For more information, please write to:
Chxrles Ltd,
3 Torquay Grove,
Stockport, SK2 7BB

E-mail: support@pipdecks.com
Website: pipdecks.com | Twitter: @pipdecks | Instagram: PipDecksHQ

This PDF version of Innovation Tactics was published in the UK.

Innovation Tactics

Volume I

Written by Tom Kerwin.
Illustrated by Michael McDonald.

There's no knowing where we're going...

If you knew the destination upfront, it wouldn't be innovation. So each card in this deck invites you to explore the unknown. You just need to take the first step. Here are three ways to get started:

Follow the Innovation Strategy System

1. Find the ***Strategy System*** card.
2. Answer the questions until it points you to a category.
3. Use any tactic from that category.

Follow a Recipe

1. Find the cards in the 🗐 ***Recipe*** category.
2. Choose one that matches your goals.
3. Use the tactics cards recommended in that Recipe.

Follow your heart

1. Spread the whole deck out in front of you.
2. Skim through the headlines until one speaks to you.
3. Use that card as a starting point. It will direct you to others, too.

Tips from the author

- Broaden your options for where to go next to avoid catching a debilitating case of 'one-solution-itis'.
- Start much smaller than you're comfortable with. Forget perfection or certainty.
- Play with the methods on these cards to fit your context. Remix! Repurpose!

Join the Pip Decks community

Get help planning and running tactics, and learn from others building products and leading teams.

pipdecks.com/community

Innovation Strategy System

Do you know the struggle you want to help people make progress with?

No →  ***Situation***

Yes

↓

Do you have ideas for innovative ways to help them make progress?

No →  ***Ideas***

Yes

↓

Do you know the most important aspect of an idea to test?

No → ***Focus***

Yes

↓

Do you know which signals in the world will tell you if an idea works?

No →  ***Signals***

Yes

↓

Do you know how to poke the world to get those signals?

No →  ***Probe***

Yes

↓

Do you know how to interpret the signals to decide what to do next?

No → ***Sense***

Yes

↳ ***Ship it! (Or repeat earlier steps until you can.)***

Situation
Understand the reality of the world you're dealing with and the people within it, so you can spot opportunities for innovation.

Ideas
Come up with surprising new ideas for products, services or experiences, using exercises that stimulate your creativity.

Focus
Enable yourself to start with the riskiest aspect of an idea. Then, if you need to adapt, you'll have the leeway to take more 'shots' and find success.

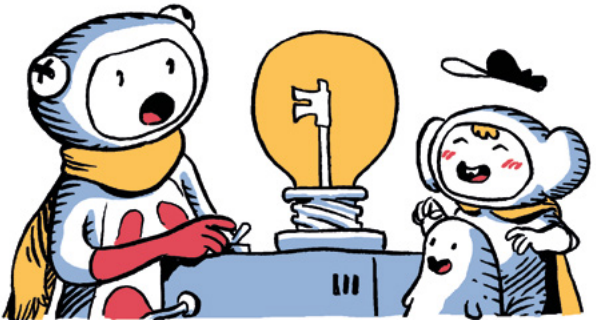
Signals
Identify which type(s) of signals you'd need to see to feel confident that your innovation will succeed.

Probe
Poke the world for the signals you need. How have (or haven't) real humans changed their behaviour as a result of something you put out there?

Sense
Generate actionable insights from the signals you gathered. Then you can either adapt your plans, or move forward with confidence and momentum.

Support
Core methods for innovation.

Recipe



Unlock Innovation

Make innovation happen without being that annoying person banging on about 'innovating'.

Instead of arguing for a better way of doing things, use this recipe to start actually doing things differently.

"Start where you are. Use what you have. Do what you can."
– Arthur Ashe

Unlock Innovation

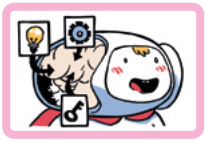
1. **Solution Aikido**
   When colleagues, clients or potential customers come at you requesting solutions, dig for why.

2. **Time Machine**
   Focus the work around a plan to make your stakeholders' dreams come true (and avoid their nightmares).

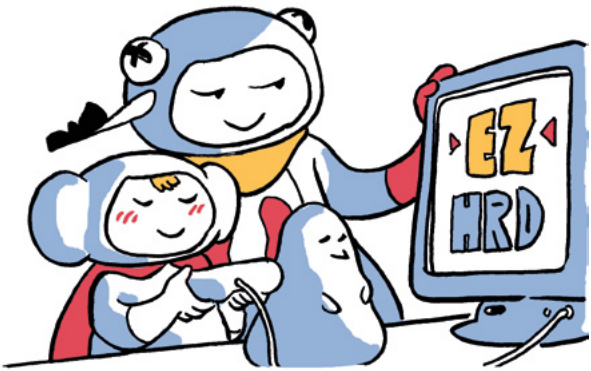
3. **Multiverse Map**
   Facilitate powerful conversations by making a map that highlights any risks you need to avoid.

4. **Pivot Triggers**
   Free yourself to adapt a plan as you learn more – by asking "what'd we need to see in the world to change our minds?".

5. **Anatomy Of An Insight**
   Challenge 'obvious' explanations to expose hidden assumptions and reveal new options for action.



Recipe



Start On Easy Mode

Build mental resilience in your team so that they can fearlessly share ideas early and often with customers.

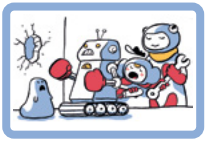
Nobody handles customer feedback well without handling it badly first. Plainly, it hurts when someone shows you the flaws in your ideas. Before you can get good at processing this essential feedback, you first need to get numb to that discomfort. The only way to get numb is repetition. So no excuses. Don't put it off until your work is 'ready'. With this recipe, you'll feel the fear and do it anyway.

Start On Easy Mode

1. **Diagnostic 'Shop Along'**
   Be with someone as they show you how they recently used an existing product or service (maybe even yours).

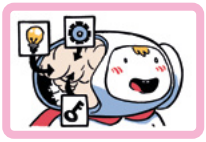
2. **Human Story Map**
   Capture what was going on at each of the steps they followed. Choose one step that you could make better.

3. **Punchy Prototypes**
   In 15 minutes, make a rough, words-only version of that improved step. (It doesn't have to be your product or service.)



4. **'Huh?' Test**
   Grab a couple of colleagues or friends to read your words and show you where your prototype is confusing.

5. **Anatomy Of An Insight**
   Make sense of what you heard and saw, so you can repeat step 3, further improve your prototype, and test it again.



Recipe

Opportunity Mining

Unearth rich seams of promising opportunities by digging for real needs in the real world.

When you need to innovate but aren't sure where to start, identify many opportunities and play out what tackling each one could mean for your customers and your organisation.

"The struggling moment is the seed for all innovation. If I can't find struggling moments I actually don't innovate there, because I don't believe it will happen." – Bob Moesta

Afterwards, take your opportunities into *Idea Filter*.

Opportunity Mining

1. Real Needs
There's no struggle without effort. Find the effort, and you can find the opportunity.

2. Radical Repurposing
Look for people who are trying to solve a problem by doing surprising things – things you wouldn't have thought of.

3. Recruitment Probe
Make sure an opportunity contains needs so urgent that people can't wait to tell you all about them.

4. Documentary Conversation
Crystallise the fine details of how a need has impacted someone's life.

5. CSI Pinboard
Spot patterns across lots of conversations.

Recipe

Idea Filter

Whittle down the range of ideas you could invest in by getting early signals that show you which have the most promise.

Instead of trying to 'validate' one pet idea, take many potential ideas into the filter. You'll throw away those that aren't really viable, those your customers don't really value, and those where you don't really want to be that kind of business.

"Being unaware that your idea is incoherent is the most common tech startup failure mode." – Liron Shapira

---

Before, generate ideas with ***Opportunity Mining***. Next, take your most exciting 3-6 ideas into ***Probe-Based Innovation***.

Idea Filter

1. **10-Star Experience**
   Explore a magical experience that exceeds customers' wildest dreams, so you push your ideas to the limit.

2. **Box Clever**
   Get crispy by expressing each of your ideas for innovation as if it were packaged up for sale on a retail shelf.

3. **Solve For Distribution**
   Test each idea you boxed by telling a story about how it will be found and used to improve someone's life.

4. **Pitch Provocations**
   Show potential customers your ideas to get their real impression (it will surprise you).

5. **2D Comparison**
   Sort your ideas on a 2x2 with y axis 'valuable to customer' and x axis 'appropriate for us'.

Recipe

Probe-Based Innovation

Rapidly provoke the signals you need to see from the world to build confidence in the right ideas – and kill the wrong ones.

Skip debates and avoid sunk cost bias. Use this recipe when you're making a plan for an idea. This will help you to take effective action now, while remaining open to adapting your plan later if it's not working.

"The best – maybe the only – real, direct measure of 'innovation' is change in human behaviour." – Stewart Butterfield

Probe-Based Innovation

1. **Time Machine**
   Uncover your team's hidden goals and fears, so you can focus on mitigating the scariest risks.

2. **Multiverse Map**
   For your scariest time travel risks, sketch out what one specific person might do in the best and worst future worlds.

3. **Pivot Triggers**
   Set the signals you'll need to see to feel confident you're not heading for that worst world.

4. **Behavioural Probe**
   Put out a rough, small, local, or hand-done version of your bigger idea that can get you the signals you need to see.

5. **Anatomy Of An Insight**
   Make sense of the signals so you know whether to change or commit to your plans. Repeat until you're confident.

Situation

Chasm Crossing

Sense when to experiment and when to scale by matching your efforts to where you are in the innovation cycle.

Innovations displace one another in a predictable cycle that plays out over a number of years. The path to new innovation is never smooth. If you're aware of the peaks and troughs, you can ride them out, and take the right steps to prepare for what's coming.

"The chasm is a pit of despair that a lot of companies find themselves in. Early adopters buy things differently, have different motivations, different budgets. The early majority is much more conservative." – Geoffrey Moore

Chasm Crossing

Novel ideas or technologies emerge and gain traction, challenging the dominant idea or technology. Seek to stand out, as early adopters seek something different that gives them an edge.

Find opportunities using ***Pain X-Ray*** and ***Radical Repurposing***.

Many tiny experiments using ***Hard Test, Easy Life*** to meet ***Real Needs***.

The initial enthusiasm is hard to maintain.
This phase is Moore's famous 'chasm'. Novelty was a selling point, but your next set of customers need proof, safety and comfort.

Reframe your idea with ***Language Market Fit*** and tackle blockers using ***Four Forces***.

The left-field idea becomes the new orthodoxy and sees mass adoption.
Time to optimise and scale!

Use ***Diagnostic 'Shop Along'*** to make incremental improvements safely.

Ride the wave while it lasts!

The once-novel idea or technology has become the dominant one.

This peak echoes the red peak to the left, and enables the next wave of innovation – if not by you, then by new competitors.

The dominant idea is losing ground.
The organisation must transfer resources from the old to the new now, or be outpaced.

The dominant idea or technology nears its peak.
Some people become frustrated by its limitations, creating niche opportunities for novel innovation.

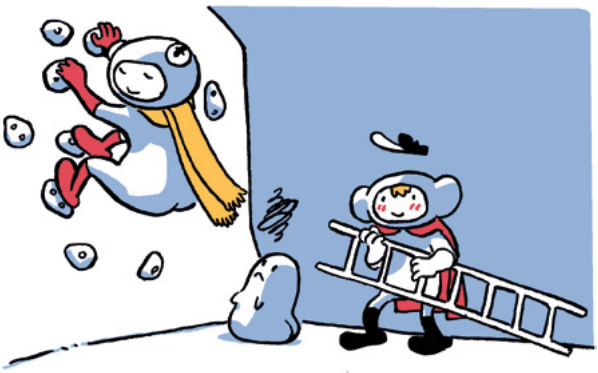
The dominant idea or technology is still orthodox and the 'safe' choice.
A complacent organisation risks failure, as new entrants with left-field ideas might not seem like a real threat.

These organisations missed the boat. Too late! Some manage to avoid total collapse, but most are consigned to the history books.

pipdecks.com/chasm-crossing

Origin: Dave Snowden, Flexuous Curves

Situation



Real Needs

Detect people's most pressing needs, so that you don't waste time trying to fix the endless long tail of needs that they're secretly happy to keep putting up with.

Innovators often spot lots of needs that a potential customer has. You just *know* their life could be better if they addressed those needs... but they're not interested. Use this tactic to find out the *real* needs that people will pay to fix.

"Every problem grows to the size it needs to be for you to acknowledge it." – Luca Dellanna

Pair with ***Radical Repurposing*** to identify more real needs.

Real Needs

To avoid errors in a 'simple' publishing task, a team was spending hours a week maintaining three huge spreadsheets. The time and energy invested in this workaround indicated a hidden real need.

A romantic break-up triggered a loan customer to get her spending under control. When she couldn't stop draining her account, she started transferring a quarter of her income to her gran to put a barrier in the way of her spending it. The pain involved in this solution reveals just how pressing her need was.

1. Find many needs nestling among the niggles of daily life.
   - Spot needs using ***Observation*** and ***Pain X-Ray***.
   - When people ask you for a solution, this could disguise their underlying need. Dig it out using ***Solution Aikido***.
2. Look for outsized effort to find the needs worth tackling.
   - First, ask people "what have you done this week to address <need>?". If they've put in no effort, it's not a real need.
   - Learn about the events, decisions and struggles that led someone to their current solution using ***Switch Timeline***.
3. People experience many needs at once, but can only address a few at a time – zero in on those few.
   - Use ***Task Landscape*** to identify patterns among all the needs and solutions that are your best opportunities.
   - When you think you have a real need, use a ***Recruitment Probe*** to check that it's compelling enough for people to spend time talking with you about it.
   - Ask potential customers to sort 10–30 needs that you want to decide between using ***2D Comparison*** with axes for *least to most pressing* and *rare to frequent*. As they sort the needs, get them to explain what each means to them.

