

# Receipt

Order #5928166840216500

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## Order Details

Type	Plan Change
Date	November 13, 2022
Plan	Pro Plus <i>Changed from Pro Trial</i>
Period	Ends November 13, 2023
Amount Paid	49.00 USD <i>Via Credit/Debit Card (Visa ****12)</i>

## Customer Details

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"Ounce for ounce, there's no better way to learn what customers want and will buy than this wonderful little book. If you want your new product or new business to succeed, start here."

*John Mullins, author, *The New Business Road Test*, *Getting to Plan B*,  
and *The Customer-Funded Business**

Rob Fitzpatrick

a Founder Centric book



# THE MOM TEST

How to talk to customers and learn if  
your business is a good idea when  
everyone is lying to you.

FOUNDER.CENTRIC

# Introduction

Trying to learn from customer conversations is like excavating a delicate archaeological site. The truth is down there somewhere, but it's fragile. While each blow with your shovel gets you closer to the truth, you're liable to smash it into a million little pieces if you use too blunt an instrument.

I see a lot of teams using a bulldozer and crate of dynamite for their excavation. They are, in one way or another, forcing people to say something nice about their business. They use heavy-handed questions like “do you think it’s a good idea” and shatter their prize.

At the other end of the spectrum, some founders are using a toothbrush to unearth a city, flinching away from digging deep and finding out whether anything of value is actually buried down there.

We want to find the truth of how to make our business succeed. We need to dig for it—and dig deep—but every question we ask carries the very real possibility of biasing the person we’re talking to and rendering the whole exercise pointless. It happens more than you’d ever imagine.

The truth is our goal and questions are our tools. But we must learn to wield them. It’s delicate work. And well worth learning. There’s treasure below.

# Is this book for you?

Hello,

You've read about Customer Development or Lean Startup and aren't sure how to actually go about having your first customer conversation.

You're a traditional business or sales person aiming to be more effective within a young company which hasn't yet found its business model.

You mentor, support, or invest in startups and want to help them have more useful customer conversations.

You've fallen in love with a new business idea and want to figure out if it has legs before quitting your job.

You're raising funding and the investors want to see more evidence that you're solving a real problem.

You find this whole process incredibly awkward and really wish there was an easier way to do it.

You've got a vague sense of an opportunity and want to figure out exactly what it is.

You've always wanted to build your own company and want to start making real progress today.

This book is for you.

# Talking to customers is hard

We know we ought to talk to customers. Many of us even do talk to customers. But we still end up building stuff nobody buys. Isn't that exactly what talking to people is meant to prevent?

It turns out almost all of us are doing it wrong. I've made these mistakes myself and seen them happen a hundred times over with other founders. Despite the recent explosion of startup knowledge, the process of figuring out what customers want too often unfolds as it did at my first company, Habit.

We were building social advertising tech and I was distraught. We'd spent 3 years working our hearts out. We'd nearly run out of investor money and it didn't look like we'd be getting more. We'd relocated internationally to be closer to our market and had survived a co-founder being deported. I'd been talking to customers full-time for months. And then, after innumerable days of slog and an exhausted team, I learned I'd been doing it wrong. I may as well not have bothered.

The advice that you ought to be talking to your customers is well-intentioned, but ultimately a bit unhelpful. It's like the popular kid advising his nerdy friend to "just be cooler." They forget to mention that it's hard.

These conversations take time, are easy to screw up and go wrong in a nefarious way. Bad customer conversations aren't just useless. Worse, they convince you that you're on the right path. They give you a false positive which causes you to over-invest your cash, your time, and your team. Even when you're not actively screwing something up, those pesky customers seem hellbent on lying to you.

This book is a practical how-to. The approach and tools within are gathered from a wide range of communities including Customer Development, Design Thinking, Lean Startup, User Experience, traditional sales and more. It's based on working with a bunch of founders and from my experiences both failing and succeeding at customer learning, as well as from the support of innumerable peers and mentors.

It's a casual approach to conversation, based on chipping away the

formality and awkwardness of talking to people and taking responsibility for asking good questions.

## Why another book on talking and selling?

Does your shelf really need another book on selling and talking? And does it need one written by me in particular?

Well... yes. Yes it does.

Here's why:

Firstly, I'm a techie, not a sales guy. I'm introverted and naturally bad in meetings. Every other sales book I've read is written by and for folks who are already pretty good at dealing with people. They know the unspoken rules of the meeting. I fumbled through from scratch. You know that line, "Don't call me, I'll call you"? People have actually said that to me (and I believed them). With much help from peers and advisors, I eventually started figuring it out and we closed deals with companies like Sony and MTV. But I learned that there's a big gap between textbooks and check books.

Secondly, before we can start doing things correctly, we need to understand how we're doing them wrong. Through my own projects and my work with new founders, I've built up an exhaustive list of how it can go wrong. Throughout the book, I'll try to help you figure out where you might be messing stuff up in unnoticed ways.

Finally, this is a practical handbook, not a theoretical tome. For example, how do you find people to talk to and set up the meetings? How do you take notes while still being polite and paying attention? It's all in here.

I can't teach you how to make your business huge. That's up to you. But I can give you the tools to talk to customers, navigate the noise, and learn what they really want. The saddest thing that can happen to a startup is for nobody to care when it disappears. We're going to make sure that doesn't happen.

### A note on scope & terminology

This book isn't a summary or description or re-interpretation of the process of Customer Development. That's a bigger concept and something Steve Blank has covered comprehensively in 4 Steps to the E.piphany and The Startup Owner's Manual.

