

CUT THE SLUDGE

Running a sludge audit

If people want what you offer but give up getting it, the problem is the path, not them.

What it is for. People tell you they want it. They start signing up, then drift off halfway. Or they take one look at what's involved and never start at all. That drop-off usually isn't about willingness; it's about hassle. This tool hunts down the friction sitting between a willing person and the thing they want and strips it out. It is the mirror image of Make It Easy: instead of adding a helpful push, you clear away the obstacles already in the way.

When to use it. Use it whenever interest runs higher than uptake; people begin and don't finish, or the effort alone puts them off before they start. Forms, queues, extra trips, steps nobody understands, waiting, having to come back a second time: anything sitting between a willing person and the outcome they're after.

Why it works. Small frictions block good outcomes far more than anyone expects. A single extra form, or a website that makes people guess, can quietly halve how many get through. Removing a barrier almost always beats adding motivation, and it's usually cheaper too.

NEEDED FRICTION, OR SLUDGE?

For each step, ask one question: does this protect the person, or just the organisation's habit or convenience? A check that confirms someone genuinely qualifies is needed friction. A form that exists because it always has, a field nobody reads, a second trip that could be one, that is sludge. Keep the first. Cut the second.

HOW TO USE IT

- 1. Pick one stuck outcome.** Choose one thing people are failing to reach: get the grant, finish the sign-up, collect the order, claim the deal.
- 2. Become the user.** Go through the whole process yourself, start to finish, as if for the first time. Don't picture it – do it.
- 3. List every step and its friction.** For each step note the cost: time, effort, confusion, waiting, trips, documents, decisions. Note how each step feels too, not just what it costs: the moments that frustrate or confuse, and the ones that reassure. A quick step that makes someone feel stupid is still sludge.

4. **Tag each one.** Needed or sludge, using the question in the box above.
5. **Strip the sludge.** For each sludge item, do one of: cut it, make it the default, pre-fill it, move it online, or merge it with another step.
6. **Re-walk and test.** Count the steps you removed, then test the lighter version on real people. (See Prototype and Test.)

A WORKED EXAMPLE

Back to the taxi-rank bakery. It runs a loyalty deal (every sixth combo free) but hardly anyone signs up. So the owner does the deal herself, as a brand-new customer. She has to spot a small sign, ask staff for a paper card, write down her name, number and email, hand it back, then come back another day to collect a stamped card. Walked cold, the sludge is obvious: the form, the email field nobody ever uses, and the two-visit delay.

Stripped down, joining means sending one WhatsApp message. The deal tracks against her phone number, there's nothing to carry, and there's no second trip. She runs the lighter version for two weeks and counts sign-ups against the old paper card.

WATCH OUT FOR

- **De-sludge, don't de-control.** Some checks genuinely protect people or confirm they qualify. Strip the busywork, not the safeguard.
- **Your own sludge is invisible to you.** You know the shortcuts, so you won't feel the friction a new-comer feels. Walk it cold, and better still, watch a real first-timer do it. (See Watch, Don't Ask.)
- **Friction can be deliberate.** Sometimes you want to slow a harmful action down. Aim your sludge-cutting only at outcomes that help the person.

YOUR TURN

STEP	FRICTION (TIME / EFFORT / CONFUSION)	NEEDED OR SLUDGE?	FIX (CUT / DEFAULT / PRE-FILL / MOVE / MERGE)

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Steps before _____ → after _____ The one fix I'll test first: _____

Source. Based on the concept of sludge in **Nudge: The Final Edition** by Richard H. Thaler and Cass R. Sunstein (Penguin, 2021). The emotional-journey point draws on journey mapping in Stickdorn et al., **This Is Service Design Doing** (2018). Taught here in our own words with our own example.

DISCOVERY-DRIVEN PLANNING

Plan for what you do not yet know

A normal business plan assumes you already know how things will go. For something new, that is the trap. This approach makes your guesses visible, finds the ones that could sink you, and tells you what to check before you spend.

What it is for. You are planning something new, and the plan is full of confident numbers. For something genuinely new, most of those numbers are guesses in disguise. This tool helps you name them honestly, find the few that could sink you, and test those first, before you bet on them.

When to use it. When you are planning something genuinely new, where most of the numbers are hopes rather than history.

Why it works. In a new venture, almost every figure in the plan is an assumption wearing the costume of a fact. Name them honestly, find the few that matter most and that you are least sure of, and you know exactly what to test before you risk real money.

HOW TO USE IT

1. **State what success looks like.** The concrete result you need, with numbers where you can. “150 subscribers paying weekly within six months, at a small profit.”
2. **Work backwards to what must be true.** For that result to happen, what has to hold about the customer, the price, the cost, the volume, the channel? Start from the answer and reason back.
3. **List every assumption.** Write each “must be true” as something you are currently guessing. Be honest about which are facts and which are hopes.
4. **Rank them by importance and certainty.** For each, how much does the plan depend on it, and how sure are you? The dangerous ones are the assumptions that matter most and that you are least sure of.
5. **Test the dangerous ones first, cheaply.** Spend money to learn, not to build. Convert the biggest unknowns into facts before you commit. The Prototype and Test tool is how you do this.
6. **Update the plan as you learn.** Replace guesses with facts and let the plan change. Each milestone is a checkpoint: have the assumptions held? If a make-or-break one fails, stop or change course.

A WORKED EXAMPLE

After a promising prototype, the bakery owner plans to scale the breakfast subscription. She lists what would have to be true. The example is illustrative.