Next, turn the 6–8 strongest needs into ***Pitch Provocations***.

Situation

Documentary Conversation

Surface the real reasons behind a customer's behaviour by asking questions as if you were planning to make a documentary about their life.

When you put someone 'back in the moment', you jog their memory about the context of a decision, uncovering details they couldn't otherwise tell you.

Pair with *Switch Timeline* and *Question Cheat Sheet* to guide your discussion. Next, do a *Speedy Synthesis* of what you learned.

Documentary Conversation

1. To put your conversation partner back in the context you want to learn about, ask them to tell you a story about the time when they, for example:
   - bought a new mattress/car/software subscription,
   - ran a 10k race,
   - finally did something they'd been putting off.
2. As they talk, note down the moments you're curious to know more about. These will make up the key scenes in your imaginary documentary showing the decision.

   Tip: look for events in the story when something changed.
3. Take each key scene in turn. Encourage them to tell you what happened in detail. For example: *I'm curious about the moment you mentioned when you first had the idea to sign up for a 10k...*
   - *Where were you at the time? What was the weather like?*
   - *Who else was there? What did they say?*
   - *What did you do next? What did you type into Google?*

   Tip: imagine the scene and ask questions to fill in the details: location, time of day, other people there, dialogue and drama.
4. Encourage them to talk and give you all the details.

   Do prompt them to keep going by repeating the last few words they said, or by saying "tell me more...".

   Do look out for emotional language. Positive or negative, it's a pointer to what's meaningful. Dig there.

   Do use labelling to check you've got all the details: "so it sounds like you were there, standing in that rainy car park, with no clue where to go next...?".

   Don't ask why they did or didn't do something. We mostly aren't aware of the real reasons behind our choices.

Have conversations in batches of five. Use a ***CSI Pinboard*** to spot patterns. Repeat until you stop being surprised.

Situation

Diagnostic ‘Shop Along’

Understand what an experience was really like for someone by recreating it live. You’ll see details they couldn’t tell you from memory alone.

When you’ve lost your keys, it helps to retrace your steps. Likewise, being with someone as they experience something in real time lets you observe nuances they’re not conscious of, giving you a more accurate account of their experience.

Next, jump into ***Speedy Synthesis*** to get the juice from your notes, or use ***Four Forces*** to help understand the forces acting on their decision.

Diagnostic 'Shop Along'

This tactic lets you zoom in to get a rich understanding of a single specific experience that takes an hour or less. For example: a shopping trip, registration flow, or a work task.

1. Ideally, you'd have been there with the person during the original experience. Instead, recreate the experience for them as closely as you can. For example: *go back to the physical store with them, or get them to open up the app.* Make notes as you go, or record the session.
2. Ask them to set the scene. What had just happened beforehand? Where were they? Who else was there?
3. Next, ask them to walk you step by step through the whole experience. Every stop in the store, every tap in the app, all the conversations, clicks and confusions...

   Tip: get them to think (or read) aloud, and to narrate a 'sports commentary' of their thoughts and feelings as they relive them. This helps you spot fine details.
4. Closely observe the person's actions, words, tone of voice and emotions. When any of those surprises you, follow your curiosity and ask what's behind it. Learn how this person perceives and thinks about the situation.

   Tip: use 🔧 ***Question Cheat*** *Sheet for helpful questions.*
5. At the end, ask how they feel about the experience. You need to know if their perception differs from what you thought they had experienced.

Use your notes to spot opportunities where you could improve on the experience you captured.

 Origin: Nicholas O'Shaughnessy

Situation

Solution Aikido

Find the real opportunity behind a suggested solution so that you don't waste time building the wrong thing.

For most of us, jumping to a solution is easier than articulating an underlying pain or problem. So when a colleague or customer starts solutionising, don't fight it. Instead, like a martial arts expert, redirect their energy to find the real needs hidden inside their request.

"If I asked people what they wanted they would have said a faster horse." – misattributed to Henry Ford

Use *Question Cheat Sheet* to ask better questions and *Pain X-Ray* to read between the lines of the answers you get.

Solution Aikido

1. When someone wants to tell you their idea, let them! Help them feel heard. Summarise the idea back to them and tell them something honestly positive about it.

2. Then build on the energy in their idea to uncover which problems or opportunities they're really responding to.

   - Indirect: "Once you have <solution>, then what happens?"/ "What will <solution> enable you to do differently?".
   - Direct: "What problem are you trying to solve with this idea?"/"What matters about that?"/"What makes the problem so bad?"/"What else have you tried already?".
   - Explore more options: "What other ideas did you discard before you chose this one?". (If they've discarded a bunch of ideas already, that gives you extra context).
   - Use ***Time Machine*** questions to help them share their hopes and fears about the situation and their idea.

3. Use labelling. When you think you understand the real problem, paraphrase it back to them, for example:

   - *"It seems like you want to get <result> without <frustration>?"*
   - *"It sounds like you want less <pain> without losing <benefit>?"*

   Usually, you won't have fully understood, and they'll happily give you more information. Keep digging and labelling.

   You'll know you've understood when they say "that's right!".

4. If you have a better idea you think they might like, make ***Punchy Prototypes*** of their solution, your alternative, and at least one contrasting idea. Show them all three in a ***'Huh?' Test***.

   Or to identify patterns of needs across many people (e.g., to make sense of what to do about customer requests), capture your notes on a ***CSI Pinboard*** and add to it as you repeat this exercise.

Situation

Observation

Watch people go about their day so you can spot the opportunities in struggles they can't tell you about.

Ever watched someone edit a Word document by tapping the cursor key 400 times to move around? You may know they could use Alt or Ctrl, but they don't.

We humans are unaware of most of our behaviours, and the factors that influence us. We can't tell people about things we're unaware of – but observers can see them.

Pair with ***Pain X-Ray*** to help you understand what people say, too. Then use ***Documentary Conversation*** to learn why people believe they're doing what they do.

Observation

Before you try to come up with innovative ideas to help people make progress with a struggle, observe the real struggles they experience, and how they feel about those.

1. Gather your team around a workspace. List different options for ways you could observe people, for example:
   - go in person to a restaurant, shop, office, gym (etc ...),
   - watch recordings of people using your website,
   - find online ***Watering Holes*** where people chat,
   - join sales calls or demos.
2. Make a quick plan for each option: what you'd need, when you can do it, and who's involved. Commit to one.
3. Before you observe, write down what behaviours you expect to see. This primes you to notice surprises. For example, make a hypothetical ***Human Story Map***.
4. Go and observe people. You'll need to observe at least 20 to have enough data to start seeing patterns. Ideally keep watching until you stop being surprised.
   - Write down what you notice people doing. Follow what catches your attention.
   - Capture what's expected, different and surprising.
   - Note down questions that bubble up for you, such as "why did they turn back at that moment?". You can ask about these later in a ***Documentary Conversation***.
5. Add your observations to a ***CSI Pinboard*** to spot patterns. Then imagine a ***10-Star Experience*** to come up with ideas that would amaze the people you observed.

Tip: use this tactic with a ***Behavioural Probe*** *to watch how people behave when you introduce an idea into their environment.*

Situation

Watering Holes

Go to where your audience naturally hangs out, so you can find out what truly matters to them.

To learn about a creature's natural behaviours, zoologists get out of the zoo and observe them in the wild. Like the zoo, many research methods are artificial. You risk biasing people to talk about what you care about, not what they care about. Use this tactic when you don't yet have easy access to chat with your audience.

Pair with ***Observation*** and ***Pain X-Ray*** so you know what to look and listen for when you find a watering hole.

Watering Holes

There's no ready-made community called 'people ready to buy my idea'. It takes effort to figure out where your audience hangs out, but the information you'll get there is worth it!

Your hunt will involve feeling lost. Many clues will lead to dead ends, but remember: every audience goes *somewhere* for advice, info, products and services, to watch videos, etc.

1. List 10-15 phrases you believe your audience associates with themselves and the topic at hand, including:
    - jargon, techniques, methods and processes,
    - tools, software, hardware, books, magazines, services, conferences, courses...,
    - how they describe themselves (e.g., *dog lover, business owner*), and how others describe them,
    - people they interact with (e.g., *colleagues, helpers*),
    - influencers, authors and creators they follow.
2. Search online for each of the terms you listed to find leads to follow. Add modifiers your searches: best, worst, reviews, advice, questions, problems, tutorial, chat, community, group, forum, list...

    Tip: some watering holes are offline. Dog lovers go to dog shows and pet cafes, business owners join local networking chapters.
3. Assess each lead. Even if a watering hole looks irrelevant or abandoned, are there some clues about where to look next?

When you find a useful watering hole, use ***Observation*** and ***Pain X-Ray*** to capture a rich dictionary of your audience's language. Using your customers' own words helps ***Language Market Fit*** connect powerfully. And 'insider' language helps you search for more leads.

Tip: some watering holes are truly inaccessible (for example: CEOs keep theirs private). If you really can't find any, you'll need to find people to speak with by using a ***Recruitment Probe****.*

Origin: Amy Hoy and Alex Hillman

Situation

Human Story Map

Tell the story of how your user is currently meeting needs in their life, so you can spot opportunities for innovation.

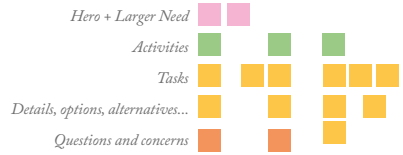
In our excitement to build, we can easily lose sight of the people who'll eventually use our ideas. The consequence is that nobody wants what we've made. If you can't tell a clear story, it's a sign you don't yet know your customer well enough to come up with good ideas.

"The medium of innovation is real human behaviour in the real world." – Robert Fabricant

---

Use after a ***Diagnostic 'Shop Along'*** to capture what you saw. Next, turn the story into a ***10-Star Experience*** to generate ideas. Later, ***Multiverse Map*** to explore how your ideas will fit into the hero's life.

Human Story Map



To generate ideas that people might want, gather your team around a workspace to tell the story of what customers do to meet a need.

1. Ask: "in the context we care about, who's the hero of the story and what larger need are they trying to meet?". Add answers on pink stickies at the top of your workspace. For example: *to help us innovate around coffee-making: coffee-drinker + get ready for work.*
2. Ask: "what's the very first thing they do?" Add that task on a yellow sticky at the left of the workspace. For example: *get out of bed.*
3. Ask: "what's the next thing they do?" Add that task on a yellow sticky to the right of the first. For example: *brush teeth.*

   Tip: write each task using the words the hero of the story would use.
4. Repeat step 3 until the hero achieves their goal. For example: *leave the house.*

   Tip: add options under a task. For example, make coffee or make tea.
5. Frequently pause to read the story out loud. Look for gaps and confusion. Rearrange the stickies until the story makes sense. For example: *they get out of bed, brush teeth and then turn off the alarm... hang on, they wouldn't brush teeth with the alarm blaring!*

   Tip: if you get stuck, you need to know more about your user's context.
6. Write any questions and concerns that occur to you on orange stickies under the main story. For example: *do our customers care if they brush their teeth before or after coffee?*
7. Add an activity description on a green sticky above each set of tasks (yellow stickies) that naturally go together. For example: *breakfast = make coffee, make toast, drink coffee, eat toast.*

Consider how an innovation could make the hero more awesome, or dissect the hero's choices with ***Documentary Conversation***.

Origin: Jeff Patton, User Story Mapping

Situation

Task Landscape

Visualise all the ways people are already trying to make progress with their struggles, so that you can spot opportunities.

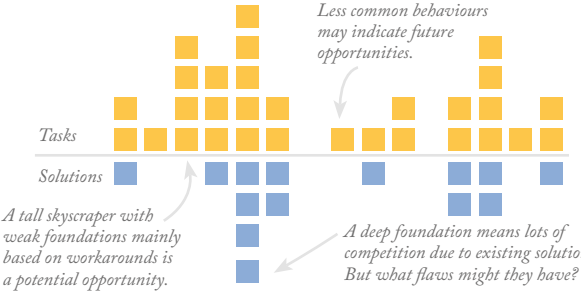
When you don't know exactly where people have real, unmet needs that you can help with, a task landscape creates a graphic representation of those needs. This makes it easier for you to see patterns in their behaviour where you might be able to innovate.

Beforehand, get the information you need from *Documentary Conversation* or *Observation*. Pair with *Radical Repurposing* to help you reframe your existing solutions to fit new contexts.

Task Landscape

1. Gather your team around your workspace. Ask the group to write down tasks they noticed your audience either do or mention in relation to a relevant activity, one per yellow sticky. For example:
   - "I ground the coffee beans",
   - "My partner orders most of our coffee online",
   - "The coffee machine needs to be cleaned each week".
2. On blue stickies, write down solutions they tried to use for each task. These can be products, services or workarounds. For example: *pestle and mortar, spreadsheet, to-do list, asking a friend...*

   Tip: to stimulate ideas, note down how much or little a solution helped, and what (if anything) people said wasn't good enough about it.
3. Arrange the yellow tasks from left to right in chronological order. For tasks mentioned by more than one person, stack them upwards to build a 'skyscraper', showing how common and important that task seems to be. Stack the blue solutions underneath the task they correspond to, forming 'foundations'. Group tasks and solutions that go together into 'districts'.