This book is specifically about how to properly talk to customers and learn from them. Talking is one of the big aspects of Customer Development, but shouldn't be confused with the whole process. To keep the distinction clear, I'm going to refer to chatting with people as "customer conversation" (lowercase) instead of "Customer Development" (uppercase).

For the most part, I'm assuming you already agree that talking to customers is a good idea. I'm not trying to convince you again, so this book is more "how" than "why".

Let's get involved.

## CHAPTER ONE

# The Mom Test

People say you shouldn't ask your mom whether your business is a good idea. That's technically true, but it misses the point. You shouldn't ask anyone whether your business is a good idea. At least not in those words. Your mom will lie to you the most (just 'cuz she loves you), but it's a bad question and invites everyone to lie to you at least a little.

It's not anyone else's responsibility to show us the truth. It's our responsibility to find it. We do that by asking good questions.

The Mom Test is a set of simple rules for crafting good questions that even your mom can't lie to you about.

Before we get there, let's look at two conversations with mom and see what we can learn about our business idea: digital cookbooks for the iPad.

# Failing the mom test

Son: “Mom, mom, I have an idea for a business — can I run it by you?” I am about to expose my ego — please don’t hurt my feelings.

Mom: “Of course, dear.” You are my only son and I am ready to lie to protect you.

Son: “You like your iPad, right? You use it a lot?”

Mom: “Yes.” You led me to this answer, so here you go.

Son: “Okay, so would you ever buy an app which was like a cookbook for your iPad?” I am optimistically asking a hypothetical question and you know what I want you to say.

Mom: “Hmmm.” As if I need another cookbook at my age.

Son: “And it only costs \$40 — that’s cheaper than those hardcovers on your shelf.” I’m going to skip that lukewarm signal and tell you more about my great idea.

Mom: “Well...” Aren’t apps supposed to cost a dollar?

Son: “And you can share recipes with your friends, and there’s an iPhone app which is your shopping list. And videos of that celebrity chef you love.” Please just say “yes.” I will not leave you alone until you do.

Mom: “Oh, well yes honey, that sounds amazing. And you’re right, \$40 is a good deal. Will it have pictures of the recipes?” I have rationalised the price outside of a real purchase decision, made a non-committal compliment, and offered a feature request to appear engaged.

Son: “Yes, definitely. Thanks mom — love you!” I have completely mis-interpreted this conversation and taken it as validation.

Mom: “Won’t you have some lasagna?” I am concerned that you won’t be able to afford food soon. Please eat something.

Our misguided entrepreneur has a few more conversations like this, becomes increasingly convinced he’s right, quits his job, and sinks his savings into the app. Then he wonders why nobody (even his mom) buys the app, especially since he had been so rigorous.

Doing it wrong is worse than doing nothing at all. When you know you’re clueless, you tend to be careful. But collecting a fistful of false positives is like convincing a drunk he’s sober: not an improvement.

Let’s fix the conversation and show that if we do it right, even mom can help us figure out whether our business is a good idea.

## Passing the mom test

Son: “Hey mom, how’s that new iPad treating you?”

Mom: “Oh - I love it! I use it every day.”

Son: “What do you usually do on it?” Whoops — we asked a generic question, so answer to this probably won’t be terribly valuable.

Mom: “Oh, you know. Read the news, play sudoku, catch up with my friends. The usual.”

Son: “What’s the last thing you did on it?” Get specific about examples in the past to get real, concrete data.

Mom: “You know your father and I are planning that trip? I was figuring out where we could stay. “ She uses it for both entertainment and utility, which didn’t come up during the “usually” answer.

Son: “Did you use an app for that?” A slightly leading question, but sometimes we need to nudge to get to the topic we’re

interested in.

Mom: “No, I just used Google. I didn’t know there was an app. What’s it called?” Younger folks use the App Store as a search engine, whereas your mom waits for a specific recommendation. If that’s true more broadly, finding a reliable marketing channel outside the App Store is going to be crucial.

Son: “Where did you find out about the other ones you use?” Dig into interesting and unexpected answers to understand the behaviours and motivations behind them.

Mom: “The Sunday paper has a section on the apps of the week.” You can’t remember the last time you cracked open a paper, but it sounds like traditional PR might be a viable option for reaching customers like your mom.

Son: “Makes sense. Hey, by the way, I saw a couple new cookbooks on the shelf — where did those come from?” Business ideas usually have several failure points. Here it’s both the medium of an iPad app and the content of a cookbook.

Mom: “They’re one of those things you just end up getting at Christmas. I think Marcy gave me that one. Haven’t even opened it. As if I need another lasagna recipe at my age!” Aha! This answer is gold dust for 3 reasons: 1. Old people don’t need another generic set of recipes. 2. The gift market may be strong . 3. Younger cooks may be a better customer segment since they don’t yet know the basics.

Son: “What’s the last cookbook you did buy for yourself?” Attack generic answers like “I don’t buy cookbooks” by asking for specific examples.

Mom: “Now that you mention it, I bought a vegan cookbook about 3 months ago. Your father is trying to eat healthier and thought my veggies could benefit from a pinch more zazz.” More gold: experienced chefs may still buy specialised or niche cookbooks.

The conversation continues. If it's going well, I would raise the topics of whether she ever thought to look for recipes on the iPad or for cooking videos on YouTube.

Overall, your mom can't remember the last time she had such an enjoyable conversation with you. You were so interested in her life for once! You thank her for the lasagna, pet the dog, and head home. You've learned that building an app and waiting for people to find it on the App Store probably isn't a good plan. But you've got some good insight about your customer segment and a few promising leads to look into. That was a useful conversation.

