'm trying to figure out what kind of designer I want to be.

As I prepare to step into industry, I find myself wondering:
How much of my work will be shaped by process -- and how much by intuition?
What does it really mean to practice design in a fast-moving, team-driven, real-world environment?

The whole thing has me thinking about the deeper tensions that shape not just design outcomes, but my own practice.
And that's what I want to explore next.

Reflection

Productive Tensions
(in career approach and design thinking)

So I started framing these as productive tensions -- not problems, but creative frictions.

And I realized: these tensions don't just exist in the design world. They're showing up in my thinking too -- as I reflect on where I've been, where I'm going, and how I want to work.

In fact, this reflection represents some of my biggest takeaways from this course.
This class gave me frameworks, language, and lenses to better understand these tensions -- not just in the field, but in myself.

Tensions like:

Reliability vs. Validity

Independence vs. Institutionalism

Intuition vs. Process

Research vs. Design

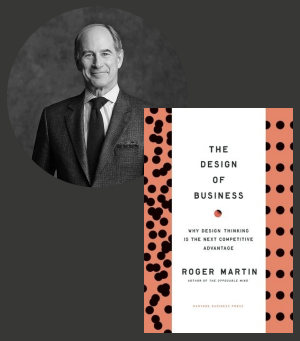
Convergence vs. Divergence

Each one has helped me clarify how I want to grow -- not just as a designer or researcher, but as a thinker. As someone who wants to engage complexity, not rush to get past it.

Reflection

Reliability vs. Validity

"Reliability is the preference for a decision based on past data and precedents; validity is the preference for a decision based on future possibilities and the pursuit of a creative solution. Reliability seeks to avoid mistakes. Validity seeks to seize opportunities."
Roger Martin, *The Design of Business*



Sources: 4

The first one is reliability vs. validity.

Roger Martin talks about this in The Design of Business. Reliability means making decisions based on past data -- on what's worked before. Validity means making decisions based on what might work. Future possibilities. Creative leaps.

"Reliability is the preference for a decision based on past data and precedents; validity is the preference for a decision based on future possibilities and the pursuit of a creative solution. Reliability seeks to avoid mistakes. Validity seeks to seize opportunities."

I think design thinking should be a tool for validity. But I worry that as it's become more mainstream, it's been pulled toward the reliable -- codified, templated, made safe.

Which leads to this question: has design thinking become too reliable? And what do we lose when we trade possibility for predictability?

Reflection

Fostering institutional design systems that prioritize *innovations of meaning* and *validity.*

Sources: 4, 5

And that leads me to something I've been thinking about a lot: innovation that's not just functional, but meaningful.

When we talk about "product-market fit," we often mean efficiency, profitability, scale. But what about resonance? What about emotional fit, or cultural fit?

I believe that validity -- true creative alignment -- requires us to innovate on meaning.

To do that, we need systems that don't just prioritize metrics, but foster deep engagement with why a solution matters in the first place.

That's where I see the potential in design thinking -- not just as a toolkit, but as a philosophy that invites us to keep asking: are we making something meaningful? Are we making something worth making?

Just to close the loop here: this quote from Roger Martin really stuck with me:

"Reliability seeks to avoid mistakes. Validity seeks to seize opportunities."

That's such a sharp way of describing the tradeoff.

And I think this is the core tension a lot of companies face. Reliability feels safe. It plays well in spreadsheets and slide decks. But validity -- that's where the

magic is. That's where the breakthroughs live.

Design thinking, if we're not careful, can tip too far toward reliability. Toward process over provocation.

So the question is: how do we use it to open up possibility, not just repeat what already works?

Reflection

Independent vs. Institutional

That brings me to the next tension: independence versus institutionalism.

As someone entering the field, I think a lot about this. Should I join an existing institution, a big company with infrastructure, mentorship, resources? Or strike out on my own -- start something, build a new culture from the ground up?

Design thinking has become institutional in a lot of ways. It's embedded in organizations. That's not a bad thing. But it can mean that the individual designer's voice gets diluted in favor of frameworks and consensus.

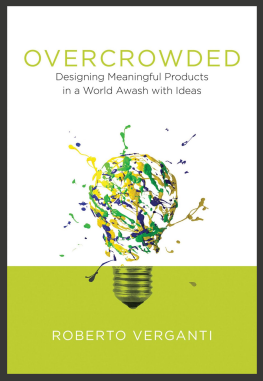
And here's where I want to bring in a quote from Roberto Verganti, from Overcrowded. He argues that:

"To create meaningful things we need a process whose principles are the opposite of the ideation and outside-in innovation that has populated the innovation discourse in recent years. We need criticism, and to start from ourselves."

That line -- "start from ourselves" -- that really resonated. It's a reminder that meaningful design doesn't always begin with sticky notes or workshops. Sometimes it starts with doubt. With perspective. With a very personal kind of clarity.