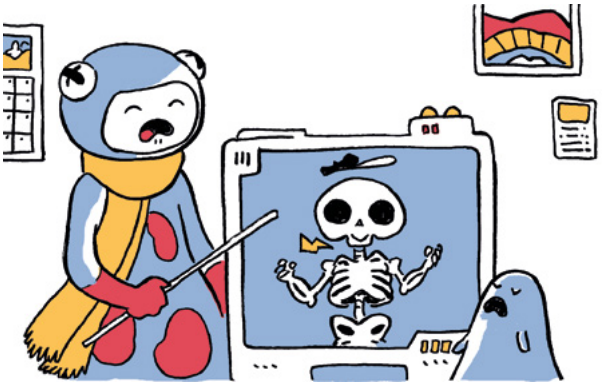


4. Scan the landscape for opportunities for you to innovate and add a sticky describing each opportunity.

Follow with ***Box Clever*** to clarify ideas for addressing opportunities, and ***Pitch Provocations*** to find the most promising.

Origin: Indi Young, Mental Models

Situation



Pain X-Ray

Read between the lines of the words and phrases your audience use, so you can uncover their hidden pain – showing you genuine opportunities to innovate.

Most of us try to hide our pain. Often we aren't even aware of it. But we can't avoid letting clues slip out, through our jokes, judgements and justifications. Use this tactic when you want to identify below-the-surface needs that your audience can't express, so you can come up with novel innovations they'll really want.

Use this with ***Observation*** to collect words and phrases to work with. Later, test your ***Ideas*** using ***Pitch Provocations*** and ***Language Market Fit***.

Pain X-Ray

1. Find ***Watering Holes*** where you can see or hear your audience talking naturally. Observe the conversations.
2. Write down every question and emotion you spot. Questions are obvious, but emotions can be subtle. Look for clues: debates, complaints, humour, sarcasm, outrage, prickliness, even the use of moralistic words like 'should'.

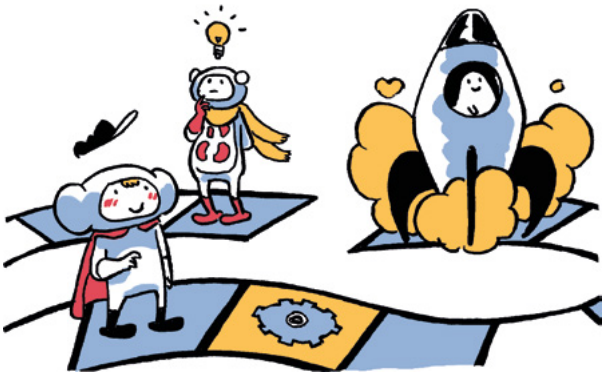
   Tip: capture the precise language your audience uses. When you can explain your idea in their words, they'll 'get it' faster.
3. For each emotion and question, come up with a few stories that could illustrate the pain behind them. Write those down, and then add the needs each story may indicate.

Stories		*Needs*
They're confused by the range of choices available	➡	*perhaps they need advice from a trusted expert*
They know which one they'd like but lack confidence in their judgement	➡	*they may need reassurance or encouragement*
They don't like any of the choices available	➡	*they may need a different way to make coffee, with different tradeoffs*
They're looking for ammunition to prove someone wrong in an argument	➡	*they 'need' a strong opinion with data (or maybe they need a hug!)*

   Tip: use ***Anatomy Of An Insight*** *to structure your work. For example: someone asks "What's the best espresso machine?".*
4. Use ***CSI Pinboard*** to clarify the patterns in your stories and needs, then use the ***Ideas*** category to look for opportunities to innovate around the needs.

   Tip: this takes practice and patience. You can't read minds, but you can see opportunities in repeating patterns.

Situation



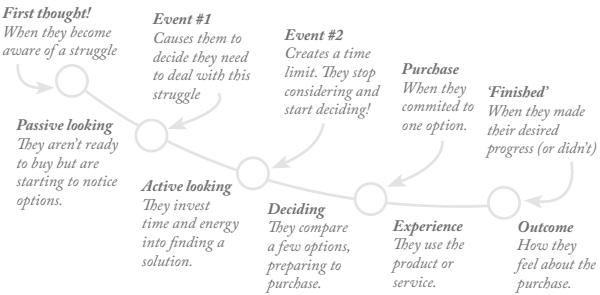
Switch Timeline

Understand your market's real needs by looking at the common patterns behind big buying decisions.

People mostly can't articulate the real reasons behind their decisions. You need to be a detective, looking for clues in their behaviour. That's how you'll spot needs that became important enough that people couldn't ignore them, and you can come up with innovations to better meet those needs. Use this tactic to focus on the moments that mattered most when someone made progress with a struggle.

Use the timeline to guide your *Documentary Conversation*. Next, make sense of important decisions using *Four Forces*.

Switch Timeline



1. Sketch the timeline above on paper. Add your notes to the sketch during a Documentary Conversation.

2. Use the timeline as a checklist to cover all the phases you need to ask about. Work in any order, but to get a complete picture you'll often need to work backwards or forwards in time, by asking: "and what happened before/after that?".

   Tip: this timeline is predictable in sequence, but it can be months or even years between first thought and outcome.

3. Dig into the details and figure out exactly what was going on in each moment. Look for surprises: needs, obstacles, opening or decision criteria you didn't expect. For helpful prompts and questions, use ***Documentary Conversation*** and ***Question Cheat Sheet***.

   Tip: look for the emotional motivation that kept them going.

Snowmobiling

Remix elements from existing ideas so you can create never-seen-before innovations.

Need to come up with something brand new, but you've no idea where to start? Get inspiration by making new connections between existing concepts. John Boyd used to show people an image of a waterskiier, a tank and a bicycle. You can break apart and remix these vehicles in many different ways. Most combinations are incoherent, but one is a snowmobile: skis + outboard motor + treads + handlebars.

"Everything is a remix." – Austin Kleon

Snowmobiling

1. List. Gather your group around a workspace. To get the juices flowing, ask people to list on stickies a range of 'stuff' that's loosely related to your area of interest. For example:

   - products and tools (physical or digital),
   - services, capabilities and moments of interaction,
   - operational processes such as meetings and checklists,
   - ... you can break down nearly anything!

2. Decompose. Work through each sticky in turn to break it into smaller parts. Write those parts on new stickies around the original. Here are some helpful prompts:

   - What different jobs does <this> do (and who for)?
   - When <this> does its job, what are all the steps?
   - If <this> were made of Lego, what would the bricks be?

   For example, a camera has a lens, photosensitive storage and a shutter. A team's weekly meeting might include news, progress updates and a plan for the next week. An iPhone is a touchscreen plus a cellular connection. There's no 'right' answer – try a few breakdowns from different perspectives.

3. Remix. Pick some smaller parts at random, from across the workspace, and bring them together. What do they make? Most combos will be incoherent, but some will inspire an idea. Write ideas on new stickies as they occur.

4. Play. Continue to add more 'stuff' as you go. Keep breaking down and recombining stickies in different ways until you have at least one exciting idea.

5. Refine. Your new ideas still need to be tested and iterated. To find out if it has legs, and to figure out what to do with it next, use ***Hard Test, Easy Life***.

Origin: John Boyd, Destruction and Creation, 1976

Radical Repurposing

Reuse what already exists in ways they weren't designed for so you can make unexpected innovative leaps.

Innovation doesn't always happen on cue in a group brainstorming session. It mostly happens when someone who needs to get a job done in a pinch 'misuses' an existing technology or idea. Or when you realise you can a reframe a 'bad' outcome into something good by looking at it differently.

"The Most Exciting Phrase in Science Is Not 'Eureka!' But 'That's funny...'" – Isaac Asimov

Combine with ***Force 25*** to come up with lots of weird ideas, then clarify them by turning them into 'real' products with ***Box Clever***.

Radical Repurposing

Follow the pathfinders

Most companies have 'funny stories' about customers doing unexpected things with their product or service. These outliers can signal a need you didn't anticipate.

For example: *The manufacturers of a putty used to clean soot off walls found sales dwindling as coal fires fell out of use. One employee had noticed their kids loved playing with the putty. Instead of putting a stop to such 'misuse' of the putty, this employee came up with Play-Doh.*

Look for side-effects and byproducts

What annoys you about your technology? Where might that annoyance become useful?

For example: *A radar engineer noticed that a chocolate bar in his pocket had melted. He realised this was a side-effect of a radar component called the magnetron, which he radically repurposed to invent the microwave oven.*

Deliberate misuse

Try the thought experiment of putting your technology into different contexts. What weird things might it do? Try six wildly different business models – what would it mean for your technology?

For example: *18th Century looms were controlled using punchcards. In the 20th Century, with weaving on the wane, IBM radically repurposed punchcards for programming and dominated the computer industry for decades.*

Origin: Exaptation, Gould & Vrba 1982

10-Star Experience

Tell the story of your customer having an impossibly good experience, so that you can use it to uncover ideas that could actually be possible.

"You step off the private jet to hordes of screaming fans (like the Beatles arriving in America). Helicoptered to your penthouse, you find all your favourite food. Your personal guide has laid on trips and activities you'll remember forever." Airbnb couldn't make it happen for real, but it provided the seed that grew into their Experiences product.

Reimagine a ***Task Landscape*** to spot opportunities for innovation. Next, see if your ideas fly with ***Hard Test, Easy Life***.

10-Star Experience

1. Set the scene with your group by exclaiming: "you already know what a 1-star review and a 5-star review are like. Today, we're going to imagine the kind of impossibly magical experience it would take to get a 10-star review."

   Ask everyone to write their story of a 10-star customer experience. They can use words or drawings – whatever makes the details vivid and is self-explanatory to a reader.

   Remind your group, "show don't tell. Don't say, 'seamless, easy-to-use technology' – give us a vivid, blow-by-blow account of what that means for the customer. What do they see, hear, touch, and do? Why is that so amazing for them? Close your eyes and imagine seeing the experience play out."

   Tip: remember, impossibly magical – it shouldn't be reasonable.

2. Ask everyone to add their story to a shared space to create a 10-Star Experience Gallery.

3. Invite everyone to quietly read all the stories and add a dot next to any details they feel are particularly exciting or surprising. Ask them to write any possible ideas that occur to them on sticky notes and add them near the story.

4. Together, review the dots and ideas. Can you break apart any impossible ideas to find elements you could do? Use ***Snowmobiling*** to break up and remix ideas.

5. Next, turn the ideas into ***Pitch Provocations*** to test them out with customers and focus on the most promising.

Forced Mutation

Use the power of guesswork between teams to help you come up with "never knew I wanted it till I saw it" kind of innovations.

It might sound counterintuitive, but when a team doesn't know the intent behind a prototype, they are forced to think differently about it. This enables them to generate a richer set of options and ideas for innovation. Use this to explore many design options in parallel – for a code or design prototype, or for written work like marketing copy.

Pair with ***Punchy Prototypes*** to help your team prototype effectively, or with ***Force 25*** to generate variations.

Forced Mutation

Put your prototypers in three teams that will work separately (no discussing!). Plan consecutive timeboxes for each team's prototype (1–8 hours) – it's OK if they span multiple days.

1. Brief Team 1 with all the information you have about the opportunity they'll be working on: customer needs, constraints, requirements... The team then spends the first time-box racing to create a prototype of the code, designs or writing...
2. Give Team 1's work to Team 2, but only the end result – none of the background information, notes or thinking. Team 2 spends the second time-box improving on Team 1's work, creating a new, rethought version.
3. Give Team 2's output to Team 3. Again, nothing but the end result. Team 3 spend their time-box making yet another version, iterating on Team 2's work.
4. Hand the outputs from Teams 2 and 3 to Team 1, who test-drive them. Note down surprising and desirable ideas in the prototypes.
5. Refine the prototypes with a ***'Huh?' Test***. Divide the ideas into ***Seeds vs Soil*** to decide whether to probe or build.

Team 1 worked on a prototype for a day, then sent it to Team 2... but forgot to include documentation. Caught out, Team 1 bluffed: "it was deliberate, you need to work without a brief". Team 2 did a day's work and sent it on to Team 3 in the same way. After 24 hours, they had generated three prototypes. Unaware that this was a mistake, the customer said "wow – never would have thought of number 3, please can I have that one?"

Force 25

Force out 25 ideas in 25 minutes so you can get past the obvious and surprise yourself with concepts you didn't know were within you.

"Discount the 1st thing that comes to mind. And the 2nd, 3rd, 4th, 5th – get the obvious out of the way. Surprise yourself." – Pixar's storytelling rule #12

Use this technique to come up with better headlines, product ideas, names, pitches, stories...

Use this to help you generate more ideas for ***Pitch Provocations***, ***Punchy Prototypes***, or ***Language Market Fit***.

Force 25

Use this by yourself to generate ideas. In a group, each person follows the process solo. Only compare ideas at the end, so you don't inadvertently limit yourselves through groupthink.

1. Choose your topic, then start a timer for 25 minutes.
2. Force yourself to write down at least 25 different ideas.

   Your first ideas will be obvious and bad. Write them down without editing or resisting. Keep going! By the low teens you'll be wiping sweat from your brow. Dig deep! By the end, you'll start making surprising new connections.
3. Walk away for 25 minutes. Do something else entirely.
4. Read the list you made and highlight any good ideas.
5. Edit the ideas you've written down. Can you improve on the raw material? What if you mix two ideas together?
6. Stop there if you're happy, or start again at step 1!