## A useful conversation

The measure of usefulness of an early customer conversation is whether it gives us concrete facts about our customers' lives and world views. These facts, in turn, allow us to improve our business.

Our original idea looked like this: old people like cookbooks and iPads. Therefore, we will build a cookbook for the iPad. It's generic. There are a thousand possible variations of this premise.

With an idea this vague, we can't answer any of the difficult questions like which recipes to include or how people will hear about it. Until we get specific, it always seems like a good idea.

After just one conversation (with our mom, of all people), we have a higher fidelity vision. We now see that there are at least 2 specific customer segments we might serve, each of which needs a slightly different product. We've also identified some major risks to address before we commit too heavily.

1. We could offer niche recipes (ethnic, diets) which experienced cooks may not already know. Our biggest question is how to reach them when they don't search for apps. We have a possible lead with newspaper and magazine PR.
2. Alternately, we might make generic recipes for younger cooks who are easier to reach via the App Store and who haven't memorised all their

favourites yet. We haven't talked to any, so we have loads of questions, but one big one is whether a customer segment who isn't already in the habit of buying expensive cookbooks will pay a premium for ours.

The first conversation gave us rope to hang ourselves. The second gave us actionable insight. Why? What was different about the second conversation?

Mom was unable to lie to us because we never talked about our idea.

That's kind of weird, right? We find out if people care about what we're doing by never mentioning it. Instead, we talk about them and their lives.

The point is a bit more subtle than this. Eventually you do need to mention what you're building and take people's money for it. However, the big mistake is almost always to mention your idea too soon rather than too late.

If you just avoid mentioning your idea, you automatically start asking better questions. Doing this is the easiest (and biggest) improvement you can make to your customer conversations.

Here are 3 simple rules to help you. They are collectively called (drumroll) The Mom Test:

### **The Mom Test:**

1. Talk about their life instead of your idea
2. Ask about specifics in the past instead of generics or opinions about the future
3. Talk less and listen more

It's called The Mom Test because it leads to questions that even your mom can't lie to you about. When you do it right, they won't even know you have an idea. There are some other important tools and tricks that we'll introduce throughout the rest of the book. But first, let's let's put The Mom Test to work on some questions.

Rule of thumb: Customer conversations are bad by default. It's your job to

fix them.

# Good question / bad question

Let's play a game. Are the following questions good or bad? Do they pass or fail The Mom Test? If they fail it, why? And how could we improve them? Work your way through the list and then read on for some discussion.

- “Do you think it’s a good idea?”
- “Would you buy a product which did X?”
- “How much would you pay for X?”
- “What would your dream product do?”
- “Why do you bother?”
- “What are the implications of that?”
- “Talk me through the last time that happened.”
- “Talk me through your workflow.”
- “What else have you tried?”
- “Would you pay X for a product which did Y?”
- “How are you dealing with it now?”
- “Where does the money come from?”
- “Who else should I talk to?”
- “Is there anything else I should have asked?”

## "Do you think it's a good idea?"

Awful question! Here's the thing: only the market can tell if your idea is good. Everything else is just opinion. Unless you're talking to a deep industry expert, this is self-indulgent noise with a high risk of false positives.

Let's fix it: Say you're building an app to help construction companies manage their suppliers. You might ask them to show you how they currently do it. Talk about which parts they love and hate. Ask which other tools and processes they tried before settling on this one. Are they actively searching for a replacement? If so, what's the sticking point? If not, why not? Where are they losing money with their current tools? Is there a budget for better ones? Now, take all that information and decide for yourself whether it's a good idea.

Rule of thumb: Opinions are worthless.

## "Would you buy a product which did X?"

Bad question. You're asking for opinions and hypotheticals from overly optimistic people who want to make you happy. The answer to a question like this is almost always "yes", which makes it worthless.

Let's fix it: Ask how they currently solve X and how much it costs them to do so. And how much time it takes. Ask them to talk you through what happened the last time X came up. If they haven't solved the problem, ask why not. Have they tried searching for solutions and found them wanting? Or do they not even care enough to have Googled for it?

Rule of thumb: Anything involving the future is an over-optimistic lie.

## "How much would you pay for X?"

Bad question. This is exactly as bad as the last one, except it's more likely to trick you because the number makes it feel rigorous and truthy.

How to fix it: Just like the others, fix it by asking about their life as it

already is. How much does the problem cost them? How much do they currently pay to solve it? How big is the budget they've allocated? I hope you're noticing a trend here.

Rule of thumb: People will lie to you if they think it's what you want to hear.

## "What would your dream product do?"

Sort-of-okay question, but only if you ask good follow-ups. Otherwise it's a bad question. A question like this is like the "set" before the spike in a volleyball game: not too helpful on its own, but it puts you in a good position as long as you're ready to exploit it.

Let's improve it: The value comes from understanding why they want these features. You don't want to just collect feature requests. You aren't building the product by committee. But the motivations and constraints behind those requests are critical.

Rule of thumb: People know what their problems are, but they don't know how to solve those problems.

## "Why do you bother?"

Good question. I love this sort of question. It's great for getting from the perceived problem to the real one.

For example, some founders I knew were talking to finance guys spending hours each day sending emails about their spreadsheets. The finance guys were asking for better messaging tools so they could save time. The "why do you bother" question led to "so we can be certain that we're all working off the latest version." Aha. The solution ended up being less like the requested messaging tool and more like Dropbox. A question like "why do you bother" points toward their motivations. It gives you the why.

Rule of thumb: You're shooting blind until you understand their goals.

## "What are the implications of that?"

Good question. This distinguishes between I-will-pay-to-solve-that problems and that's-kind-of-annoying-but-I-can-deal-with-it "problems". Some problems have big, costly implications. Others exist but don't actually matter. It behooves you to find out which is which. It also gives you a good pricing signal.