Reflection

"To create meaningful things we need a process whose principles are the **opposite of the ideation and outside-in innovation** that has populated the innovation discourse in recent years: **we need criticism and to start from ourselves."**
- Roberto Verganti, *Overcrowded*



Sources: 5

And this is something I've come to believe: no matter what process you're using -- whether it's design thinking or agile or anything else -- reflection is essential.

Critique is not a side step. It's central.

If we're not asking: Why am I doing this? Who am I designing for? What assumptions am I bringing into the room? -- then no process is going to save us from building something meaningless.

I think this is where that idea of reflexivity becomes crucial. Whether you're working independently or within an institution, the ability to pause, zoom out, and question your own work -- it's powerful.

It's not the opposite of creativity. It is creativity.

Reflection

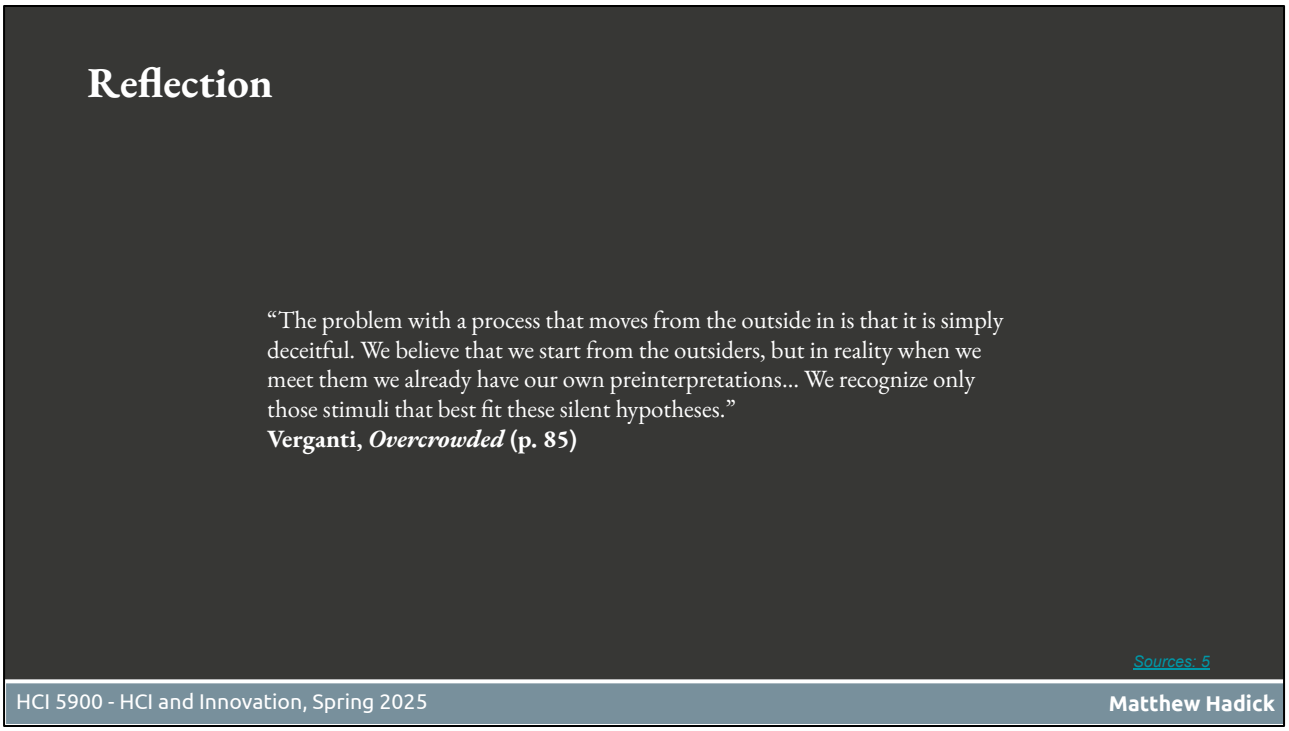
Intuition vs. Process

There's another tension I want to name -- one that's subtle but important: intuition versus process.

Design thinking is a process. It gives us steps. It's teachable, repeatable, sharable. And that structure is powerful -- it helps teams align, gives form to chaos, and lowers the barrier to creativity.

But here's the thing: every meaningful design decision I've ever made… came down to intuition. A hunch. A gut response. That moment when something clicks -- or doesn't.

It's not anti-process. It's just deeper than process. And in many ways, it precedes it.



This is something Roberto Verganti talks about in *Overcrowded*. He writes:

> "The problem with a process that moves from the outside in is that it is simply deceitful. We believe that we start from the outsiders, but in reality when we meet them we already have our own preinterpretations... We recognize only those stimuli that best fit these silent hypotheses."
> *(Verganti, Overcrowded, p. 85)*

That line really got to me -- because it's not cynical. It's just honest.

We don't start with the user. We start with ourselves. With instincts. With frameworks we've internalized. With a sense of what *matters*, even if we haven't articulated it yet.