If sitting there with a blank page is just too painful, try using random prompt generators to spark new connections:

- Use a thesaurus to find different ways to phrase an idea.
- Do an image search to see related ideas.
- Pick random cards from another Pip Deck.
- Be inspired by song titles on shuffle.
- Pick a character from a movie – what would they do?
- Open a novel to a random page and read a paragraph.
- Walk through an art gallery with notebook in hand.
- Leaf through a swipe file of advertising from the 1940s.
- Scroll through a random category on an app store.

Tip: don't look at your competition. You'll find fresher inspiration from completely different fields, disciplines or categories.

Shaping Trios

Know how to make progress with an opportunity by assessing the range of approaches a team proposes.

It's easy to get bogged down in debating the minor details of an innovation. In this exercise, by not allowing enough time to plan 'properly', you energise people to think creatively and make progress fast. When you want to seize an opportunity but aren't sure how, let your team's diversity of ideas tell you whether to build, ***Probe***, or understand the ***Situation*** more deeply.

Before, choose one opportunity to figure out. Use ***Task Landscape*** for a market opportunity or use ***Solution Aikido*** on someone's idea.

Shaping Trios

1. Gather your team, along with stakeholders and people from elsewhere in your organisation to increase the range of perspectives in the room. Summarise the challenge or opportunity you would like the group to tackle. Set an uncomfortably tight deadline, usually 1–4 weeks.

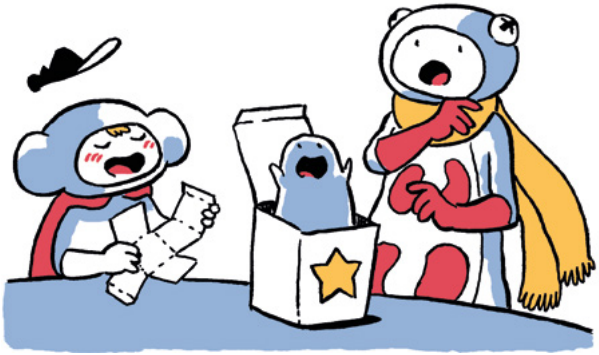
2. Split the team into groups of three and give them 15 minutes to prepare and write down a pitch that includes:

   - the crux – the core challenge – of this opportunity,
   - one proposed solution that they recommend,
   - a scrappy sketch: often a diagram or screen layout,
   - a list of time, resources and people this solution needs,
   - what signals they expect to see if the solution works,
   - what signals they expect to see if it doesn't work,
   - the very first action they recommend to get started.

3. Next, give a spokesperson from each group 2 minutes to present their pitch to the wider team. Ask everyone to make notes about what's similar, different, and surprising.

4. After every group has pitched, collect and review all the notes so you can decide what to do next:

   - If all the pitches were the same (or very similar), they give you a clear plan that a team can execute right away.
   - If there were many different strong, coherent pitches, there's no clear answer. Design ***Behavioural Probes*** for all the pitches to learn the possible consequences of each.
   - If the pitches were mostly confused or incoherent, it suggests that the team doesn't yet know enough about the ***Situation***. The biggest puzzles or questions will have surfaced during the pitches. Use ***Real Needs*** to develop a deeper understanding, then repeat this exercise.



Box Clever

Clarify new ideas quickly by getting people to design the packaging that an innovation could be sold in.

What might an innovation look like if you had to put it in a box on a retail shelf? With limited space, you're forced to clarify the heart of your idea and make it distinctive. When you have ideas forming and want to crisp them up, use this exercise to help everyone get specific about what's actually going in the box for someone to buy.

Use this to clarify opportunities from the ***Situation*** or ***Ideas*** phases. Use the output of this tactic to inspire ***Pitch Provocations***. It's fun to keep the boxes you made so you can refer back to them later.

Box Clever

If you have many cool but vague ideas from the ***Situation*** phases, divide a big group into small teams. Give each team materials to design and make a box.

1. Ask the teams to jot down some notes about the opportunities and ideas for products (digital or physical) they've been thinking about, using the prompts below. This is the raw material for their box. (5–15 mins.)

   - What ideas are you feeling excited about?
   - Which customers might care about each idea?
   - What are the benefits for those customers?

2. Tell the teams: "Now imagine you're a customer, and you come across the most exciting product, sitting on a retail shelf, shrink-wrapped and ready to buy. Make the box you see on the shelf." (30–60 mins.) Share the prompts:

   - What's the essence of your product?
   - How could the box grab your attention?

3. Invite the teams to take turns pitching their product box to the group. "Imagine you're meeting with a major store. This is your chance to get your product on their shelves." (3 mins for each team.)

Tip: jot down exciting benefits and turns of phrase you hear during the pitches. People often write features on the box, but translate them into benefits when pitching.

To further zero in on the most compelling ideas, use the boxes to inspire ***Pitch Provocations***.

 Origin: Jim Highsmith and Bill Shackelford

Stretch Prompts

Ask questions that push you to see your situation from a different angle, so you can come up with new ideas.

New ideas come from thinking in new ways. When you want to break out and think differently, try asking a different type of question – one that's uncomfortable to confront or even one that feels impossible to answer.

"It ain't what we don't know that gets us in trouble. It's what we know for sure that just ain't so." – attributed to Mark Twain

Make new ideas achievable through ***Radical Repurposing***. Clarify potential new products or services by making ***Pitch Provocations***.

Stretch Prompts

When you're feeling stale or stuck, shake up your thinking by asking one or more of these questions:

If we were kicked out of our company now, what's the first decision our replacement would make?

When Andy Grove was struggling with a big decision at Intel, this is what he asked. His team realised the answer was obvious. They hadn't seen it only because it was uncomfortable.

A new startup has just disrupted us! How did they do it?

Break out of complacency. No moat is unassailable, no lead uncatchable. What unthinkable thing did that startup do?

What would a 5-year-old who's brilliant at product and tech do in our place?

Can you harness the wild imagination of a child – before they've been hampered by what's 'normal' or 'reasonable'?

What's the tiniest, worst version of our best idea that's still just enough to work?

Free yourself from perfectionism to enable progress in the right direction.

Push trade-offs to extremes to consider new options:

- What if we could only charge 1/100th of the price?
- What if we could charge 100x the price?
- What if we could access any data we dreamed of?
- What if we had no data at all?
- What if everything had to be done by hand?
- What if everything had to be fully automated?
- What if we enabled our user to do anything they want?
- What if we enabled our user to do only one thing?

Disconfirmation Bias

Embrace the possibility that your innovation will fail, so you can gain the courage to find out if it really will.

Every innovation is born out of a hypothesis: 'if we build this, someone's life will get better'. The truth is more often 'the customer doesn't need this, won't pay for it, and won't use it'. By accepting this truth and trying to prove an idea will fail, you'll get closer to a reality where your ideas can succeed.

"The first principle is not to fool yourself, and you are the easiest person to fool." – Richard Feynman

Disconfirmation Bias

Innovations typically fail in a handful of common ways. By assuming your idea will do the same, you're more likely to notice signals of probable failure in time to adapt your plan. Proving failure before you invest too much in one idea buys you time to find a better idea – one you *can't* prove will fail.

1. Read the following failure modes out loud. Ask everyone to quietly note how uncomfortable they feel as they listen.

   "If we build <our innovation>, then we'll find out that..."

   a. "the customer doesn't really need it"

   b. "the customer's attention is on other things that are more important to them"

   c. "the customer won't feel it's better than what they're already doing"

   d. "the customer won't pay for it"

   e. "the customer won't change their behaviour in the ways needed to get value from it"

   f. "it'll end up causing problems for the customer"

2. Have everyone vote for the statement that made them feel the most uncomfortable. You most urgently need to disprove the failure modes that got the most votes.

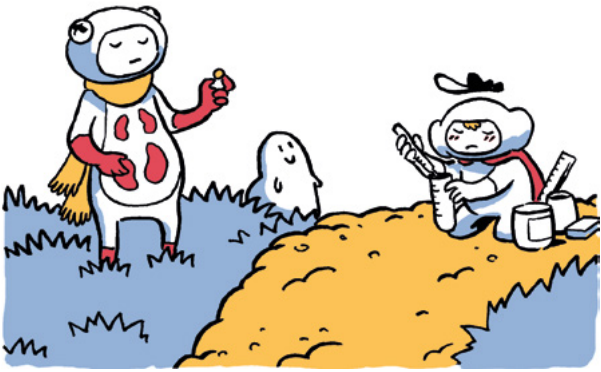
   Tip: invite people to share what lies behind their discomfort.

3. Next, design a ***Behavioural Probe*** to get signals that can prove (or disprove) the urgent failure modes. Try:

   a or b: Use a ***Recruitment Probe*** to demonstrate how no one will talk with you about the problem you solve.

   c or d: Use ***Language Market Fit*** to prove that nobody taps the advert, let alone signs up on the landing page.

   e or f: Use ***Be The Algorithm*** to show that nobody will actually use the idea, or that it goes wrong if they do.



Seeds vs Soil

Identify the best way to make all the decisions that matter, so you avoid a futile hunt for certainty.

Two gardeners want a beautiful flowerbed. Both prepare the soil. Then one spends months analysing soil chemistry and searching databases for the perfect plants... many of which still don't survive. The other simply throws down some mixed seeds. Not all sprout, but some grow – and she pulls up any she doesn't like. Use this tactic when you're stuck on a decision like: which idea customers will buy, which audience to target, or what functionality to build next.

Sow your seeds using *Hard Test, Easy Life*.

Seeds vs Soil

1. Gather your team around your workspace and ask them to list the decisions you need to make in the coming weeks. Write each decision in the form of a question, one question per sticky. For example, "*Should we focus on idea A, B or C?*".
2. Pull all the question stickies together in a clump, then:
   a. Say "for some questions, we can know for sure the right answer before we begin, if we do the analysis. Which one seems most like that type of question?" Place that sticky at the far right of your workspace and label it 'Soil'.
   b. Say "for other questions, no amount of prior analysis will tell us the right answer. We can only know for sure in hindsight. Which question seems most like that type?" Place the chosen question at the far left of your workspace and label it: 'Seeds'.
   c. Say "some questions are critical to answer right now, while others can wait. We want to leave all decisions until the last responsible moment, so we can keep our options open, and make each decision when we have most information." Add the labels 'Critical' and 'Can wait' at the top and bottom of your workspace.
3. Ask the group to rearrange the stickies between the extremes. Which are closer to Soil or Seeds? Which are Critical, and which Can wait? If you can't agree on a sticky, keep breaking it down into smaller questions until you can agree.
4. Draw a curvy boundary line to separate Seeds and Soil.
5. Ideally, leave Soil questions to later so you can focus on Seeds. But if you're under pressure to build something, give critical Soil questions to technical people who can answer them.
   Shaping Trios can help you get decent answers quickly.
6. For the most critical Seeds questions, probe ('plant') 3–6 plausible answers at the same time. Increase the range of ideas you can probe using ***Stretch Prompts***. Then use ***Hard Test, Easy Life*** to reduce the time and effort for each probe.

Time Machine

Predict how an idea might fail – so that you can avoid that future – by taking a trip in an imaginary time machine.

We all plan for our ideas to work out well. But few plans work as expected. If you're wrong about an important detail, you'll wish you'd known sooner. When you look backwards from a certain failure, you'll identify risks that are hard to see looking forwards. Use this method when you have a clear idea and are making a plan for how to work on it.

Pair this tactic with ***Disconfirmation Bias*** for more ideas. Afterwards, ***Multiverse Map*** to get more specific about the good and bad worlds.

Time Machine

When planning to build an idea that will take more than a few weeks to finish, gather your team around your workspace. At the top, write a summary of your plan for working on the idea.

1. Tell the group "We get in a time machine. When the door opens, it's <date> (when you'd see the results of your idea) and it's gone better than we ever dreamed! Look around, what's it like?".
   a. Ask everyone to write down what they can see and hear in this great future. One description per yellow sticky. (3-6 mins.)
   b. Gather all the stickies, then ask the group to quietly cluster together the ones that have a similar theme. (5-10 mins.)
   c. Summarise each cluster in 1–5 words on a green sticky. (4-6 mins.)
2. Tell the group: "We get back in the time machine. This time, when the door opens, it's <the same date> but in a parallel universe. Everything went so badly we wish we'd never started. What's it like? How did it go so wrong?"
   a. Ask everyone to write down what they can see and hear in this world – and what went wrong! One per yellow sticky. (3–6 mins.)

      Tip: remind people to visualise being in the future, looking back at the past. Try exaggerating how bad things are.
   b. Repeat the quiet clustering, then summarise each cluster in 1–5 words on an orange sticky. (10-15 mins.)
3. Move the green and orange summaries to a new area on your workspace. Pair up greens and oranges that are natural opposites, then add an opposite for any that don't have one. For example: *people want it/people don't want it.*
4. Ask everyone to vote for the three orange stickies they find scariest: outcomes that are both plausible and severe. Notice differences in fears between people. Probe the scariest pairs first, so that you can change the plan if needed, or collectively rethink the fears if not.

Next, make a ***Multiverse Map*** so you can get detailed about what customers will (or won't) do in the scariest green and orange pairs. This helps you design probes to find out if your fears come true or not, enabling you either to adapt your plan, or to build confidence in it.

 Origin: Gary Klein: Premortem, 2007

Solve For Distribution

Tell two simple stories so that you ensure people can first choose and then use your innovation.

The best product frequently doesn't win in the market. There are countless examples of 'better' products that lost to technically inferior rivals. Your innovation only needs to be *good enough*, and, importantly, to meet your customer where they are. When they struggle, are you there? Are you the obvious choice?