I once had someone keep describing the workflow we were fixing with emotionally loaded terms like "DISASTER", accompanied by much yelling and arm waving. But when I asked him what the implications were, he sort of shrugged and said "Oh, we just ended up throwing a bunch of interns at the problem—it's actually working pretty well."

Rule of thumb: Some problems don't actually matter.

"Talk me through the last time that happened."

Good question. Your high school writing teacher may have told you that good stories are meant to "show, not tell". Whenever possible, you want to be shown, not told by your customers. Learn through their actions instead of their opinions. If you ran a burger joint, it would be stupid to survey your customers about whether they prefer cheeseburgers or hamburgers. Just watch what they buy (but if you're trying to understand why they prefer one over the other, you'll have to talk to them).

Folks can't be wishy-washy when you're watching them do the task in question. Get as close to the real action as you can. Seeing it first hand can provide unique insight into murky situations. But if you can't get in there, asking them to talk you through the last time it happened still offers many of the benefits.

Being walked through their full workflow answers many questions in one fell swoop: how do they spend their days, what tools do they use, and who do they talk to? What are the constraints of their day and life? How does your product fit into that day? Which other tools, products, software, and tasks does your product need to integrate with?

Rule of thumb: Watching someone do a task will show you where the problems and inefficiencies really are, not where the customer thinks they are.

## "What else have you tried?"

Good question. What are they using now? How much does it cost and what do they love and hate about it? How much would those fixes be worth and how big of a pain would it be for them to switch to a new solution?

I was checking out an idea with a potential customer and they excitedly said, "Oh man, that happens all the time. I would definitely pay for something which solved that problem."

That's a future-promise statement without any commitment to back it up, so I needed to learn whether it was true or not. I asked, "When's the last time this came up?" Turns out, it was pretty recent. That's a great sign. To dig further, I asked, "Can you talk me through how you tried to fix it?" He looked at me blankly, so I nudged him further.

"Did you google around for any other ways to solve it?" He seemed a little bit like he'd been caught stealing from the cookie jar and said, "No... I didn't really think to. It's something I'm used to dealing with, you know?"

In the abstract, it's something he would "definitely" pay to solve. Once we got specific, he didn't even care enough to search for a solution (which do exist, incidentally).

It's easy to get someone emotional about a problem if you lead them there. "Don't you hate when your shoelaces come untied while you're carrying groceries?" "Yeah, that's the worst!" And then I go off and design my special never-come-untied laces without realising that if you actually cared, you would already be using a double-knot.

Rule of thumb: If they haven't looked for ways of solving it already, they're not going to look for (or buy) yours.

## "Would you pay X for a product which did Y?"

Bad question. The fact that you've added a number doesn't help. This is bad for the same reasons as the others: people are overly optimistic about what they would do and want to make you happy. Plus, it's about your idea

instead of their life.

Let's fix it: As always, ask about what they currently do now, not what they believe they might do in the future. Common wisdom is that you price your product in terms of value to the customer rather than cost to you. That's true. And you can't quantify the value received without prodding their financial worldview.

Another way to fix it, if you're far enough along, is to literally ask for money. If you have the deposit or pre-order in hand, you know they were telling the truth.

### "How are you dealing with it now?"

Good question. Beyond workflow information, this gives you a price anchor. If they're paying £100/month for a duct-tape workaround, you know which ballpark you're playing in. On the other hand, they may have spent £120,000 this year on agency fees to maintain a site you're replacing. If that's the case, you don't want to be having the £100 conversation.

Sometimes, both of the above will be happening simultaneously and you get to choose how you present yourself. Do you want to be a replacement for the web app at a yearly value of £1.2k or for the agency at 100x that?

Rule of thumb: While it's rare for someone to tell you precisely what they'll pay you, they'll often show you what it's worth to them.

### "Where does the money come from?"

Good question. This isn't something you would necessarily ask a consumer (though you might), but in a B2B context it's a must-ask. It leads to a conversation about whose budget the purchase will come from and who else within their company holds the power to torpedo the deal.

Often, you'll find yourself talking to someone other than the budget owner. Your future pitches will hit unseen snags unless you learn who else matters and what they care about. This knowledge of their purchasing process will eventually turn into a repeatable sales roadmap.



## "Who else should I talk to?"

Good question. Yes! End every conversation like this. Lining up the first few conversations can be challenging, but if you're onto something interesting and treating people well, your leads will quickly multiply via intros.

If someone doesn't want to make intros, that's cool too. Just leave them be. You've learned that you're either screwing up the meeting (probably by being too formal, pitchy, or clingy) or they don't actually care about the problem you're solving. Take anything nice they say with an extra grain of salt.

## "Is there anything else I should have asked?"

Good question. Usually, by the end of the meeting, people understand what you're trying to do. Since you don't know the industry, they'll often be sitting there quietly while you completely miss the most important point.

Asking this question gives them a chance to politely "fix" your line of questioning. And they will!

This question is a bit of a crutch: you'll discard it as you get better at asking good questions and as you get to know the industry.

Rule of thumb: People want to help you, but will rarely do so unless you give them an excuse to do so.

# Using the mom test

You'll notice that none of the good questions were about asking what you should build. One of the recurring "criticisms" about talking to customers is that you're abdicating your creative vision and building your product by committee. Given that people don't know what they want, that wouldn't be a terribly effective approach. Deciding what to build is your job.