WHAT HAS TO BE TRUE	MATTERS	SURE?	TEST FIRST
Enough commuters will prepay for a weekly subscription	High	Unsure	●
Subscribers keep paying month after month	High	Unsure	●
We can make 150 breakfasts reliably by 5:45 each day	High	Fairly sure	
Delivery to the rank is allowed and workable	Medium	Unsure	
The price covers cost with a margin	High	Can calculate	

What it tells her: two assumptions are both make-or-break and far from certain, that enough people will prepay, and that they will keep paying. Those get tested first, cheaply, with a small prepaid run, before she buys equipment or commits to delivery. The price and production assumptions can wait, because she is fairly sure of them already.

WATCH OUT FOR

- Mistaking a confident plan for a correct one. Detail and polish are not evidence.
- Hiding assumptions inside “facts.” In a new venture the numbers are mostly guesses. Name them as such.
- Testing the easy assumptions because they are comfortable. Attack the dangerous ones first, however unwelcome the answer might be.
- Treating the plan as fixed. It has to change as you learn, or you are back to an ordinary plan built on hope.

YOUR TURN

Success looks like:

List what must be true, then mark how much each matters and how sure you are. The ones that matter a lot and are not sure get tested first.

WHAT HAS TO BE TRUE	MATTERS	SURE?	TEST FIRST

The first assumption I will test, and how:

Source. Adapted from “Innovation Financial Management” in **The Innovator’s Toolkit** by D. Silverstein, P. Samuel and N. DeCarlo (Wiley, 2013). Discovery-driven planning was developed by Rita Gunther McGrath and Ian MacMillan.

FIND THE REAL CAUSE

Get under the problem before you try to solve it

The same problems keep coming back when we fix the symptom and never touch the cause. This tool takes you under the surface, so you solve the thing that is actually producing the trouble.

What it is for. You have fixed this before, and it has come back. That usually means you treated a symptom and left the cause untouched. This tool takes you under the surface to what is actually producing the problem, so your effort lands where it counts.

When to use it. Before you reach for a solution, especially on a problem that keeps returning no matter what you try.

Why it works. We jump from a visible problem straight to a fix, and fix the symptom. The cause sits untouched, so the problem returns. Slowing down to find the cause is what stops you treating the same thing again and again.

HOW TO USE IT

1. **Write the problem as you first see it.** The visible event. “A full tray of rolls was thrown out unsold.”
2. **Ask “why” five times.** Each answer becomes the next question. Keep going until you reach something you could actually change, not just the next symptom.
3. **Sort what you find into three layers.** The event (the one-off thing), the pattern (it keeps happening), and the structure (the rule, process, incentive or gap that produces the pattern). The real cause almost always sits in the structure.
4. **Check you have a cause, not a person to blame.** “The baker over-baked” is a symptom. “Nothing tells us how much actually sells” is a cause. If your answer is a name, ask why the setup let that happen.
5. **Restate the problem at the cause level.** Now you have the right problem to solve.
6. **Only now look for a solution.** Hand the restated problem to your idea tools, or to Steal it Smartly.

A WORKED EXAMPLE

The bakery owner asks why a full tray of rolls is binned most afternoons. The example is illustrative.

The five whys:

- Why was the tray binned? Too many rolls were baked for the customers who came.
- Why too many? The morning batch size is a guess, not based on what sells.
- Why a guess? Nobody records how many of each item sells through the day.
- Why not? Sales are rung up but never tallied or reviewed afterwards.
- Why not? There is no routine for tracking daily demand, and no one owns it.

Sorting those answers into the three layers:

- **Event (the top why):** yesterday a full tray went to waste.
- **Pattern (the middle whys):** rolls are over-baked and binned most afternoons because batch size is guesswork.
- **Structure (the deepest why):** no routine for tracking daily demand, and no one owns it. That is the real cause.

The symptom looked like one careless over-bake. The cause is a missing demand-tracking routine, and that is what the owner now sets out to solve.

WATCH OUT FOR

- Stopping too early. The first “why” is never the real cause.
- Landing on a person. If the answer is someone’s name, you have found a symptom, not a cause.
- Following only one chain. A big problem usually has more than one cause, so trace more than one branch.

YOUR TURN

PROBLEM AS SEEN	THE VISIBLE EVENT.
The five whys	Why? Why? Why? Why? Why?
Three layers	Event: Pattern: Structure:
Cause, not blame	Is this a cause or a person? If a name, ask why again.

PROBLEM AS SEEN

THE VISIBLE EVENT.

Restated problem

The real problem to solve, and the first step.

Source. The Five Whys was developed by Sakichi Toyoda and used in the Toyota Production System. It also appears as the Cause and Effect technique in *The Innovator's Toolkit* by D. Silverstein, P. Samuel and N. DeCarlo (Wiley, 2013). The event, pattern and structure layers draw on systems thinking (Donella Meadows, *Thinking in Systems*, 2008).

FIX THE PROCESS

Take the waiting and the rework out of how things already get done

Most things that feel like they need more money or new technology just need the dead time taken out of an existing process. Map what actually happens, find the waiting and the rework, and cut it.

What it is for. Something you run takes too long, and the assumption is that fixing it needs more money or new technology. Usually it just needs the dead time taken out. This tool helps you map what really happens, spot the waiting and the rework, and cut it, without spending a cent.

When to use it. When something takes too long or frustrates people, and you suspect the process, not the people, is the problem.

Why it works. In most slow processes the actual work takes minutes, and the rest is waiting: in a queue, for a free pair of hands, for the next batch, for someone to get back to you. You cannot see it until you map it, and once you do, the waste is usually obvious and costs nothing to remove.

HOW TO USE IT

1. **Pick one process with a clear start and end.** “From when a customer joins the morning queue to when they walk away with breakfast.” One process, not the whole shop.
2. **Walk it as it really happens.** Follow one real case, step by step: every hand-off, queue and wait. Map the real version, not the official one. The gap between them is often the problem.
3. **Tag each step.** Adds value (the work the customer actually wants), needed but no value (something you must do that does not help them, like making change), or waste (waiting, walking back and forth, re-doing, fixing mistakes).
4. **Time it, roughly.** Especially the gaps between steps. The shock is almost always how much is waiting, not working.
5. **Attack the biggest waste first.** Remove it, combine steps, run approvals in parallel, drop duplicate sign-offs, or fix what causes the errors.
6. **Redraw the leaner process and test it.** Run the next real case through the new version and check the time saved is real.