"Otherwise smart people continually, repeatedly underestimate distribution at their own peril." – Visakan Veerasamy

Next, use ***Hard Test, Easy Life*** to test whether customers will choose and use you as expected.

Solve For Distribution

Write two detailed stories about a specific person choosing and then using your innovation, as a sanity check that both stories hold up. If you can't use a real person, tell your stories about a hypothetical one.

1. The Product Story (the 'Use it' Story)
   - **a.** Describe a specific person with a specific struggle.
   - **b.** How have they already tried to make progress?
   - **c.** Why is what they've already tried not enough?
   - **d.** How does your idea fit into their life?
   - **e.** How does their life get better thanks to your idea?
2. The Distribution Story (the 'Choose it' Story)
   - **a.** In which moments are they aware of the struggle?
   - **b.** Where and how do they look for something to help them make progress?
   - **c.** So, how do they come across your idea?
   - **d.** What alternatives do they consider besides your idea?
   - **e.** Why specifically do they choose your idea?
   - **f.** How do they justify their choice to others?

Which story feels flimsier? Which relies on handwaving and hope?

Tip: vote with your team so you can see where others see the weak links.

- Product Story is weaker? Look for ***Real Needs*** to strengthen your story. Use ***Pain X-Ray*** to learn more.
- Distribution Story is weaker? Look for ***Want It Enough?*** signals. Use ***Documentary Conversation*** with people who made progress with the struggle.
- Both strong? Test them both as fast as you can using ***Language Market Fit*** and ***Be The Algorithm***.

Origin: Visakan Veerasamy, Liron Shapira

Hard Test, Easy Life

First deliver an incomplete, rough version of your idea, so that you learn how to do the hardest parts. Then you can confidently build the right complete, polished version.

"If you plan to train a troop of monkeys to juggle fire while standing on pedestals in the town square, don't build any pedestals until you've figured out how to get at least one monkey to juggle fire." – Astro Teller

This will help you tackle your biggest fear from ***Time Machine***. Next, you'll be able to design the right ***Behavioural Probe*** to look for the ***Want It Enough?*** signals that will put wind in your sails.

Hard Test, Easy Life

Gather your team around your workspace.

1. Write out what happens for your customer in their two key moments with your innovation:

   a. when they choose it (finding, assessing and buying it),

   b. when the most novel element makes their life better.

   Add these to a ***Multiverse Map***. Flesh out your thinking using the story prompts from ***Solve For Distribution***.

2. Next, ask "for only those two vital moments, how could we simulate them today – without building anything?". Brainstorm three options to do this by hand in a small but realistic way, and choose the fastest. (This is your hard test. If your customers get excited even though you're embarrassed by what you show them, then you're onto something.)

   Tip: get inspiration from ***Behavioural Probe***.

3. Write down the customer behaviours you'll need to see during your hard test in order to feel confident that your innovation will work as well as you expect.

   Tip: ***Pivot Triggers*** *will help you go deeper on this.*

4. Next, deliver your hard test. Sometimes it will go to plan, other times it will surprise you. Use ***Anatomy Of An Insight*** to make sense of what you learn. Iterate on the innovation and repeat the test as needed. After this, you'll know exactly what to build (and not build) for real.

A team started designing an insights dashboard by emailing an ugly spreadsheet to customers. It was easy to throw ideas away or change bits as they learned. After 10 iterations, they'd evolved an ugly-but-valuable 'dashboard' that got results. The final version was wildly different from what anyone had expected, but they were now confident about how to build the right thing effectively.

Complexity Heatmap

Create a heatmap that pinpoints your 'unknown unknowns'. Those are the high-risk parts of your innovation. Take control of them, and the rest is easy.

It feels comfortable to start with what we know, but it's much more effective to start with unknowns. When the unknowns are visible to everyone on the team, you can all join forces to reduce your risk of failure.

Layer this on ***Human Story Map***, ***Multiverse Map***, or ***Solve For Distribution*** to help you focus on the best places to start work.

Complexity Heatmap

1. Gather your team around the workspace where you have a list of items you need to build or figure out – for example, a plan or architecture diagram.

   Tip: if you don't have a list yet, use a ***Multiverse Map*** *to lay out the behaviours your plan must enable.*

2. Go item by item and ask the team: "who's done this exact thing before?".

   Add one coloured dot to each item to show:

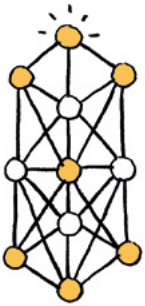
   - = *someone on the team has done this before*
   - = *someone in the company has done this before*
   - = *we know someone outside the company who's done this before*
   - = *we don't know anyone who's done this before*

   At the end, you'll have a heatmap. The red and orange dots show where you're facing unknown unknowns. These are the danger zones, where your plans, estimates and ideas are probably miles off – and they're what you need to work on first.

3. Following the session, focus your efforts on tackling the reds first, then the oranges. This way you find surprises quickly, while you can still adapt the plan.

   Tip: agree who's going to be responsible for each item.

Figure out whether to approach each item through analysis or experimentation using ***Seeds vs Soil***.



Multiverse Map

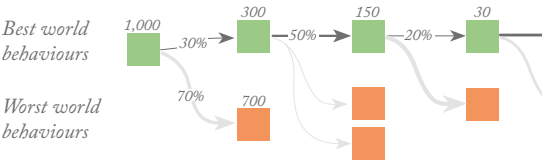
In a potential customer's shoes, tell the story of what they'll see and do with your innovation in the best and worst universes. Then you can spot – and amplify – the behaviours that are critical to success.

Teams obsess over the work that goes on behind the scenes of an innovation; customers only care if it can help them make progress with their struggle. Your story will cover a person finding, buying and using your idea (or not) to test how coherent your idea is.

"We're not optimising screens, we're optimising thought sequences." – Flint McLaughlin

This is excellent for unpacking the great and awful worlds you've identified with ***Time Machine***. Pair with ***Complexity Heatmap*** to highlight the steps in the story where you're most uncertain.

Multiverse Map



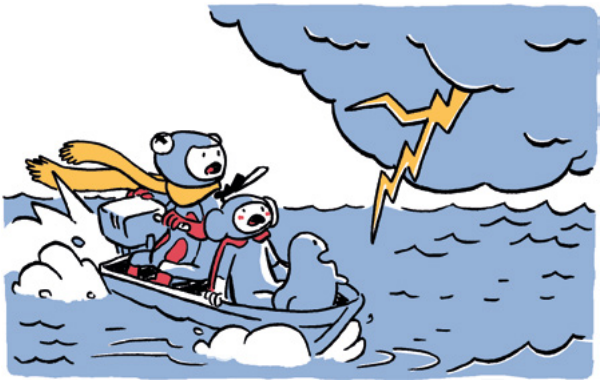
When you're discussing working on a new idea, gather your team around your workspace with your innovation's name at the top.

1. Ask: "when our work is done, in the best possible world, what will a future customer see first?" Write the answer on a green sticky. For example: *See an email titled 'New Magic Coffee Maker'.*
2. Ask: "and in the best possible world, what's the very next thing they do or see?" Write that on a green sticky to the right of the first. For example: *Open the email.*
3. Ask: "but in the worst possible world, what do they do or see instead of that?" Write the answer on an orange sticky underneath the green one you just wrote. For example: *Ignore the email.*
4. Repeat steps 2 and 3, describing what the customer sees and does, until the green stickies show complete success for them (and you).

   Tip: you can add multiple green or orange options for each step, but if a step has more than three options, break it into smaller steps. Remember: clarity comes from focusing only on the very best and very worst worlds.
5. To test whether your story makes sense from your potential customer's viewpoint, read it out as yourself. Rewrite, rearrange and add stickies until it makes sense. For example, *I see the email... wait, did I subscribe to emails? We need to add that step beforehand.*
6. Join your stickies up with arrows to make the flow easier to follow. Add percentages to the arrows to indicate how likely each branch is. You can use estimates until you get real data from analytics or probes. Finally, add numbers above the green stickies to show how many of an initial batch of customers might get through the story.

Next, ***Hard Test, Easy Life*** to find out which world you're in.

Origin: Jeff Patton, User Story Mapping



Pivot Triggers

Before you start the work, agree what you'll need to see from the world for you to feel confident about investing in your idea.

Your idea's success always depends on the behaviours of people and systems that are outside your control. So before you commit fully to an idea, set pivot triggers with your team. Agree how much of those critical behaviours will be enough for you to keep going. Promise to pause and rethink if you're not seeing them.

Identify areas you're least confident about using ***Time Machine*** and then target specific behaviours with a ***Multiverse Map***. Next, use a ***Behavioural Probe*** to get desired behaviours to happen.

Pivot Triggers

1. Gather your team around your workspace and record your answers to these questions on stickies:

   a. What behaviours do we need to see from a customer or a system when our idea is successful in the future? For example, *people click on adverts, system provides good data...*

      Tip: a ***Multiverse Map*** *shows you all these behaviours.*

   b. What tiny, rough version of our idea could we do today to be able to see a form of those behaviours? This is usually mostly work you'll need to do anyway. For example, *we could ask people to click in an email, check a sample of data...*

   c. How much of each behaviour will be just enough to give us confidence to keep going with our idea? For example, *7 clicks from 50 emails, 75% of the data sample is good...)*

2. Combine the answers to create Pivot Triggers: "we'll pivot if [we don't see enough of the agreed behaviour] by [date] when we [do the tiny, rough version of our idea]."

   Edit the sentence so it's easy to read. For example:

   - *We'll pivot if fewer than 3 out of 10 people agree to talk with us this week when we invite them to a call about the struggle our idea helps with. (This gets* ***Want It Enough?*** *signals.)*
   - *We'll pivot if more than 25% of the data from a sample of 20 customers that we pull today needs significant clean up before we're able to use it for our idea. (This gets* ***Worth It?*** *signals.)*

3. Share your triggers with everyone who would be affected by a decision to pivot. Set a date to check in, then get to work.

But what will we pivot to?

If you knew that, you'd already be doing it. What you learn from taking action now will lead to ideas you can't have today. A pivot can mean anything from a tweak of wording to starting again with an entirely new idea.

Want It Enough?

Probe for signals that people are willing to spend money (or time, effort, risk) on your innovation, so that you know for sure whether anyone truly wants it.

"Most new products will fail in the market even if competently executed. Make sure you are building The Right It before you build It right." – Alberto Savoia

Most innovations fail because people don't want them enough. But you can avoid this fate! Before you commit to building an innovation, make sure you've found people who've demonstrated that they want it enough.

Get ideas for how to collect these signals with ***Behavioural Probe***.
Know what people are trying to tell you with ***Universal Translator***.

Want It Enough?

Gather your team around your workspace and set the scene: "in the future, we need people to want our innovation...".

1. On stickies, ask the group to write down every moment when someone will pay in some way to get our idea:
   - When do they spend money, time or energy?
   - When do they take a risk, for instance sharing personal information or recommending it somewhere?

   Tip: it's clearer if you add the stickies to a ***Multiverse Map****.*

2. For each of the moments on the stickies, brainstorm ways you could prompt similar spending to happen today, using a small, local, rough, hand-done version of your idea. Will enough people spend time, money, or risk? For example:
   - Test interest in the topic with ***Recruitment Probe***.
   - Check enough people will be interested by collecting early sign-ups through ***Language Market Fit***.
   - When you get early sales, see if customers follow through by simulating the idea using ***Be The Algorithm***.
   - Use ***Behavioural Probes*** to generate more ideas.

   Tip: some people worry that probes like these might harm their brand somehow. Use a new, invented brand instead.

3. Before a probe, set ***Pivot Triggers*** to agree what signals you need to see for you to feel confident that people want it enough.

What if people don't want it enough (yet)?

Do a ***Diagnostic 'Shop Along'*** with potential customers while they're looking at your idea or marketing materials to help you pinpoint what's stopping them from paying. Use ***Four Forces*** to identify what you need to fix, add or remove.

Warning: don't trust opinions and advice! Use ***Universal Translator*** to understand what people are trying to tell you.

Get It?

Before people can want your innovation, they need to be able to understand it. Probe for signals of confusion so that you can fix your pitch.

Often, we assume that people will just 'get' what we're making. But what's clear to you often isn't clear to others. To check if you're missing the mark, collect *Get It?* signals by paying attention to how someone new experiences your sales pitch or innovation.

"If you confuse, you lose." – Donald Miller

Collect signals with a ***'Huh?' Test***. Pair with ***Pitch Provocations*** and ***Language Market Fit*** so you can explain your ideas clearly.

Get It?

1. Gather your team around a workspace and set the scene: "In the future, we need potential customers to understand our innovation – or they can't *want* or *use* it! On stickies, write all the moments when they first encounter our idea or need to know how it works." For example, *they first see an ad, they choose to pay, they start using it for the first time...*

   Tip: it helps to add these to a ***Multiverse Map****.*

2. Use the stickies as an outline for ***Punchy Prototypes***, starting with a rough first draft of the words.

3. ***'Huh?' Test*** the prototype with 2-4 potential customers so you can spot these signals when people *don't* get it:

   - they stumble or get lost while reading the words out loud ➡ *the writing is too hard to read and/or follow.*
   - they can't recall what they just read ➡ *the message is too complicated, or there's just too much information at once.*
   - when they summarise what they just read, it's not what you intended ➡ *something's unclear or misleading.*
   - they ask lots of questions ➡ *information is missing. Try to avoid answering directly. Instead, learn what's behind the questions by asking "what do you think the answer should be?".*
   - they make errors when completing a form or navigating through screens ➡ *there are usability problems to fix.*

4. Based on what you learned, improve your prototypes.

   Tip: consider setting ***Pivot Triggers****: we'll edit our prototype if one in five people don't 'get it' without us explaining.*

5. Repeat steps 3 and 4 with different groups until you've made your prototype clear enough (which often takes around three rounds of changes). You'll know you've nailed it when you see their eyes light up in an 'aha!' moment.