The questions to ask are about your customers' lives: their problems, cares, constraints, and goals. You humbly and honestly gather as much information about them as you can and then take your own visionary leap to a solution. Once you've taken the leap, you confirm that it's correct (and refine it) through Commitment & Advancement, which we'll look at in Chapter 5.

It boils down to this: you aren't allowed to tell them what their problem is, and in return, they aren't allowed to tell you what to build. They own the problem, you own the solution.

Before we move look at ways to confirm that you're building the right product to fit your customers' lives, we're going to look at fixing some of the ways conversations go wrong.

## CHAPTER TWO

# Avoiding bad data

They say that to bankrupt a fool, give him information. Practically everyone I've seen talk to customers (including myself) has been giving themselves bad information. You probably are too. Bad data gives us false negatives (thinking the idea is dead when it's not) and—more dangerously—false positives (convincing yourself you're right when you're not).

There are three types of bad data:

1. Compliments
2. Fluff (generics, hypotheticals, and the future)
3. Ideas

Sometimes we invite the bad data ourselves by asking the wrong questions, but even when you try to follow The Mom Test, conversations still go off track. It could happen because you got excited and started pitching, because you had to talk about your idea to explain the reason for the meeting, or because the conversation is just stuck in hypothetical la-la-land.

These things happen. Once you start to notice, it's easy to get back on track by deflecting compliments, anchoring fluff, and digging beneath ideas.

## Deflect compliments

Most of your meetings will end with a compliment. It feels good. They said they liked it!

Unfortunately, they're almost certainly lying. Not necessarily intentionally. They might want to be supportive or to protect your feelings. Or your excitement might be rubbing off on them.

Even if they really do like it, that data is still worthless. For example, venture capitalists (professional judges of the future) are wrong far more than right. If even a VC's opinion is probably wrong, what weight could that of some random guy's possibly have?

With the exception of industry experts who have built very similar businesses, opinions are worthless. You want facts and commitments, not compliments.

The best way to escape the misinformation of compliments is to avoid them completely by not mentioning your idea. If they happen anyway, you need to deflect the compliment and get on with the business of gathering facts and commitments.

Before we look at how to properly deflect compliments, here's what happens when you take them at face value:

### A bad conversation:

You: "...And that's it. It's like X for Y, but better because of Z."  
Bam! Totally nailed that pitch.

Them: "That's cool. Love it." How is this relevant to me?  
(Compliment)

You: "It's going to totally change the way you work. We're predicting cost savings of 35%." I am so great.

Them: "Sounds terrific. Keep me in the loop." I can't believe I keep agreeing to these startup pitches. (Compliment + stalling tactic)

You: "Awesome, thanks." I'm just like Steve Jobs. Except more handsome.

You: (Back at the office) “That meeting went really well. They said they loved it! In fact, everybody loves it. I really think we’ve finally found our big idea. We’ve found something people want.” It’s margarita time!

Your Team: (6 months later) “Why do we have zero customers? I thought you said everybody loved it?” Wasn’t this your job?

You: “I don’t know, I talked to like a thousand people. I must have missed one of their buying criteria. Don’t worry, I’ll go talk to them some more and we’ll get it next time.” Dooooooooomed.

Let’s try that again while properly deflecting the confounding compliments:

### A good conversation:

You: “...And that’s it. It’s like X for Y, but better because of Z.”  
Rats, I just slipped into pitch mode. Let’s try to recover this and learn something.

Them: “That’s really cool. I love it.” How is this even relevant to me? (Compliment)

You: “Whoops — really sorry about that — I got excited and started pitching. Listen: you guys seem to be doing a good job in this space — do you mind if I ask how you’re dealing with this stuff at the moment?” That compliment made me suspicious. Let’s deflect it and find out whether they’re a potential customer or are just trying to get rid of me.

Them: “What? Oh, well, sure. We’ve got a couple people who manage the process just to make sure we’re all in sync, and then we use Excel and a lot of emails to keep it all moving. Anyway, I really like your idea. I’m sure it will do well.” If you want facts, here they are, but your idea still isn’t a good fit for me and there’s no way I’m going to express an interest in buying (notice the sneaky compliment at the end).

You: “I haven’t heard of anyone solving it quite like that — that’s interesting. Can you talk me through how it actually all fits

together?” Let’s ignore & deflect that compliment to focus on the fact that they’re spending a lot of money to solve this. Two full time staff!? I didn’t know it was worth this much.

Them: (More delicious workflow data)

You: “What sort of difficulties have come up with that solution?”

This is a bit generic and isn’t the world’s greatest question, but I’m trying to find an anchor to learn about workflow inefficiencies and bumps. When I find one, I’ll dig around that signal with more follow-ups.

Them: (Even more workflow and alternate solution data)

If we’re early in the learning process, the meeting could end here quite happily. We have the learning we came for. If we were slightly later-stage and already had a product, we might continue by zooming in and pushing for commitments or sales.

Remember though: you don’t need to end up with what you wanted to hear in order to have a good conversation. You just need to get to the truth. Here’s a good conversation with a solid negative result.

### A good (negative) conversation:

Them: “That’s really cool. I love it.” Compliment.

You: “How are you dealing with this stuff at the moment?” Deflect that compliment and get to the real facts.

Them: “Oh, it’s really not that big of a deal for us. We kind of just ignore it.” The implications of the problem are non-existent so I’m not in the market for a solution.

You can always be happy with a conversation like the above. You saw through the false compliment and found the facts behind the mirage. If the conversation is going well, I’d try to have them talk me through their process anyway so I can try to figure out whether it’s an industry wide non-problem or something specific to their particular situation.

Did you notice that in the conversations above, practically every response contains a sneaky compliment? They are pervasive, constantly trying to trick us into thinking the conversation “went well”.