A WORKED EXAMPLE

The bakery owner maps what happens between a customer joining the morning queue and walking away with breakfast. The example is illustrative.

STEP (AS IT REALLY HAPPENS)	TAG	TIME
Customer waits in the queue	Waste (the wait)	Up to 8 min at peak
Reaches the counter and orders	Value	Seconds
Staff fetch each item from the shelves	Waste (motion)	1–2 min
Bag the items and ring it up	Needed, no value	About a minute
Count out change, often short of coins	Waste (the wait)	Up to a minute
Hand over the breakfast	Value	Seconds

The shock: the serving itself took under a minute, but a customer often spent ten minutes, almost all of it queuing or waiting for staff to fetch things.

The fix: pre-bag the three best-selling combos before the rush, take WhatsApp pre-orders for a side collection hatch, and keep a float of change ready. Same staff, same stock, ten minutes cut to under two.

WATCH OUT FOR

- Mapping the official version, not the real one. The gap between the two is usually where the waste hides.
- Cutting a check that is actually required. Some steps are there for safety or by law. Speed those up, do not remove them.
- Removing a step without fixing the error it caught. You will just move the problem further down the line.

YOUR TURN

THE PROCESS	ITS START AND ITS END.
The real steps	Every step, hand-off, queue and wait.
Tag each one	Value / needed-no-value / waste.
Where the time goes	Rough time per step, and the waiting between them.
Biggest waste and fix	What you will remove or combine, and the first step.

Source. Based on lean process thinking and the elimination of waste from the Toyota Production System (Taiichi Ohno). It also appears as the Process and Value Stream Mapping techniques in *The Innovator's Toolkit* by D. Silverstein, P. Samuel and N. DeCarlo (Wiley, 2013). Taught here in our own words with our own example.

JOBS TO BE DONE

Understand the job your customer is really hiring you to do

People do not want your product. They want to get a job done, and they hire a product to do it. Understand the job, in plain terms with no solution attached, and you stop polishing the wrong thing and start solving the real one.

What it is for. You are close to your idea, so it feels obvious that people want it. They do not. They want a job done, and they will hire whatever does it best. This tool gets you to that underlying job, so you build what people actually want rather than a neater version of the wrong thing.

When to use it. Right at the start, before you fall in love with a solution, and any time sales are slow and you are not sure why.

Why it works. The job a person is trying to do stays steady, while the products they hire to do it keep changing. Anchor on the job and you can see where today's options fall short, which is exactly where your opportunity is.

HOW TO USE IT

- 1. Choose who you are serving.** Name a real person, not "the market." "A working parent near the taxi rank," not "customers."
- 2. Name the job, with no solution in it.** The progress they are trying to make, as verb, object and context. "Feed my family a quick breakfast before the morning rush," not "buy bread."
- 3. Split the job three ways.** Functional, emotional and social, set out in the box below. Most people see only the functional one and miss where the real pull is.
- 4. Find what they hire today, and where it lets them down.** What do they use now to get the job done, and what is the struggle, the workaround, the quiet frustration?
- 5. Spot the gap.** The part of the job done badly, slowly, expensively, or not at all. That gap is your opportunity.
- 6. Restate it as an opportunity.** "Help [who] to [the job] better by [closing the gap]." Then take that to your idea tools.

THE THREE SIDES OF A JOB

- **Functional.** The practical task to get done. "Get breakfast ready fast and cheap."

- **Emotional.** How they want to feel. “Calm in the morning, and like a good parent.”
- **Social.** How they want to be seen by others. “Someone who provides well for their family.”

A WORKED EXAMPLE

A small bakery owner thinks she is in the business of selling bread. The example is illustrative.

- **Who:** working parents near the taxi rank, in a hurry before 6am.
- **The job:** give my family a quick, filling breakfast before we rush out, without spending much.
- **Three sides:** functional (fast, filling, cheap, available early); emotional (calm, not stressed, a good parent); social (seen to provide for the family).
- **Hired today:** instant porridge, yesterday’s bread, or skipping breakfast. The struggles: bread is stale, the queue is slow, the shop opens too late.
- **The gap:** nothing hot, fast and affordable is available before 6am near the rank.
- **Restated opportunity:** help rushed parents give their family a hot, cheap breakfast in under five minutes before the commute. Now the ideas flow: bagged hot rolls ready at 5:30, a pre-order list, a breakfast bundle.

WATCH OUT FOR

- A solution hiding in the job statement. “Buy our app” is not a job. “Keep track of my money without effort” is.
- Mistaking your features for their job. The customer does not care about your product, only about their own progress.
- Seeing only the functional side. The emotional and social sides are often where loyalty, and the real opening, sit.

YOUR TURN

WHO YOU SERVE	ONE REAL PERSON, NOT “THE MARKET.”
The job	Verb, object, context. No solution in it.
Three sides	Functional: Emotional: Social:

WHO YOU SERVE	ONE REAL PERSON, NOT "THE MARKET."
Hired today	What they use now, and where it lets them down.
The gap	The part done badly, slowly, dearly, or not at all.
Opportunity	Help [who] to [job] better by, and the first step.

Source. Adapted from "Jobs to be Done" in *The Innovator's Toolkit* by D. Silverstein, P. Samuel and N. DeCarlo (Wiley, 2013). The approach draws on the work of Clayton Christensen and Anthony Ulwick.

MAKE IT EASY

Designing behavioural nudges with the EAST framework

When people know what they should do but don't, change the path, not the person.