   Tip: expect big changes after the first test. After you've got the words working well, it's time to invest in visual design.

Next, once people 'get it', see if they ***Want It Enough?***.

Worth It?

Probe for signals that help you understand what it will take to build and operate an innovation, so you can be confident that it will be profitable.

Most innovations end up being harder to build and more expensive to maintain than anyone expected at the start. In some cases, they're so expensive that they don't make financial sense, and it would be better if you'd never even started. Ground your innovation in your organisation's operational reality.

Beforehand, use ***Time Machine*** to understand your team's concerns regarding the viability of your innovation. Pair with ***Want It Enough?*** to balance what people might pay against what it'll cost you.

Worth It?

1. Gather your team around your workspace and set the scene: "Shipping our innovation isn't worth it if we can't make more from it than it costs us. We can't predict all our costs before we start, but we can look for signals that give us an indication while we start designing and building.".

2. Together, lay out your innovation as a ***Multiverse Map***.

   Tip: if the map is frustrating to make, your idea has too many unknowns – a signal that it'll be harder to build than hoped.

3. Add stickies to the map describing the upfront build effort and the ongoing support effort. For example: *one week to integrate with map service, hire extra customer support person to do 20 hours/week of onboarding work...*

4. Probe for 'worth it' signals with one of the following, setting ***Pivot Triggers*** for the level of effort you anticipate.

   - Make ***Punchy Prototypes*** to get a sense for the real constraints you're working with. Example pivot trigger: *we'll pivot if more than 20% of the data in a sample needs cleaning before we can use it.*
   - Learn how hard the build is going to be by making a ***Walking Skeleton***. Example pivot triggers: *we'll pivot if the walking skeleton takes us more than a week; we'll pivot if a third-party service we'd rely on has more than 5% downtime.*
   - To learn the most, simulate the innovation for a customer (then three, then 10) using ***Be The Algorithm***. You'll find parts you don't need and parts you missed. You'll expand, improve and simplify your plan. Example pivot trigger: *we'll pivot if our expected customer support costs rise by 400%.*

Then once you're confident in what it'll really take to launch your innovation and that it's still worth it, build it for real.

Probe

Be The Algorithm

Operate your innovation by hand first, so that you can build it better, faster.

The details of an innovation never quite work how you expect – either for you or your customers. When you deliver it manually first, you can learn and adapt quickly. In extreme cases, you can bypass years of redesigning hardware or rewriting bloated, buggy software by doing an intense week or two of learning.

"Start with things that don't scale." – Reid Hoffman

Before, identify the core value to deliver using ***Hard Test, Easy Life***. Pair with ***Behavioural Probes*** to get more ideas for illusions.

Be The Algorithm

1. Gather your team and set the scene: "Imagine that our future innovation is a 'mystery machine' – a metal box that takes inputs from a customer and delivers them outputs. On stickies, write down the inputs and outputs.".

   For example, *calendar -> machine -> more efficient schedule*.

2. Open up the mystery machine to see how it turns inputs into outputs. On stickies, list the steps it follows.

   For example: *AI reads calendar data, moves meetings based on rules and equations.*

3. Brainstorm ways that you can create the illusion of the mystery machine working for real by 'hiding' humans and existing tools inside the box. It'll take the inputs and deliver the outputs, but there are people following the steps you listed, not technology.

   Tip: the outputs should be unpolished – hideous even – and can be in a different format, as long as they deliver the real value.

   For example:

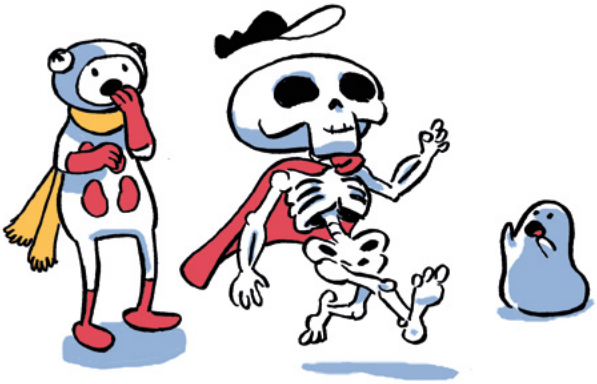
   - *Download someone's calendar data and have a data scientist apply the rules and equations in place of the AI.*
   - *Robotic laundry folder? Hide in a hollowed-out tumble dryer.*
   - *Hand-make a spreadsheet to do the job of a whizzy dashboard.*

4. Deliver your illusory innovation to a real customer. You may learn there are missing, jumbled or unnecessary steps, bad data, or confusing messages. The customer might want different outputs.

5. With nothing set in stone, it's easy to improve your machine then try again with more customers. Keep repeating. You'll make many changes at first, and fewer with each repetition.

Look for when your machine stops changing. You'll understand the steps and outputs so well, it'll be easy to design and build for real.

Tip: many ideas are never used enough use to be worth automating. Set a ***Pivot Trigger****: we'll build when we have more than N users a day.*



Walking Skeleton

When building software, first join up just enough of the bones to make one tiny function work from end to end. That way you'll find nasty surprises early.

It's not the technology under your control that trips you up, it's third parties, APIs, services, data, dependencies, subcontractors... they rarely behave as expected.

"It needn't use the final architecture, but it should link together the main architectural components. The architecture and the functionality can then evolve in parallel." – Alastair Cockburn

Before, make a ***Multiverse Map***. Pair with ***Worth It?*** signals, so that you get more confidence in your idea really working.

Walking Skeleton

1. Gather your team around your workspace and set the scene: "in the future when our innovation is working, it will rely on systems we don't fully control".

2. On stickies, ask the group to write down every third party, API, service, data, dependency, or subcontractor that your innovation will eventually rely on.

   Tip: ***Multiverse Map*** *will help you spot more of these.*

3. Make a plan for how you could cobble together a bare-bones version of your idea that connects up all the stickies. The version you build doesn't need to be valuable at this point – aim for the simplest version that can perform one small end-to-end function. For example, *a team planned a walking skeleton that would simply grab one single job advert from one service, change its format, and then push it to another website.*

4. Set ***Pivot Triggers*** based on how long you think it should take you to get that skeleton walking. For example, *we'll pivot if the walking skeleton takes us more than a week.*

Next, get to work on your plan. As you do, pay attention to ***Worth It?*** signals. Does it take longer than expected? How much longer? Are any third parties really annoying to work with? Is all the data you need available, and is it in a format you can work with?

For example, *the 'job ad' walking skeleton took three times longer than expected and the team found that critical documentation was inaccurate. Happily, they hadn't invested much in the project yet, so they could change course easily.*

Language Market Fit

Find the words that resonate with your potential customers so that you know your innovation will actually connect with them before you build it.

You can test and iterate words a lot faster than code or even designs. Putting out basic ads is a cheap testing mechanism to gauge market demand. (You're not trying to optimise advertising as a marketing channel.)

"When you can articulate your customers' goals, struggles and anxieties in simple, precise language, your team won't have to guess at what to build." – Matt Lerner

Before, use ***Pain X-Ray*** to capture your audience's language.

Language Market Fit

Tim Ferriss tested dozens of titles for his first book using Google adverts. 'The Four Hour Work Week' piqued the interest of his audience and spent four years as a New York Times Bestseller. Love 'em or hate 'em, the words worked.

1. Draft 25 different advert headlines for your idea, ideally using words your audience would use. Instead of vague marketing platitudes like 'faster', 'revolutionary' or 'convenient', be specific. For example: "*Photo books in 5 minutes*" was 4x more effective than "*Fast Easy Photo Books*".

2. Show someone each headline for 5 seconds then take it away. (See more advice in ***'Huh?' Test***.) Ask them:

   - Can you tell me what that said? (If they can't recall the words, you need to simplify the language.)
   - What do you think this could do for you? (If they can't link the headline to a struggle, it's not clear.)

3. Improve your best 6-10 headlines. Then create several copies of a simple ad design and run the ad with the different headlines so you can see which get clicks. Link the ads to a simple form where people can leave details to register their interest.

4. Set ***Pivot Triggers*** for the level of clicks and sign-ups you'll need to see to feel confident that any of the headlines are working. For example: *we'll pivot if fewer than 20% of people who arrive on the form give us their contact details.*

5. Launch the ads to see which get clicks and sign-ups.

Hone the best idea using ***Be The Algorithm*** with people who signed up. (No sign-ups? Start again with fresh ideas.)

Recruitment Probe

Get early signals that people could be interested in solving a frustration by inviting them to chat about it.

If you can't find people to research with, how will you find them to sell to? Before you build anything, you need to test your beliefs about the audience you plan to sell to. You'll learn a lot about what to build from people who'll talk about a problem with you before you've built a solution. (It's also a signal if nobody will show up.)

After people sign up, arrange a ***Documentary Conversation*** to learn about their lives, or use ***Pitch Provocations*** to test ideas.

Recruitment Probe

1. Write a short invitation asking people to speak with you. Mention:
   - the area of life and the struggle you want to talk about with them, described using your audience's language,
   - that you're not trying to sell them anything,
   - that you'll share what you've learned about how others have made progress with this struggle.

   Tip: when using this to collect ***Want It Enough?*** *signals, don't offer an incentive. You need them to pay you (with time). Earlier, when looking for* ***Real Needs*** *or* ***Get It?*** *signals, more people will speak with you if you offer to pay.*

2. Set up an easy way for people to accept:
   - use an automated booking service or tool,
   - offer three suggested times for a call in your message,
   - ask them to fill in a form, then follow up yourself. Make sure you can book calls in quickly.

   Tip: don't offer dates more than two weeks in the future. The longer the delay, the less likely it is they will show up.

3. Set ***Pivot Triggers*** so you can adapt quickly if too few people are interested. For example, *we'll change our idea (or advert) if fewer than three out of 20 people show up for a chat.*

4. Get your invitation in front of people where they are:
   - noticeboard in a community centre + phone number,
   - direct message on a social media site they use,
   - ask your friends to share a social media post,
   - put out an online advert linking to a sign-up form.

   Tip: cast your net wide at first. Later, use a ***Screener*** *if you need to filter for specific people.*

Behavioural Probe

Sell a tiny, pretend or alternative version of your idea before you actually build it, so you know if it has legs.

When he wanted to launch a new dessert, the inventor of Gü puddings didn't use a kitchen – he designed and printed some empty boxes. Then he snuck them onto a supermarket shelf and watched what shoppers did. While innovators care a lot about the inner workings of their innovation, customers only care about the promise and the results. This means you have lots of different ways to test your ideas in the market – without needing to build any inner workings.

Pair with ***Want It Enough?*** signals to identify the behaviours you need to probe for.

Behavioural Probe

1. Brainstorm how you could apply each of these behavioural probes to your innovation and what it could teach you:
   a. Pre-alpha partnership: customers spend time working with you to develop your idea, in return for early access.
   b. Concierge service: customers pay to get the results that an innovation will deliver, but it's openly done by people.
   c. Movie magic: bring your innovation to life as a video and ask people to sign up for more info, or place a pre-order.
   d. One-time offer: offer your idea on a limited basis to gauge interest. *Airbnb's founders first offered their own apartment.*
   e. Provincial: before committing at scale, check for interest by running a local, private, informal version.
   f. Infiltrator: sneak an empty box onto the shelves of a real store to see if people will pick it up. Then talk with them.
   g. Impostor: tweak an existing product or service so it can impersonate your idea. *Tesla adapted a Lotus Roadster.*
   h. Pop-up: invite people to a presentation about the subject.
   i. Scaled-back: ask people to pay less for a small equivalent to the idea. *Many finance apps started life as a $5 spreadsheet.*
   j. Pre-orders: gauge interest in your idea through adverts and a sign-up form, using ***Language Market Fit***.
   k. Agony Aunt: ensure you're tackling a real need by inviting people to tell you all about it, using ***Recruitment Probe***.
   l. Fake it before you make it: simulate your idea actually working for customers, using ***Be The Algorithm***.
2. Choose the most promising behavioural probe to try, or combine a few. Set ***Pivot Triggers*** and put it into action!

‘Huh?’ Test

Get someone’s gut reaction to your work to see if they understand it – so you know what needs improving.

Feedback helps you improve writing or design work: adverts, landing pages, pitch decks, registration forms, articles, realistic prototypes, even complete products...

“Remember: when people tell you something’s wrong or doesn’t work for them, they are almost always right. When they tell you exactly what they think is wrong and how to fix it, they are almost always wrong.” – Neil Gaiman

Use ***User Session Outline*** to start a test. Look for ***Get It?*** signals and turn their feedback into insights with ***Universal Translator***. Next, share a ***Speedy Synthesis*** with your team.

'Huh?' Test

You'll learn fastest by testing draft work that's only 20–50% 'done' – with less invested, it's easier to hear feedback and make changes.

1. Book time with someone who's unfamiliar with the work. Ideally this is a customer, but a friend can suffice. Allow 20–60 minutes depending on the amount of work to test.

   Tip: let them know you're testing the work (not them), that you need their brutal feedback, and that they can't hurt your feelings.

2. Describe a real scenario in which the person you're talking with might come across the work: *"Imagine [a friend sends you a link/ you're in a shop. etc.] and you see the following..."*.