Ignoring compliments should be easy, but it’s not. We so desperately want to hear them that we are often tricked into registering them as positive data points instead of vacuous fibs. Sometimes it’s easier to spot the symptoms than to notice the original compliment.

### **Symptoms (in the meeting):**

- “Thanks!”
- “I’m glad you like it.”

### **Symptoms (back at the office):**

- “That meeting went really well.”
- “We’re getting a lot of positive feedback.”
- “Everybody I’ve talked to loves the idea.”

All of these are warning signs. If you catch yourself or your teammates saying something like this, try to get specific. Why did that person like the idea? How much money would it save him? How would it fit into his life? What else has he tried which failed to solve his problem? If you don’t know, then you’ve got a compliment instead of real data.

Rule of thumb: Compliments are the fool’s gold of customer learning: shiny, distracting, and entirely worthless.

## **Anchor fluff**

Fluff comes in 3 cuddly shapes:

- Generic claims (“I usually”, “I always”, “I never”)

- Future-tense promises ("I would", "I will")
- Hypothetical maybes ("I might", "I could")

When someone starts talking about what they “always” or “usually” or “never” or “would” do, they are giving you generic and hypothetical fluff. Follow The Mom Test and bring them back to specifics in the past. Ask when it last happened, for them to talk you through it, how they solved it, and what else they tried.

The world’s most deadly fluff is: “I would definitely buy that.”

It just sounds so concrete. As a founder, you desperately want to believe it’s money in the bank. But folks are wildly optimistic about what they would do in the future. They’re always more positive, excited, and willing to pay in the imagined future than they are once it arrives.

The first startup I worked at fell for the “I would definitely buy that” trap and subsequently lost about 10 million bucks. They mistook fluffy future promises and excited compliments for commitment, wrongly believed they had proven themselves right, and wildly over-invested.

The worst type of fluff-inducing question is, “Would you ever?” Of course they might. Someday. That doesn’t mean they will. Fluff-inducing questions include:

- “Do you ever...”
- “Would you ever...”
- “What do you usually...”
- “Do you think you...”
- “Might you...”
- “Could you see yourself...”

You don’t need to avoid these questions 100% of the time. They aren’t exactly toxic. It’s just that the responses are useless. The mistake is in valuing the answers, not asking the questions. In fact, sometimes these questions can even help you transition into more concrete questioning.

## **Transitioning from a fluffy question to a concrete one:**

You: “Do you ever X?” A fluff-inducing question.

Them: “Oh yeah, all the time.” A fluffy answer which has no value in itself, but which we can anchor from.

You: “When’s the last time that happened?” We use the Mom Test and ask for concrete examples in the past.

Them: “Two weekends ago.” We’ve successfully anchored the fluff and are ready to get real facts now instead of generics and hypotheticals.

You: “Can you talk me through that?” Back to asking good questions.

To use a more tangible example, let’s say you’re designing some sort of inbox management tool:

## **A good conversation, anchoring generic fluff:**

Them: “I’m an ‘Inbox 0’ zealot. It’s totally changed my life.” A generic (e.g. fluffy) claim.

You: “Haha, nice. I’m an ‘Inbox 0’ failure. What’s your inbox at right now?” Let’s get specific to see if this fluff holds up.

Them: “Looks like about ten that have come in since this morning.” Facts!

You: “Okay wow, so you are on top of things. I have like 200 right now. When’s the last time it totally fell apart for you?” He’s still claiming to be on top of his email, so I’m going to look for concrete examples where he wasn’t.

Them: “Ug, 3 weeks ago. I was travelling and the internet at the hotel totally didn’t work. It took me like 10 days to get back on track.”

You: “Can you talk me through how you handled it?” Successfully anchored — now we’re talking about what actually happens instead of what “usually” happens.

In this case, we took the generic claim, “My inbox is always under control” and added the important caveat: “Except when it’s not, in which case it’s a total nightmare to recover from.” While using generics, people describe themselves as who they want to be, not who they actually are. You need to get specific to bring out the edge cases.

Let’s say you’re building a mobile loyalty app to help stores give deals and discounts to their most loyal customers and you hear the guy in line in front of you complaining:

### A bad conversation (pitching and accepting fluff):

Them: “Which idiot decided it was a good idea to make me carry around a thousand cafe loyalty cards?”

You: “Whoa! Hey! I’m building a mobile app to help stores give out discounts to their most loyal customers so you’d never need to carry paper cards again. Do you think you would use something like that?” This is pretty much as bad of a question as you can find. You’ve revealed your ego and asked a “would you ever” question. You’re begging for a false positive.

Them: “Heck yes, it’s about time! I would definitely use that.”  
Fluffy hypothetical future promise!

By switching into pitch mode, we just wasted a perfectly good opportunity for learning and instead got a fistful of fluff. Let’s try again.

### A good conversation:

Them: “What idiot decided it was a good idea to make me carry around a thousand cafe loyalty cards?”

You: “It’s crazy, right? My wallet is like two feet thick. Hey — have you ever tried any of those loyalty apps for your phone?”  
Anchor to past behaviours.

Them: “Those exist?” Perhaps my rage is misplaced...

You: “Yeah, I’m sure you’ve seen the little signs for that one in the campus cafe.”

Them: “Oh yeah, I remember that. I’m always kind of in a rush.”

This is a nice bit of customer insight about their state of mind and circumstances when you’re trying to advertise to them.

You: “Why don’t you download it now?” If someone’s being flaky, put them to a decision. If they don’t care enough to try solving their problem already, they aren’t going to care about your solution.

Them: “I’ll do it next time.” Not a real problem.