What it is for. You've told people what to do. The poster is up, the message has gone out, maybe you've even thrown in a discount – and still they don't do it. That gap between knowing and doing is where this tool lives. Instead of pushing harder on the person, you redesign the choice itself so the better option becomes the easy, obvious one. You change the situation, not the people.

When to use it. Reach for it once you know the single behaviour you want and who needs to do it, and before you spend real money on campaigns, training or penalties. A nudge earns its place when the decision is occasional, awkward, gives slow or no feedback, or is hard to link to its consequences. It is the wrong tool when people genuinely can't afford the thing, don't know it exists, or simply don't want it – sort those out first, because no amount of clever design will paper over them.

Why it works. People follow the path of least resistance, almost always. Small frictions, default settings, timing and the way an option is framed shape what we do far more than information or willpower ever will. Shift the small obstacles and the behaviour tends to follow on its own.

IS THIS A NUDGE-SHAPED PROBLEM?

A nudge tends to help when at least one of these is true: the choice is rare, so people get little chance to learn it; it is genuinely hard; feedback is slow or absent; or the person can't easily link the choice to how it will turn out. If none are true, your barrier is probably ability, awareness or motivation – and a nudge won't fix those.

HOW TO USE IT

- 1. Name the behaviour.** Write the one behaviour you want in plain, observable terms: who does what, and when. "Commuters collect a pre-ordered breakfast by 7am," not "improve mornings."
- 2. Check it is nudge-shaped.** Use the box above. If it isn't, stop and deal with the real barrier instead.
- 3. Walk the current path.** Step by step, trace what the person does now. Mark every point of friction and every default – what happens if they do nothing.

4. **Redesign with EAST.** Easy: cut steps, set a helpful default, remove friction. Attractive: draw the eye, make it appealing. Social: show that people like them already do it. Timely: prompt at the moment of decision and help them make a concrete plan.
5. **Pick one or two changes.** Choose the ones that take least effort and shift the most behaviour. Don't try to do all of them.
6. **Test before you commit.** Treat each change as a guess, not a fact. Try it small and measure the behaviour before rolling it out. (See Prototype and Test.)

A WORKED EXAMPLE

Picture the bakery beside the taxi rank. Every morning it watches rushed commuters glance at the queue and walk straight on. What it wants is simple: those commuters to order the breakfast combo the night before on WhatsApp and grab it in seconds. Walk the path they take now and the friction shows up fast – they have to know pre-ordering is even an option, type out an order, and remember to do it the evening before.

Now run EAST over it. Easy: one named “usual” combo they order with a single reply, no menu to wade through. Attractive: a photo of the combo and a “skip the queue” sign on the counter. Social: a line underneath – “most regulars now pre-order.” Timely: a WhatsApp at 8pm – “Pre-order tomorrow’s combo? Reply 1.” The owner doesn’t do all four at once. She tests the 8pm prompt for a week and counts pre-orders against the week before.

WATCH OUT FOR

- **Nudge for good.** You are steering someone’s choice, so the test is simple: would this still be fine if the person knew exactly what you were doing? If not, don’t. Never hide the cheaper option or bury the way out.
- **A nudge is a guess, not a guarantee.** What works in one place often flops in another. Measure the actual behaviour; don’t assume the sign worked.
- **One behaviour at a time.** Nudge five things at once and you won’t know what moved the needle.

YOUR TURN

THE ONE BEHAVIOUR I WANT (WHO, WHAT, WHEN)

Is it nudge-shaped? (rare / hard / slow feedback / hard to link to outcome)

The current path and its friction points

Easy idea

Attractive idea

Social idea

Timely idea

The one change I'll test first, and how I'll measure it

Source. Based on the EAST framework (Easy, Attractive, Social, Timely) from the Behavioural Insights Team, set out in David Halpern's *Inside the Nudge Unit* (Ebury, 2015), and on choice architecture in *Nudge: The Final Edition* by Richard H. Thaler and Cass R. Sunstein (Penguin, 2021). Taught here in our own words with our own example.

NINE WINDOWS

See your problem across time and scale, not just here and now

We get stuck on a problem as it is, right in front of us. This tool pulls your view outward in two directions, back and forward in time, and down to the parts and up to the surroundings, and the fresh angles fall out of the cells you would otherwise never look at.

What it is for. You are stuck on a problem exactly as it sits in front of you. This tool pulls your view outward, back and forward in time and down to the parts and up to the surroundings, so the angles you have been missing come into view.

When to use it. When you feel stuck, or when a problem seems to have only one obvious framing and you suspect there is more.

Why it works. Two axes open up the picture. Time (how it was, how it is, how it could be) and scale (the parts inside, the thing itself, the world around it). The interesting ideas almost always hide in the corners, especially what is coming and what surrounds the problem.

HOW TO USE IT

1. **Name your system.** The thing or problem at the centre. That is the middle cell: the present, at the level of the thing itself.
2. **Draw the nine-cell grid.** Columns are past, present, future. Rows are the surroundings (top), the thing itself (middle), and its parts (bottom).
3. **Fill the present column first.** The parts, the whole, and the surroundings as they are now.
4. **Look back.** How were the parts, the thing and the surroundings in the past? How did it come to be this way?
5. **Look forward.** Where are the parts, the thing and the surroundings heading? What will change around it?
6. **Mine the corners for ideas.** Read across and down. The future and the surroundings cells are where the non-obvious opportunities sit. Pull them out.

A WORKED EXAMPLE

The bakery owner puts her breakfast problem through nine windows. The example is illustrative.