3. Show them the work. Don't explain it. You need to know how people will experience it without you there to explain.

4. Invite them to experience the work as naturally as possible. Encourage them to give you a 'sports commentary' of their thoughts and feelings as they go through it. Ask them to read the words aloud.

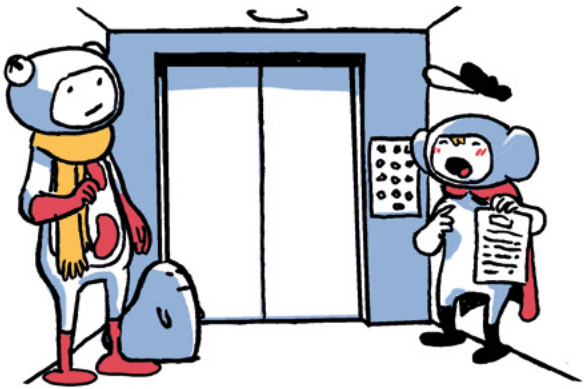
5. Watch for clues of Boredom, Interest, Surprise, Confusion (BISC): stumbles, pauses, expressions, body language...

6. When they get stuck or you're curious about their reaction, prompt with open questions: "What might this be about?"; "Talk me through what you see. What jumped out?"; "What do you expect happens next?"; "What do you think it *should* say?" See 🔧 ***Question Cheat Sheet*** for more ideas.

   Tip: don't correct them or justify anything. When you notice they misunderstood, note down what you haven't made clear enough.

7. At the end, ask them to summarise what they experienced in their own words. Even when someone thinks your idea made sense, what they interpreted may not be what you intended.

Next, improve the work based on what you learned and repeat the test with more people until everyone 'gets it' well enough.



Pitch Provocations

See how potential customers respond to a range of teaser adverts for ideas that don't exist yet, so that you can decide which of them to invest your effort into.

Use this tactic when you need to decide between lots of ideas. By showing many different concepts to a potential customer, you'll filter for those that resonate strongest, while also clarifying the ideas and explanations. (Occasionally you even get an amazing new idea you hadn't thought of because someone misunderstands a pitch.)

Beforehand, generate ideas using ***Box Clever*** and ***10-Star Experience***, or come up with fixes to problems from ***Pain X-Ray***.

Pitch Provocations

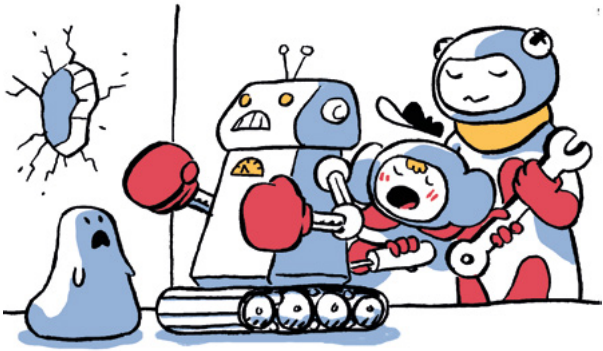
Idea Name
One-sentence elevator pitch

Illustration of the concept (usually a rough sketch showing a screen, object or person.)

1. Gather your team and draft 25 pitches for opportunities/ideas you've identified, one concept per pitch (as above).
2. Choose a set of 6-8 pitches to test. Make them as varied as possible. Tidy up your chosen pitches so they're clear.
3. Do five individual 1-hour ***'Huh?' Tests*** with five potential customers. Spend 6 minutes on each pitch:
   a. Show them the pitch (2–3 mins). Don't explain, simply ask them to talk you through their thoughts as they interpret it. Note down their words and reactions. Notice their emotions: are they dubious or do their eyes light up?
   b. Ask a few questions about their take (3–4 mins):
      - In your own words, what do you think this is?
      - What already exists that does something like this?
      - What might you be able to do differently if you had this?
      - Imagine you tried this and it sucked. What went wrong?

   Tip: write down their interpretation for later. Even if they got it 'wrong', it may reveal other needs, or spark even better ideas.
4. In the last 10 minutes, have them do a ***2D Comparison*** between all the pitches. Ask them to talk you through their thinking as they compare the ideas.

Next, for the most promising 1-3 ideas, probe for ***Want It Enough?*** signals using ***Language Market Fit***. Borrow the words your potential customers used to describe each idea.



Punchy Prototypes

Prototype to learn instead of to validate, so you can understand the unavoidable tradeoffs and choose from a range of possibilities – without getting wedded to one idea.

The awkward truth: most prototypes aren't effective because they are too polished and expensive, and they're made one at a time. The secret is to make as many as you can in parallel, as quickly and cheaply as you can, to show you all the ways you're wrong.

"When we draw our ideas, they talk back to us" – Teresa Torres

Before, make outlines for your prototype with ***Multiverse Map***.
Pair with ***Stretch Prompts*** to generate a wider range of ideas.

Punchy Prototypes

Prototype thought sequences by starting with the conversation

When my team designed the first ever open-banking flow, we started with a ***'Huh?' Test*** of only the words in a text editor. After two days iterating only the text, we nailed down the words that inspired the intended thought sequence. Then it was easy to design good-looking screens around those words. The resulting experience got more than twice the anticipated uptake.

Tip: to get to a quick first draft of the words, imagine your innovation is a person chatting with a user and write out a plausible real-world conversation. For example: Machine: "Good morning, can I make you a coffee?"; User (bleary eyed): "Oh yes please! What types can you make?", etc.

Figure out big picture first, then zoom in to the details

"If the customer problem is 'getting from point A to point B', you could show them an airplane, a submarine, or a car. Once you know they need a car, you could show them a Prius, an SUV, or a pickup truck – to help them tradeoff size and utility against fuel efficiency." – Bob Moesta

Understand the tradeoffs you need to make by testing many 'wrong' prototypes in parallel

Bob was prototyping dish soap. He mixed 18 different combinations of the active ingredients to understand how they interacted. The final product wasn't any of the 18, but testing the range of recipes in parallel gave the team the understanding they needed to make the right tradeoffs, including foaminess, cleaning power and cost.

"You can't make the 'best' product because you will lose money. You have to make tradeoffs, which ultimately allow you to design and innovate solutions that achieve the performance you want." – Bob Moesta

Speedy Synthesis

To get the most out of every session with a customer or potential customer, summarise your observations immediately afterwards.

Your memory of a conversation will fade after only a few minutes. Even if you took notes, it quickly gets harder to make sense of them. By taking 20 minutes to synthesise your thoughts while they're fresh, you won't miss out on valuable insights.

Use after any interaction with a customer, such as ***Documentary Conversation***, ***Diagnostic 'Shop Along'*** or ***'Huh?' Test***.

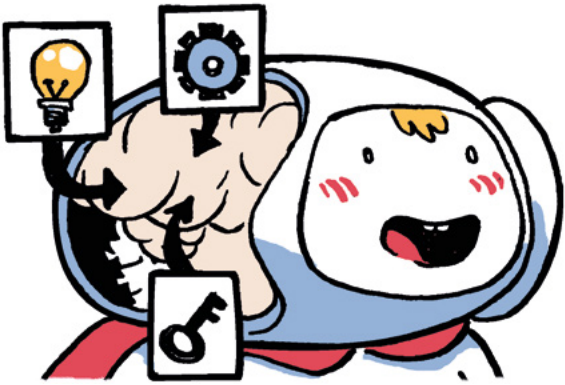
Speedy Synthesis

Immediately after a session with a customer or potential customer, gather everyone from your team who attended around a printed or drawn copy of the template shown below.

Optional photo	*Customer name* *Short description*	***Synopsis*** *(write this last)* *1–2 lines that sum up what you learned.*
Observations *The most interesting observations (and interpretations) you made.*	*"Memorable quote"*	***Inspiration*** *Solutions, ideas and fixes you thought of.*
Questions *New questions and puzzles you're wondering about now.*		
(Optional) add a ***Human Story Map*** *showing tasks they did, plus stickies for moments of emotion (pain, joy, frustration, confusion...)*		

1. On stickies, ask each person to write down the 3-5 observations that most jumped out at them in the session.
2. Ask everyone to read their stickies out loud as they add them to the template. You'll hear about behaviours they saw and quotes they heard, but also:
   - Interpretations: what they thought was going on for the person ➡ ask what observations triggered that thought and add those to stickies too.
   - Inspiration: they thought of a solution, idea or fix ➡ ask what observations inspired them and add those too.
3. Write the synopsis. To help focus this, bring to mind a colleague who wasn't present in the session and ask yourself "what's the one thing they most need to know?"

Finally, move the template and stickies to a ***CSI Pinboard*** so you can combine many sessions over time and see patterns.



Anatomy Of An Insight

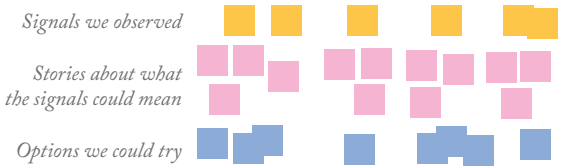
Tell more than one story about the situation you're observing so you can decide on your best next action.

This tactic helps you separate what you've seen or heard (*signals*) from what you believe it means (*stories*) and what you think you should do next (*options*).

"Insights can be described as unexpected shifts to a better story... they transform how we see and feel about the world. Once they are gained, we cannot go back" – Gary Klein

Beforehand, probe for ***Get It?***, ***Want It Enough?***, or ***Worth It?*** signals. You can also use this any time you need to decide: what next?

Anatomy Of An Insight



Right after completing a probe that did or didn't hit the 🖐 ***Pivot Triggers*** you set, gather the team around your workspace.

1. Set the scene: "our probe gave us numerical *signals* for our 🖐 ***Pivot Triggers***. We also saw other *signals*, for example: what people said and did, and what occurred to us as we probed. Given all the *signals* we have, we need to decide: do we continue with, abandon, or adapt our idea?"
2. On yellow stickies, have the group list *signals* they observed.
3. Say "given those *signals*, what's an *option* for an action that we might take next? Write that *option* on a blue sticky."
4. Ask: "what *story* jumps to mind that explains why that *option* is a good response to those *signals*? Write it on a pink sticky."
5. Say "that *story* we're telling ourselves limits what we can see and do in the world. On more pink stickies, write at least two alternative *stories* that could explain the *signals*. As you add *stories*, also add any new *signals* you realise you'd forgotten."
6. Say "for each new *story* you added, what other *options* for action would make sense? Add those on more blue stickies." For example, *do a* 🎶 ***'Huh?' Test****, try different ads, kill the idea.*
7. Have the group vote on the *stories* that resonate most with them. The pattern of voting usually reveals a dominant theme or two for what might be going on.
8. In light of the vote, revisit your original idea. Do you feel you want to keep going, abandon it for a better idea, or adapt it?

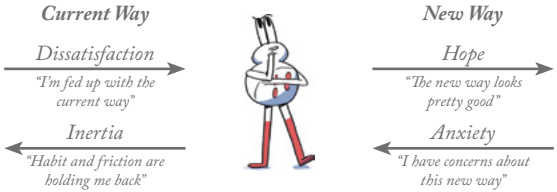
Four Forces

Learn how to influence your customers' decisions by finding out what drives their behaviour.

It takes energy to switch to a new way of doing something. This model unpicks the forces that push and pull on someone's emotions while they're making a decision – for example, whether to buy your innovation. Use this to pinpoint where your audience is dissatisfied, so you can bring hope through innovation. Later, use it to make your innovation's sales pitch compelling.

Use this after a ***Diagnostic 'Shop Along'*** to come up with fixes.
Pair with ***Real Needs*** and ***Switch Timeline*** to find opportunities.

Four Forces



Gather your team around a copy of the diagram above.

1. On stickies near each force's arrow, ask the group to list explanations for how that force affects customers' emotions. For example: *the new home looks so nice!* (Hope), but also *what would I do with my furniture? It'd look dreadful here!* (Anxiety).

   Tip: jog your memory using your notes from ***Speedy Synthesis****.*

2. Read through all the forces you've listed and add dots to the three that you believe have the biggest effect.

   Tip: if you have very few stickies around one arrow, it's a sign to look closer: it may indicate there's a hidden factor playing a role.

3. On stickies, list ideas for what to do about the big forces:

   - Dissatisfaction: most change starts when someone becomes aware of this. Are you addressing urgent ***Real Needs***?
   - Hope: the value of the new way needs to be crystal clear. Have you nailed your ***Language Market Fit***?
   - Anxiety: fear of risks (especially feeling silly) hold us back. Do a ***Time Machine*** exercise with potential customers to uncover their hidden hopes and fears.
   - Inertia: it takes effort to overcome friction. Sweep obstacles off the path to change using ***Diagnostic 'Shop Along'***.

Tip: people often won't make a decision without time pressure. Can you identify a 'tipping point' for them, and be there in that moment? For example: moving home, registration deadline, early-bird offer.

CSI Pinboard

Unlock insights by making use of your brain's natural ability to spot patterns across lots of observations.

As annoying as it might be, you can't draw a direct line from a few observations to an innovation. Instead, expose your intuition to all of your observations so it can pattern-match and make an insightful leap. When you put all your notes on stickies in one place, you can see them all together, extending your working memory and enabling your spatial intelligence.

Before, use ***Diagnostic 'Shop Along'***, ***Documentary Conversation*** or ***Observation*** – capture notes using ***Speedy Synthesis***.