You can’t help but laugh when you hear this one. “Someone should definitely make an X!” “Have you looked for an X?” “No, why?” “There are like 10 different kinds of X.” “Well I didn’t really need it anyway.”

Long story short, that person is a complainer, not a customer. They’re stuck in the la-la-land of imagining they’re the sort of person who finds clever ways to solve the petty annoyances of their day.

Beyond rousting some poor soul’s consumeristic hypocrisy, anchoring the fluff can also yield useful signals:

You: “...Have you ever tried any of those loyalty apps for your phone?”

Them: “Yeah, I downloaded a couple of them. You need a different one for every chain. I don’t want a hundred apps clogging up my phone any more than I want a bunch of cards in my wallet.”

So he’s an actively searching potential user, but we’d need to get critical mass with the stores he goes to before he’ll be happy. Maybe we could take over a small university town first. Or he might say:

Them: “I looked into it, but you only end up getting like a 10%

discount. That seems less like a loyalty reward and more like a cheap way for them to collect a bunch of data about me.”

So he was on the fence, but needs better perks. Maybe we could find a way to force merchants into deeper discounts like Groupon was able to do. He also has privacy concerns. Or he could respond with:

Them: “Have you ever actually tried using that app? It's abysmal. It takes me longer to find the stupid button than to buy my coffee.”

So all we need to do (for this particular user) is to out-execute and simplify. We could try to be the Instagram to their flickr.

The list goes on. There are tons of useful responses you can get. Even learning that the person is a non-customer is useful. To get toward this truth, you just need to reject their generic claims, incidental complaints, and fluffy promises. Instead, anchor them toward the life they already lead and the actions they’re already taking.

## Dig beneath ideas

Entrepreneurs are always drowning in ideas. We have too many ideas, not too few. Still, folks adore giving us more. At some point during a good conversation, the person you’re talking to may “flip” to your side of the table. This is good news. They are excited and see the potential, so they’ll start listing tons of ideas, possibilities and feature requests.

Write them down, but don’t rush to add them to your todo list. Startups are about focusing and executing on a single, scalable idea rather than jumping on every good one which crosses your desk.

Let’s say you’re mid-conversation when this idea drops:

Them: “Are you guys going to be able to sync to Excel? I really think that’s the a killer feature.”

What do you do here? The wrong response is to write “sync to Excel” on your todo list and then move on. That’s the fast-lane to feature-creep. Instead, take a moment to dig into the motivations behind the request.

You: “What would syncing to Excel allow you to do?” Maybe there’s an easier way I can help you achieve the same thing.

Them: “We’ve got all these legacy reports and we need to go through them every now and then. It would be nice to have everything in one place, you know?” Don’t worry, it’s not a key buying criteria.

Or they might say:

Them: “We’ve tried a bunch of these things and it’s always the syncing that kills it.” They’re actively searching for solutions which are all missing a must-have feature — this could be your major differentiator if it’s important enough to the segment and difficult enough for your competitors to emulate.

Or:

Them: “We have a decent workaround, as you saw. But it takes nearly a week at the end of each month to pull all the reports together in one place. It’s a big pain and totally stalls our work.” They’ve cobbled together a home-brew solution, know it’s costing them money, and are ideally suited to become an early customer.

At my first company Habit, we were adapting our product to sell to enterprise companies. MTV told me they needed analytics and reports for their campaigns.

I made a big mistake by accepting the feature request and face value and beginning the next meeting with a demo of our shiny new analytics dashboard (custom-built to solve their request, of course). They “ooh’ed” and “ahh’ed” appropriately and I left thinking we’d nailed it. It offered a zillion options and could carve up your data every which way. It was technically and aesthetically lovely.

Unfortunately, 90% of what we had built was irrelevant. We just didn’t know that yet.

They started calling every Friday asking me to email over a CSV (data file) of the week's stats, so we added CSV export to the dashboard. Later, they asked for the report as a PDF instead of an CSV, so we obediently built PDF export. That took longer.

Salt was rubbed in the wound when, weeks later, they were still calling me every Friday and asking me to export and send over the same stupid analytics report. And every week, I would do so while politely explaining that, you know, we built this awesome self-serve dashboard so they could have their data whenever they wanted. And then, the next Friday, they'd call me.

It turned out we had entirely missed the real reason they'd been excited about our analytics demo. In fact, we'd missed their whole motivation for wanting analytics.

The memory of being burned by feature requests was still fresh in my mind when they asked if we could add their logo and colours to the reports. I asked a couple incredulous questions about why in the world they wanted this feature when they didn't even use the ones I had already built, like an exasperated Dad at Christmas: “But you don’t even play with the toys I bought for your birthday!”

So, I finally—and inadvertently—did the smart thing when I asked, “Why do you want this feature? What do branded reports get you that unbranded ones don’t? It’s the same data, right?” She replied, “Oh yeah, of course. I mean, nobody even reads these. Our clients just like to get something emailed to them at the end of every week and we think they’d be happier if it was a bit fancier, you know?” I knew exactly.

They had asked for analytics. We had jumped to the conclusion that they wanted to better understand their data. But they had really wanted a way to keep their own clients happy. If we had properly understood that, we would have built a totally different (and much simpler) set of features.

Consider how much easier our lives would have been if we'd understood the motivation behind the request. Instead of enabling the exploration and export of all campaign data, we could have just always exported the few high-level numbers a big brand manager would be interested in. And instead of a self-serve dashboard, we could set up a little scheduler to send it to

them every Friday. In fact, we didn't even need to build a dashboard at all. And instead of coding up a layout and branding system for the reports, we could have had an intern hand-build them each week. All wasted because I didn't ask the right question. I sure wish I had those 3 months back!