	PAST	PRESENT	FUTURE
Surroundings	Few taxis, less rush, people ate at home	Busy rank, rushed commuters, chips sold as breakfast	More commuters, mobile payments, delivery to the rank
The offering	Bread as a take-home or sit-down item	Fresh bread sold over the counter	Pre-ordered, subscribed, or delivered breakfast
The parts	Oven, counter, cash, slow queue	Rolls, till, staff, the morning line	Bagged hot items, a WhatsApp order list, mobile pay

What it sparks: every cell outside the present adds something, but two corners stand out. The future surroundings cell, more commuters, mobile payments and delivery, points straight at a subscription dropped at the rank. The future offering cell turns “selling bread” into “delivering breakfast.” The past column reminds her that mornings used to be slow, so the rush itself is the new opportunity.

WATCH OUT FOR

- Filling only the centre cell. The value is in the other eight, above all the future and surroundings ones.
- Mixing up the levels. The parts are what is inside the thing. The surroundings are the world around it. Keep them straight.
- Treating it as a reporting table. It is a thinking tool. The point is the ideas the cells spark, not a tidy grid.
- Describing only the present. The past and future columns are where the fresh angles come from.

YOUR TURN

Put your system in the centre, fill the present column, then work outward in time and scale. Hunt the corners for ideas.

	PAST	PRESENT	FUTURE
Surroundings			
The thing			
The parts			
Ideas from the corners:			

Source. Adapted from the Nine Windows technique in **The Innovator's Toolkit** by D. Silverstein, P. Samuel and N. DeCarlo (Wiley, 2013). The method, the system operator, comes from TRIZ, developed by Genrich Altshuller.

PROTOTYPE AND TEST

Learn cheaply before you commit

Before you spend real money building your idea, make the roughest, cheapest version that can answer the one thing you most need to know, put it in front of real people, and learn from what they do.

What it is for. You believe in your idea and you are itching to build it properly. Slow down. This tool helps you make the roughest, cheapest version that answers your biggest question, put it in front of real people, and learn from what they do before you commit.

When to use it. Once you have a promising idea and before you invest in it. The earlier and rougher, the better.

Why it works. A prototype is not a small version of the final thing. It is a question made real. Its only job is to answer that question as cheaply as possible, so you learn whether to go on before the bill gets big.

HOW TO USE IT

1. **Write the one question you most need answered.** The riskiest assumption: the thing that, if it is wrong, sinks the idea. "Will busy parents actually pay to pre-order breakfast?"
2. **Pick the cheapest prototype that answers it.** Match it to the question. To test whether people want it, a sketch, a mock-up, a fake "order here" page or one hand-made batch will do. You do not build the real thing to test desire.
3. **Decide what you are watching.** The real behaviour that signals yes or no: who signs up, who pays, who comes back. Not who says they like it.
4. **Write it as a hypothesis.** State it plainly: "We believe [X], and we'll know we're right if [a measurable result]." Set that threshold now, before you run it, while you can still be honest about it.
5. **Put it in front of real people.** A handful of actual target users, in a real situation. Not friends and family being kind.
6. **Compare against a control.** You cannot tell whether your change worked unless you compare it to what would have happened anyway. Run your version against the usual way for one group or one short period, and change one thing, not everything, so you know what made the difference.

7. **Watch, learn, change.** Note what they did, what surprised you, and what you will change. Then test again if you need to.

A WORKED EXAMPLE

The bakery owner wants to test the pre-ordered breakfast bundle before changing how she runs her mornings. The example is illustrative.

- **The question:** will rushed parents actually pre-order and pay the night before, or only say it sounds good?
- **Cheapest prototype:** a WhatsApp offer to twenty regulars for one week: order tonight, collect at 5:45. No app, no signage, just a message and a list.
- **Watching:** how many order and pay, and how many order again. Not how many call it a nice idea.
- **The hypothesis:** we believe parents will pre-order; we will know we are right if, say, a quarter order and half of those return. If almost nobody does, the belief was wrong.
- **Real people:** her existing morning customers, not her family.
- **What she learned:** only a few pre-ordered, but they came back every day. A small, loyal segment, so the next test is a weekly subscription, for the cost of a week of messages. (A known nudge trial shows why the control matters: a smiling photo added to an organ-donor sign-up page looked like an obvious winner, yet against a plain control it did worse.)

WATCH OUT FOR

- Falling in love with the prototype. It exists to be proven wrong cheaply, not defended.
- Testing on friends and family. They are kind and unrepresentative. Find real strangers in your target group.
- No threshold set beforehand. Without one, any result gets read as a success and you learn nothing.
- **A result with nothing to compare it to.** Without a control or a before-and-after, any number can be read as a win. Run a comparison.
- Polishing before you have proven anyone wants it. Desire first, quality second.

YOUR TURN

THE QUESTION	THE RISKIEST ASSUMPTION, THE ONE THAT SINKS THE IDEA IF WRONG.
Cheapest prototype	The least you can make to answer it.
What I will watch	The behaviour, not the opinion.
The hypothesis	We believe, and we'll know we're right if
Who I test on	Real target users, not friends.
Learned, and next	What they did, and what I will change.

Source. Adapted from the prototyping and piloting techniques in *The Innovator's Toolkit* by D. Silverstein, P. Samuel and N. DeCarlo (Wiley, 2013). The learn-cheaply framing draws on lean startup practice (Eric Ries); the control-group point on D. Halpern, *Inside the Nudge Unit* (2015); and the hypothesis phrasing on D. Bland and A. Osterwalder, *Testing Business Ideas* (2019).

SOLVE THE RIGHT PROBLEM

Reframing your problem before you solve it

The fastest way to waste effort is to solve the wrong problem brilliantly.

What it is for. You've got a problem and you're itching to fix it. But the first answer that comes to mind is a solution to the problem as you first framed it, and that framing is often wrong, or at least not the most useful one. This tool makes you pause and check you are aiming at the right target before you spend time, money and effort hitting it. Sometimes the best move is not a better solution. It is a better problem.