CSI Pinboard

1. Gather or write notes about observations, struggles, tasks, needs, quotes, etc and write them down, one per sticky, until you have a big jumble of notes on your workspace

   Tip: use ***Speedy Synthesis*** *after customer conversations to generate great notes.*

2. Scan the pile for stickies that feel like they belong together (similar theme, story or vibe). Sometimes, you might sense they go together even if you can't put your finger on why. Group those stickies into a cluster. On a different coloured sticky, name the cluster, so you can see more at a glance.

   Tip: don't try to get it 'right'. Start anywhere and keep remixing and renaming your clusters; if you had the answer already, it wouldn't be innovation.

3. Keep grouping. Don't be afraid to break up, change, combine or subdivide clusters.

   Tip: try weird clusters to help your brain spot novel patterns.

4. As you shuffle and remix, you'll find ideas, opportunities and insights pop into your head. Add them to the board!

A few more ideas to inspire you as you play with the clusters:

- Grab two random stickies. Work out what connects them.
- Paradox: how can two contradictory stickies *both* be true?
- Pull out your favourite stickies. Why do you like them?
- And what *don't* you like about the stickies that irritate you?
- Make 2x2s, trying different labels for axes. Arrange the stickies into the quadrants. Do gaps reveal blind spots?
- Write a haiku about what the clusters want to tell you.
- Say "there are three main connections under all this mess. They are...". Surprise yourself with what you say next.
- Present it to a friend (or rubber duck if you've no friends).

Universal Translator

Know what potential customers are trying to tell you when they offer opinions or excuses, so you can understand and fix the real problems.

Humans don't have conscious access to our decision-making brain-bits, so the reasons we give for our decisions are only clues. This guide decodes the clues so you know what to do.

"People don't think what they feel, don't say what they think and don't do what they say." – David Ogilvy

Pair with ***'Huh?' Test*** or ***Pitch Provocations*** so you understand the feedback people give you on your ideas.

Universal Translator

Critique: "Too many words"/"Needs some pictures/colour"

Means: What I perceive here feels so low value to me that my brain wants me to stop reading (but I still want to be helpful).

Consider: Do they have the ***Real Needs*** you address? If they do, check that they ***Get It?*** and ***Want It Enough***?

Try: ***Language Market Fit*** to find a compelling message.

Haggling: "It costs too much"/"Can you do a discount?"

Means: What I perceive here feels lower value to me than other things that I'd spend a similar amount on.

Consider: This means they didn't ***Want It Enough***. Are they in your market? Have they ever spent money on this need?

Try: ***Pain X-Ray*** to understand the pain behind the need. Show a range of ***Pitch Provocations*** to find a way to express your idea that feels higher value to them.

Excuses: "I don't have time now"/"I'll bookmark for later"

Means: What I perceive here isn't a priority for me at the moment. There's no incentive for me to take the risk now.

Consider: Is this one of their ***Real Needs***? They still may not ***Want It Enough***, or they may be worried about risks.

Try: ***Four Forces*** to help you remove friction, address their anxieties, or give them a reason to act now.

Praise: "I really like this!"/"Cool!"/"People need this!"

Means: I want to say something nice...

Consider: Don't pay any attention to this signal! People liking an idea doesn't mean they'll buy it or use it. Instead, look for clear ***Want It Enough***? signals.

2D Comparison

Get a potential customer or a team to compare possibilities, so you learn what they prefer – and what lies behind their subjective choices.

If you ask what people desire without giving them options, most want 'simple, powerful, best quality AND cheap!' – they ignore unavoidable tradeoffs. Comparison helps uncover which they value most.

"We have no absolute idea of how much we value any object, service or experience. All we have is comparison between similar things. I compare my present meal with other, similar meals." – Phil Barden

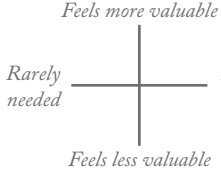
Before, use ***Pitch Provocations*** so you have ideas to compare. You can use this with other sets of material that aren't simple to compare.

2D Comparison

While talking with a potential customer about a range of ***Pitch Provocations*** you're considering, or with a team about a subjective decision, for example brand guidelines...

1. Bring the range of items to be compared, with each written or printed on a separate label so it can be easily moved around. With a potential customer, this will be 6–12 pitches you've made for new product ideas. With a team, gather 20–30 differently-styled illustrations to figure out aesthetics, or 30 varied snippets of copy to figure out your tone of voice.

2. Draw two axes on a large surface and label them with two subjective judgements you'd like to explore:



Other subjective scales to try:
- *Feels exciting*
- *Feels "like" us/you*
- *Feels believable for you/us*
- *Feels cool*
- *Feels clear*

3. Have the person or team plot all the items where they feel they should sit on the two dimensions. It's easiest to repeatedly compare two items at a time: "this one feels a bit more valuable than that one, because...".

4. Ask them to talk you through their thinking as they go. The reasons why they're moving items are more valuable than the items' final positions. You learn the most from items that people disagree about. Dig for the nuance.

For teams, save the groups of 'most like us' and 'least like us' and use them to train new members, or create clear briefs.

After a few sessions with potential customers, use ***Probe-based Innovation*** to develop 1-3 of the strongest ideas.

Incentives

Speak with people who don't naturally want to speak with you by paying them in some way.

It's easy to get fans to talk with you. But indifferent people will often talk with you for as little as $25. Besides, when someone talks with you, you get something valuable from them. It's only reasonable to compensate people for their time and effort.

Use this to encourage people into a ***Documentary Conversation*** or ***Diagnostic 'Shop Along'*** with you.

Incentives

Cash incentives are simple and easy to understand...

- Offer money in a gift envelope, or credit on a gift card.
- Give a voucher for a store, or a free month of your service.
- Offer entry into a sweepstake – a chance at a big prize can be more compelling than a small amount of money.

... but indirect incentives can work better for busy or high-income people.

- Make a charity donation on their behalf. Send them the evidence afterwards. For example, plant a bunch of trees and send them photos.
- Offer them something money can't buy. Do you know someone they'd want to meet? Can you grant them a behind-the-scenes tour, or tickets to an exclusive event? You'll need to stretch yourself and be creative for this one.
- A thoughtful gift is a nice touch for people who've helped you out without being offered an incentive upfront.

  Tip: if you listen to them carefully, you'll pick up on gift ideas.

You may need to try a few different incentives to learn what works well for your audience. Consider:

- Offer different incentives for fans vs haters. For example, a happy customer might jump at a free month of service, but it's unlikely to interest people who cancelled their account.
- Incentives can also bias people so you get bad signals. Never use incentives when looking for ***Want It Enough?*** signals, for example doing a ***Recruitment Probe***. Then you need to know if they will pay you (with their time).
- Watch out: some people will lie on a ***Screener*** to get their hands on an incentive.

Support

User Session Outline

Follow a simple outline when you talk with customers, so you avoid wasting precious time.

When talking with customers, there can be an overwhelming amount to pay attention to. Following an outline gives your brain a break. Adapt this basic version to suit your situation. This outline is designed for 25-60 minute sessions and optimised for innovation. It builds rapport so people open up about their struggles – whereas treating them like test subjects tends to put them on the defensive.

Wrap this outline around a ***Documentary Conversation***, ***'Huh?' Test***, ***Diagnostic 'Shop Along'*** or ***Pitch Provocations***.

User Session Outline

Before the session, prepare any observers and note-takers:

- Ask them to save questions till the end. Interruptions can disrupt the flow of a conversation too much.
- Suggest specifics they can look out for. For example, body language cues: when does the person lean in or recoil?

1. Welcome the person and get housekeeping out of the way:

- Briefly remind them what this session is for.
- Have them sign any forms your organisation needs (for example, their consent for the session to be recorded).
- Explain your organisation's ethical and data policies.
- Pay them the 🔧 ***Incentive*** if you promised one.
- If you're recording the session, don't forget to press go!

2. Break the ice with small talk. Ask easy questions to find something in common. Spend at least a few minutes to build rapport and connect with them, human to human.

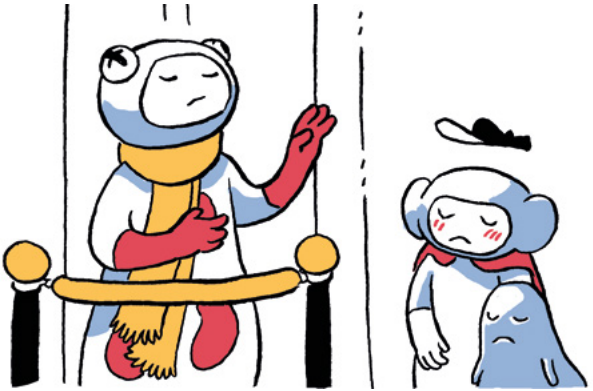
Tip: pay close attention to the dynamics so you can notice the subtle 'click' when they relax.

3. Go into the meat of your session, whether that's a 🏔 ***Documentary Conversation***, 🫧 ***'Huh?' Test***, 🏔 ***Diagnostic 'Shop Along'*** or 🫧 ***Pitch Provocations***. If you're using several tactics, do the most important first.

Tip: be ready to improvise. Expect the unexpected! Your plan isn't a stone tablet, it's a starting point for learning. Go with the flow and don't cut interesting tangents short.

4. Respect everyone's time. If you want to run over, ask the participant if that's OK at least 10 minutes before the end.

5. Thank the participant and answer any questions they still have that you couldn't answer during the session.



Screeners

Make every research session count by filtering to find the people you really want to speak with.

Your time speaking with your audience is precious. A screener is a short survey that helps you filter participants according to what you're looking to find out.

"You can learn valuable things by asking the right people the wrong questions. If you're talking to the wrong people, it doesn't matter what you ask." – Erika Hall

Pair with ***Documentary Conversation*** or ***Pitch Provocations*** so you spend more time with the right potential customers. Use after a ***Recruitment Probe*** to see if respondents answer as you expected.

Screeners

Avoid screeners when you're learning about a new audience. Early on, the diversity of behaviour in an audience matters, and it's too easy to accidentally exclude people you need to hear from. Start screening when you can confidently pinpoint factors that make a subset of your audience less relevant.

Include three multiple-choice questions to filter for factors like life role or industry.

Disguise the 'correct' answers among a broader range. Some people will bend the truth to get an 🔧 ***Incentive***.

For example: *you need parents of kids under 5, so you offer the choices: no kids, expecting, kids 0–1, 2–3, 4–5, 6–8, 9–11, etc.*

Include three open-ended questions to filter for their awareness and effort around the need or struggle

Make these free text with no character limit. Open-ended questions help you find people who are willing and able to tell you about their experiences.

- What have you done to tackle [struggle] before?
- What would you like to have happen?

In general, ask about behaviours, not preferences

Your innovation depends on what people do. It's grounded in their habits and their context, not in what they like or believe. For example: *if you're innovating around making coffee at home, ask people how – and how many times – they made coffee at home last week, not whether they enjoy making or drinking coffee.*

"I love horses so much, yet have no monetizable equine behaviors." – Erika Hall

Question Cheat Sheet

To get valuable answers, frame your questions so people are willing and able to answer truthfully.

Frustrating fact: direct questions don't work. People mostly can't tell you why they did something or what they will do in the future. The good news? You can gather clues and patterns by asking about the context around them and the meanings they ascribe to things.

"Whenever we ask a question, we are up to something."
– David Grove

Use with ***Documentary Conversation*** and ***'Huh?' Test***.
Pair with ***Universal Translator*** and ***Solution Aikido***.

Question Cheat Sheet

Use the following prompts to ask better questions:

"Tell me about a time when…"

Let them tell their story. People love telling their story.

Tip: use this as a check when someone predicts they'll do something. For example: "You mentioned you'd call customer services at this point. Can you tell me about the last time you called customer services?"

Ask open, genuinely non-leading questions

If your question hints at the answer you expect (or hope) to hear, people will bend the truth, if only to be polite and please you. Instead, keep your questions clean, for example:

- "What would you like to have happen?"
- "And when you have [X], then what happens?"

Avoid 'why' – it triggers defensiveness. Instead try:

- How, for example, *"how did you make that decision?"*
- What, for example, *"what other options did you consider?"*

Probe, looking for workarounds and effort

Cognitive biases mean people are bad at accurately predicting future behaviour. So ask what they've already done about a need. No effort so far = no real need. (We'd all like to be fitter, but most don't set foot in the gym after January.) For example, ask: *"How did you get [X] done over the past week?"*

Paraphrase what they said, to check your understanding

Statements like "it seems like," "it sounds like," "it looks like," convey that you're really listening. They'll either say "that's right," or they'll correct you, giving you more details.

- "It sounds like… <then paraphrase what they said>?"

About the author, Tom Kerwin

When my kids ask me (minutes after setting off) "Are we there yet?", I joke "Yes! The journey is the destination!". Cue groaning.

I spent 20 years as a coder, designer, researcher, founder and manager, mistakenly looking for The Answer to Innovation. The whole time, I was asking "Are we there yet?". I wanted to reach a destination where innovation was easy, predictable, and under my control.

But innovation is the journey. You can't innovate successfully without enjoying the ride. The twists, the turns, the travel through complexity. The inevitable disappointments... and the creative solutions.

This deck is itself an innovation. To make it, I repurposed and remixed methods for innovation (including my own) from hundreds of places. They've all been tried, tested and honed in real situations.

I hope it helps you fall in love with the journey too.

Thanks to Corissa Nunn for helping me clarify my thinking and do writing good. And thanks to more colleagues, collaborators and students than I could possibly list for helping me test all these ideas against reality.

tomkerwin.com
linkedin.com/in/tomdkerwin

Expert knowledge in your back pocket

pipdecks.com