So the challenge isn't to suppress intuition -- it's to become **aware** of it. To let it *converse* with process, not be overwritten by it.

And I think that's where great design lives -- in that dance between structured inquiry and unstructured hunch. Between knowing how to run a usability test… and knowing when to go with your gut.

Reflection

Research vs. Design

The next tension I've been grappling with is research versus design.

As I look ahead to the roles I might take -- researcher, designer, strategist -- I keep coming back to this feeling that the two aren't really separate.

But they are different mindsets.

Design is generative. It's about synthesis, action, possibility.
Research is analytical. It's about insight, evidence, observation.

You need both. But the balance is delicate.
If you lean too far into research, you risk paralysis. If you lean too hard into design, you risk building without understanding.

Reflection

"Translational developers are needed who can **mine the insights of researchers and hone them into practical, reliable, and useful result**s. Similarly, translational developers must help c**onvert the problems and concerns of practice into the clear, need-based statements that can drive researchers to develop new insights**. Neither direction of translation is easy."
Donald Norman, "The Research-Practice Gap: The Need for Translational Developers"

Sources: 6

And Donald Norman talks about this in his piece on the research-practice gap. He says:

"Translational developers are needed -- people who can mine the insights of researchers and hone them into practical, reliable, and useful results. Similarly, they must convert the problems of practice into clear, need-based statements that can drive new research. Neither direction is easy."

That's the space I want to live in. The translation zone. The bridge.
Where research informs design, and design gives research a reason to exist.

Am I a designer? Or a researcher? Or both? I come from education -- I'm drawn to systems and inquiry. But I'm also a builder. I feel somewhere between reflection and action. Between theory and build.

And I think a lot of us live there. We're not "just" researchers or "just" designers. We're translators. Synthesizers. People trying to shape experience with both intention and imagination.

It's not a contradiction. It's a creative posture.

Reflection

Convergence vs. Divergence

HCI 5900 - HCI and Innovation, Spring 2025 **Matthew Hadick**

This last tension -- convergence vs. divergence -- feels like the meta-tension running through everything we've discussed.

Each of the other tensions -- reliability vs. validity, research vs. design, intuition vs. process -- they all live within this larger rhythm: the expansion of possibility, and the narrowing into action.

It's also personal. My own path has diverged: early work in tech, a career in teaching, now studying HCI and product research. At every turn, I've circled the same core question:
How do we help people engage more meaningfully with the world?

Now I feel myself converging -- pulling these strands together -- but with that convergence comes a familiar companion: doubt.

And I think that's the real insight here. Doubt isn't something to eliminate. It's part of the creative process. Design thinking is rooted in empathy -- but empathy itself requires a kind of faith. And like all forms of faith, it becomes deeper when it includes room for doubt.

Doubt is not a weakness in design -- it's a signal. A sign that we're still listening. Still curious. Still open to something new surfacing.

So as we converge -- whether in our work, our process, or our careers -- I think

the real task is to hold that doubt with care. To let it shape us. To let it remind us that no final form is ever final.

Reflection

“New clashes and new fusions. Until the meaning surfaces.”

- Roberto Verganti, *Overcrowded*

Sources: 1, 4, 5

There’s a line from Verganti that I keep coming back to. It’s deceptively simple, but it captures so much of what I’ve been circling in this talk:

“New clashes and new fusions, until the meaning surfaces.”

That’s it. That’s design. That’s life.

We don’t just discover meaning -- we create the conditions where it can emerge. Through contradiction, through friction, through iteration. Through divergent ideas that crash into each other until something coherent -- and resonant -- rises from the noise.

And the truth is, that’s messy. It’s non-linear. It’s full of the aforementioned doubt and false starts. But it’s also where the most human, most beautiful work comes from.

So whether you’re using design thinking or another framework -- or making your own -- what matters is that you’re willing to stay in that space. To keep clashing and fusing. To resist the urge to converge too quickly.

That’s the real work. That’s where meaning lives.

Key Takeaways

- Design Thinking works, but only when it's fluid.
- The tensions are not flaws – they're the fuel.
- Meaning surfaces, when we give it the space it needs.

So here's where I land.

Design Thinking works. That's clear. It empowers teams, clarifies problems, drives better outcomes. It's flexible. Teachable. Widely adopted.

But for me, what matters most is that it gives us space to think -- critically, creatively, with care. It asks us to slow down. To listen. To try things. To learn as we go.

It's not a destination. It's not the answer. But it is a toolkit -- a springboard -- for approaching complexity with a bit more openness.

And maybe most importantly, it gives us a way to engage with the tensions that define creative work:
Between intuition and process, structure and vision, convergence and divergence.

Resolution in design isn't permanent -- it's always shifting. Always evolving. And I think that's the point. We don't eliminate tension. We work with it. And if we're lucky, we grow through it.

Thank you.

Thank you!

Thank you.

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Thank you.