When to use it. Use it right at the start, before you diagnose causes or generate ideas, and any time a problem feels stuck, expensive, or like you have been going round in circles. It earns its keep most when the obvious fix is costly or slow, when everyone has leapt to the same solution, or when you have solved this before and it keeps coming back. If the problem is genuinely simple and well understood, skip this and get on with solving.

Why it works. People leap to solutions, and they solve the problem exactly as it was first handed to them. But the way a problem is framed quietly decides which answers you will even consider. Widen or shift the frame and a cheaper, better answer often appears that was invisible before. Reframing costs minutes; solving the wrong problem can cost months.

THE LOOP: FRAME, REFRAME, MOVE FORWARD

Reframing is not a one-off flash of insight, it is a quick loop. Frame the problem in a sentence. Reframe it by looking from several angles. Then move forward by testing the most promising reframe in the real world, cheaply, before you commit. Go round more than once if you need to.

HOW TO USE IT

- 1. Frame it in a sentence.** Write the problem as one short, plain statement. Notice that it is only a framing, not the truth.
- 2. Look outside the frame.** Ask what the statement leaves out. What is happening around the problem that you haven't counted? Who or what is not in the picture?
- 3. Rethink the goal.** Ask what you are really trying to achieve. Is the stated goal the actual one, or a means to something bigger? A better goal can dissolve the problem.

4. **Look for bright spots.** Find where the problem is absent or smaller. What is different there? The exception often points straight at the fix.
5. **Look in the mirror.** Ask what your own role is. Are you, or the way you work, part of what keeps the problem alive?
6. **Take their perspective.** Ask how the other people involved actually see it. Their version of the problem may be the real one.
7. **Move forward.** Pick the most promising reframe and test it quickly and cheaply in the real world before you commit. (See Prototype and Test.)

A WORKED EXAMPLE

The owner frames her problem as “I need a bigger sign so more commuters notice us.” A bigger sign is expensive, and the landlord won’t allow one anyway, so she is stuck. So she runs the loop. Looking outside the frame, she sees the real issue is not being noticed: commuters who do see her walk past because the queue looks slow. Rethinking the goal, she doesn’t actually want a sign, she wants more morning sales.

Bright spots seal it: on the two mornings a week she has a helper, sales jump, because the queue moves. Her reframed problem becomes “How do I serve the morning rush faster?” That points to a cheap test, a pre-order combo by WhatsApp, not a sign she can’t afford. She moves forward by trying that for a week before changing anything else.

WATCH OUT FOR

- **Don’t fall in love with the first reframe.** A reframe is another guess, not the truth. Hold it lightly and test it, just like the original.
- **Reframing is not endless re-questioning.** The point is a quick loop, not paralysis. Once a better frame survives a real-world test, get on and solve it.
- **Look in the mirror even when it stings.** The most useful reframe is often the one that points back at you or how you work. That is exactly why people skip it.

YOUR TURN

THE PROBLEM, FRAMED IN ONE SENTENCE

Look outside the frame: what is it leaving out?

Rethink the goal: what am I really trying to achieve?

Bright spots: where is the problem smaller or absent, and why?

Look in the mirror: what is my own role in it?

Their perspective: how do the others involved see it?

My best reframe, written as a new one-sentence problem

How I'll test that reframe in the real world

Source. Based on the reframing method in *What's Your Problem?* by Thomas Wedell-Wedellsborg (Harvard Business Review Press, 2020). Taught here in our own words with our own example.

STEAL IT SMARTLY

Adapt what already works, instead of starting from scratch

Someone, somewhere, has probably already solved a version of your problem. The smart move is rarely to invent. It is to find them, learn what really happened, and adapt it to fit here.

What it is for. You are staring at a problem as if no one has faced it before. Almost always, someone has. This tool helps you find a solution that already works somewhere and adapt it to your own situation, which is faster, cheaper and safer than building from nothing.

When to use it. Early. The moment you have a clear problem, and before you start designing an answer of your own.

Why it works. Most problems are not unique. Someone in another business, another town or another trade has faced a version of yours and worked out an answer. Borrowing and adapting it is faster, cheaper and lower risk than inventing from scratch, and the main thing that stops people is the quiet belief that an idea only counts if it is their own.

HOW TO USE IT

- 1. Name the problem in one line.** Be specific. "Rushed commuters give up on the slow morning queue," not "we need more customers."
- 2. Find who has already solved it.** Look in the places listed below, and aim for three examples, not one.
- 3. Get the real story, not the press release.** Phone the people who actually ran it. Ask what worked, what they would do differently, what it really cost, and what nearly killed it. The warnings are worth more than the write-up.
- 4. Split it into copy and adapt.** Keep the core of what made it work exactly as it is. Change what was local to them: the scale, the budget, the languages, the politics, the capacity.
- 5. Check it fits here.** Is it allowed where you are, cheap enough at your scale, wanted by the people you serve, and runnable with what you already have? If one is a clear no, adapt further or look again.
- 6. Credit the source, and keep the contact.** Thank them, and add them to your network. You will want to borrow again, and one day they may want to borrow from you.

WHERE TO LOOK

- Other businesses doing the same job, especially ones a step ahead of you.
- Big chains and franchises, whose methods you can shrink to your own scale.
- A different trade with the same underlying problem: queues, waiting, repeat orders.
- Suppliers and people who serve many businesses like yours; they have seen what works.
- Online: how-to videos, trade groups and forums in your field.
- Anywhere their problem rhymes with yours, even far from your own world.

A WORKED EXAMPLE

The taxi-rank bakery owner wants to cut the slow morning queue that loses her rushed commuters. The example is illustrative.

- **The problem:** at peak, the queue takes up to ten minutes, and commuters walk past rather than miss their taxi.
- **Found three:** a coffee chain that lets people order ahead and skip the line, a busy spaza shop that pre-bags its top sellers at peak, and a fast-food outlet with a separate collection counter.
- **The real story:** the spaza owner warned that pre-bagging only pays off once you know what actually sells, or you bag the wrong things and waste stock. That warning was the most useful thing she learned.
- **Copy and adapt:** copy the pre-bagged combos and the separate collection point. Adapt to her scale: no app, just WhatsApp pre-orders and a side hatch, starting with her three best sellers, exactly the warning the spaza owner gave.
- **Fit check:** cheap to try, wanted by rushed parents, runnable with her current staff, and nothing stops her. All yes.
- **Credit:** she thanked the spaza owner and kept the relationship, the kind of neighbour worth comparing notes with.

WATCH OUT FOR

- Copying the surface, not the mechanism. Borrow why it worked, not just what it looked like.
- Believing the glossy version. Every success has a messy backstory. Find it before you commit.
- Skipping the fit check. What worked there can fail here for reasons that have nothing to do with the idea.

YOUR TURN

THE PROBLEM	ONE SPECIFIC LINE.
Who has solved it	Three places you looked, and what you found.
The real story	What worked, what nearly didn't, what it really cost.
Copy / adapt	Keep exactly: Change for here:
Fit check	Allowed? Cheap enough? Wanted? Runnable?
Source and first step	Who to credit, and the one thing you will do this week.

Source. This tool sets out the established practice of adopt-and-adapt (also called analogous borrowing or scouting), drawn from open and design-led innovation. It is not taken from a single book, and is taught here in our own words with our own example.

THE MORPHOLOGICAL MATRIX

Build new ideas by mixing the parts in fresh combinations

When you reach for a whole solution, you reach for a familiar one. This tool breaks the solution into its parts, lists the options for each, and lets you recombine them, so you find concepts you would never have arrived at in one leap.

What it is for. You need a fresh idea, and the first one to arrive is the familiar one. This tool breaks your solution into its parts and lets you recombine the options, so a handful of choices becomes dozens of concepts, including ones you would never have reached whole.

When to use it. When you have a problem to solve and want more options than your first instinct, especially for something with several moving parts.

Why it works. Every solution is really a set of choices. Lay those choices out as a grid and a handful of options multiply into hundreds of combinations. Most are dull, but a few are ones you would never have thought of whole.

HOW TO USE IT

- 1. Name what you are designing.** State it as the job it does. "A quick breakfast for rushed commuters," not "a new product."
- 2. List the key parameters.** The three to six decisions every version of the solution has to make. Each parameter is one row of the grid.
- 3. List options for each.** Two to five alternatives per parameter. Be generous, and include some unusual ones.
- 4. Build the grid.** Parameters down the side, their options across each row.
- 5. Combine across the rows.** Pick one option from each row to assemble a whole concept. Build several, and make at least one deliberately strange.
- 6. Keep the promising ones.** Discard the impossible, mark the interesting, and develop the best two or three. Use the Pugh Matrix to choose between them.

A WORKED EXAMPLE

The bakery owner from Jobs to be Done lays out her breakfast offering as a grid. The example is illustrative.

DECISION	OPTION 1	OPTION 2	OPTION 3	OPTION 4
What we serve	Hot rolls	Porridge cups	Breakfast wrap	Fruit & yoghurt
How it is ordered	Walk up	WhatsApp pre-order	Weekly subscription	
Where it is collected	At the counter	Window hatch	Delivered to the rank	
How it is priced	Per item	Fixed bundle	Weekly prepaid	

Three concepts pulled from the grid:

- **The familiar one.** Hot rolls, walk up, at the counter, per item. What most bakeries already do.
- **The quick hybrid.** Hot rolls, WhatsApp pre-order, window hatch, fixed bundle. Fast and simple for the morning rush.
- **The surprise.** Breakfast wrap, weekly subscription, delivered to the rank, weekly prepaid. A breakfast subscription dropped at the taxi rank, a model she would never have reached by guessing at a whole solution.

Jumping straight to an answer gives you the familiar one. The grid hands you the surprise.

WATCH OUT FOR

- Too many rows or options. The grid explodes and stops being usable. Keep to four to six decisions and three or four options each.
- Overlapping parameters. Each row should be a genuinely separate decision, or you are choosing the same thing twice.
- Only building the safe combination. The whole value is in the odd pairings, so force yourself to assemble at least one strange concept.

- Keeping combinations that cannot work. Some mixes will not make sense. Cull them quickly and move on.

YOUR TURN

Write your decisions down the side and the options across each row, then circle one per row to build a concept. Do it a few times.

DECISION	OPTION 1	OPTION 2	OPTION 3	OPTION 4

Concepts I built (one option per row):

The one to develop first:

Source. Adapted from the Morphological Matrix in **The Innovator's Toolkit** by D. Silverstein, P. Samuel and N. DeCarlo (Wiley, 2013). The method of morphological analysis was developed by Fritz Zwicky.

THE PUGH MATRIX

Choose between your ideas without guessing

When you have several ideas and have to pick, gut feel and the loudest voice usually win. This tool replaces that with a simple, visible comparison, and often shows that the best answer is a mix of your options, not any one of them.

What it is for. You have several good options and a call to make, and right now it is gut feel or whoever argues loudest. This tool sets the options against the same criteria so you can choose well, say why, and often spot a stronger option that mixes the best of them.

When to use it. After you have generated ideas and need to narrow them down, especially when people disagree about which is best.

Why it works. You compare everything against one baseline, marking each option better, the same, or worse on each thing that matters. That is far easier and more honest than inventing absolute scores, and the pattern of pluses and minuses shows you how to build a stronger option.

HOW TO USE IT

1. **List your options.** The ideas you are choosing between. Three to six is a good range.
2. **Pick one as the baseline.** Usually the current way of doing things, or the obvious front-runner. Everything else is compared to it.
3. **Decide your criteria.** The few things that actually matter: cost, speed, ease, appeal, risk. Keep them distinct, and keep them few.
4. **Score against the baseline.** For each option, on each criterion, mark it + better, O the same, or – worse than the baseline. Not absolute scores. Just better, same, or worse.
5. **Tally, then read the pattern.** Add up the pluses and minuses, but do not stop at the totals. Look at where each option is strong and where it is weak.
6. **Build a better option.** Combine the strong points of different ideas into a hybrid, then score that too. The winner is often something you build, not something on your original list.

A WORKED EXAMPLE

The bakery owner from Jobs to be Done is choosing between three breakfast ideas. Baseline is what she does now: selling fresh bread over the counter. The example is illustrative.

WHAT MATTERS	BASELINE	HOT ROLLS (A)	PRE-ORDER (B)	BUNDLE (C)
Fast for the customer	0	+	+	0
Cheap and easy to set up	0	0	+	+
Little extra work for staff	0	–	–	+
Appeals to rushed parents	0	+	0	+
Reliable every morning	0	+	0	0
Net score	0	+2	+1	+3

Reading it: the bundle (C) scores highest, but it is only the same as now on the one thing that matters most, speed for the customer. The hot rolls (A) win there. So the real answer is a hybrid: sell A’s grab-and-go hot rolls as C’s simple fixed-price bundle, with pre-orders (B) for regulars. Score that, and it beats all three.

WATCH OUT FOR

- Treating the score as the decision. The matrix informs your judgement, it does not replace it. A close result means look harder, not toss a coin.
- Vague criteria. “Good” is not a criterion. “Ready in under five minutes” is.
- A weak baseline. Compare against the real current option, or the comparison means nothing.
- Forgetting that some criteria matter more. If an option loses on the one thing that matters most, a high total can still be the wrong pick.

YOUR TURN

Write your criteria down the left, your options across the top, and mark each cell + better, 0 same, or – worse than the baseline.

WHAT MATTERS	BASLINE	OPTION A	OPTION B	OPTION C
	0			
	0			
	0			
	0			
Net score	0			

The hybrid you could build:

Source. Adapted from the Pugh Matrix in *The Innovator's Toolkit* by D. Silverstein, P. Samuel and N. DeCarlo (Wiley, 2013). The method was developed by Stuart Pugh.

WATCH, DON'T ASK

Find real needs by observing people, not surveying them

People cannot always tell you what they need. They have gotten used to the problem, or they tidy up the truth to sound sensible. Watch what they actually do, in their real situation, and the unmet needs show themselves.

What it is for. You want to know what people need, so the instinct is to ask them. The trouble is they often cannot say. This tool gets you watching what people actually do in the real world, where the needs they would never think to mention quietly show themselves.

When to use it. Early, before you have a solution, when you want to understand a problem properly rather than guess at it.

Why it works. What people say and what people do are different things. A survey gives you the polished story. Watching gives you the workarounds, the frustrations and the hacks they would never think to mention, and that is where the opportunity is.

HOW TO USE IT

- 1. Pick who and where to watch.** The actual people doing the actual job, in the real place and at the real time. Not a focus group, not your office.
- 2. Observe quietly.** Watch them do it their normal way. Say little, do not lead, do not help. The moment you step in, you change what you would have seen.
- 3. Look for the tells.** The workarounds, the struggles, the hesitations, and the gap between what they say and what they do. The box below lists what to watch for.
- 4. Ask why, about what you saw.** Afterwards, ask about the specific things you watched, not hypotheticals. "I saw you do that, why?" beats "what would you like?"
- 5. Capture it raw.** Note what they did and said, in their words, before you interpret it. Record the real situation, not your tidy summary of it.
- 6. Turn it into needs.** For each struggle or workaround, write the underlying need with no solution attached. Then take it to Jobs to be Done and your idea tools.

THE TELLS TO WATCH FOR

- **Workarounds.** The hack they invented because the proper way does not work for them.
- **Struggles.** Where it is slow, awkward, fiddly, or repeated.
- **Hesitations and apologies.** “I know this is silly, but I always...” That is a need talking.
- **The say-do gap.** What they told you they do, versus what you just watched them do.

A WORKED EXAMPLE

Before designing anything, the bakery owner spends three mornings watching commuters at the taxi rank. The example is illustrative.

- **Where:** the rank between 5:30 and 7:00, where people actually buy breakfast or skip it.
- **What she saw:** people grabbing whatever was fastest and eating while walking; several buying chips and a cooldrink because nothing else was quick; one parent splitting a single roll between two children; people checking the time and walking straight past any slow queue.
- **The tells:** the workaround was chips as breakfast; the struggle was no time to queue; the giveaway was customers walking past her shop because the line was too long.
- **Asked why:** “Why the chips?” – “it is quick and the kids will eat it.”
- **The need:** something hot, filling, cheap and grab-and-go in seconds, that children will eat, before the taxi leaves.

Three mornings of watching told her what no survey could, because nobody would ever have said “I feed my kids chips because I am rushed.”

WATCH OUT FOR

- Asking instead of watching. A survey gives you opinions. Observation gives you behaviour, which is the point.
- Watching where it is convenient, not where it is real. Go to the rank, the kitchen, the queue, the worksite.
- Leading or helping. If you hint or step in, you no longer see what normally happens.
- Watching one person and generalising. See several. Patterns matter more than one story.

YOUR TURN

WHO AND WHERE	THE REAL PEOPLE, THE REAL PLACE AND TIME.
What I saw	Actions, in plain description. No interpreting yet.
The tells	Workarounds, struggles, hesitations, say-do gaps.
Why (what I asked)	About the specific things I watched.
The needs	Each one solution-free, and the first step.

Source. Adapted from the Ethnography technique in *The Innovator's Toolkit* by D. Silverstein, P. Samuel and N. DeCarlo (Wiley, 2013). The method comes from anthropology and is widely used in design research.