When you hear a request, it's your job to understand the motivations which led to it. You do that by digging around the question to find the root cause. Why do they bother doing it this way? Why do they want the feature? How are they currently coping without the feature? Dig.

You should dig in the same way around emotional signals to understand where they're coming from. Just like feature requests, any strong emotion is worth exploring. Is someone angry? Dig. Embarrassed? Dig. Overjoyed? Dig!

I once overheard a founder interviewing someone at a cafe table next to me. The founder mentioned a problem and the guy responded, "Yeah, that's pretty much the worst part of my day." The founder jotted something down in his notebook, and then moved on to the next question. What!? It's the worst part of his day and you're not going to figure out why? That's insane. You've got to dig.

### **Questions to dig into feature requests:**

- "Why do you want that?"
- "What would that let you do?"
- "How are you coping without it?"
- "Do you think we should push back the launch add that feature, or is it something we could add later?"
- How would that fit into your day?

### **Questions to dig into emotional signals:**

- "Tell me more about that."
- "That seems to really bug you — I bet there's a story here."
- "What makes it so awful?"
- "Why haven't you been able to fix this already?"

- “You seem pretty excited about that — it’s a big deal?”
- “Why so happy?”
- “Go on.”

These nudges don’t need to be complicated. People love talking about their opinions and emotions. Digging into a signal is basically just giving them permission to do a brain dump.

Rule of thumb: Ideas and feature requests should be understood, but not obeyed.

## Stop seeking approval

As we’ve seen, compliments are dangerous and sneaky. So if we can nip them in the bud before they bloom, so much the better. The main source of compliment-creation is seeking approval, either intentionally or inadvertently.

Doing it intentionally is fishing for compliments. You aren’t looking for contradictory information. You’ve already made up your mind, but need someone’s blessing take the leap.

### Symptoms of Fishing For Compliments:

- “I’m thinking of starting a business... so, do you think it will work?”
- “I had an awesome idea for an app — do you like it?”

Accidental approval-seeking is what I call “The Pathos Problem.” It happens when you expose your ego, leading people to feel they ought to protect you by saying nice things.

This comes up when you tell someone about an idea you obviously care about (which is pretty much always, since otherwise you wouldn’t be asking). Even if you give folks permission to be honest and ask for criticism, they’re still going to pull their punches.

## **Symptoms of The Pathos Problem:**

- “So here’s that top-secret project I quit my job for... what do you think?”
- “I can take it — be honest and tell me what you really think!”

To deal with The Pathos Problem, keep the conversation focused on the other person and ask about specific, concrete cases and examples. Once someone detects that your ego is on the line, they’ll give you fluffy mis-truths and extra compliments. Disregard that data and use The Mom Test to re-focus on the person, their life, and their goals. People rarely lie about specific stuff that’s already happened, regardless of your ego.

Some famous entrepreneurs don’t suffer the effects of The Pathos Problem, but you should ignore their advice since it’s not reproducible if you aren’t them. Guys like Elon Musk, Reid Hoffman, and Gordon Ramsey are all notorious for actively seeking negative feedback. It evidently works for them. But nobody is worried about hurting Elon, Reid, or Gordon’s feelings. You and I must be more circumspect.

In short, remember that compliments are worthless and people’s approval doesn’t make your business better. Keep your idea and your ego out of the conversation until you’re ready to ask for commitments.

Rule of thumb: If you’ve mentioned your idea, people will try to protect your feelings.

## **Cut off pitches**

Being pitchy is the dark side of the “seeking approval” coin. Instead of inviting compliments by being vulnerable, you’re demanding them by being annoying. It’s when you hold someone hostage and won’t let them leave until they’ve said they like your idea. Normally, compliments are well-intentioned. In this case, they’re just trying to get you out of their office.

“Won’t-take-no-for-an-answer” is generally a good quality for a founder to have. But when it creeps into a conversation that’s meant to be about

learning, it works against you.

### Symptoms:

- “No no, I don’t think you get it...”
- “Yes, but it also does this!”

If you slip into pitch mode, just apologise. You’re excited about your idea. That’s good! Otherwise you wouldn’t have taken this crazy leap in the first place. But suddenly, you find yourself five minutes into an enthusiastic monologue while the other person nods politely. That’s bad. Once you start talking about your idea, they stop talking about their problems. Cut yourself off and say something like:

“Whoops—I just slipped into pitch mode. I’m really sorry about that—I get excited about these things. Can we jump back to what you were just saying? You were telling me that...”

If they say they really want to hear about what you’re working on, promise that you’ll tell them at the end of the meeting or loop them in for an early demo, and that you just want to talk a bit more about their stuff before biasing them with your idea.

Rule of thumb: Anyone will say your idea is great if you’re annoying enough about it.

## Talk less

You can’t learn anything useful unless you’re willing to spend a few minutes shutting up (even if you have something really smart to say).

After you introduce your idea (either intentionally or accidentally), they’re going to begin a sentence with something like “So it’s similar to...” or “I like it but...” It’s tempting to interrupt and “fix” their understanding about how it’s totally different and actually does do that thing they want.

Alternately, they’ll raise a topic you have a really good answer to. For

example, they'll mention how important security is, and you'll want to cut in and tell them you've thought about all that already. This is also a mistake.

In both cases, the listener was about to give you a privileged glimpse into their mental model of the world. Losing that learning is a shame. You'll have the chance to fill them in later. Plus, it's annoying to people if they start trying to help you and you cut them off to correct them.

Rule of thumb: The more you're talking, the worse you're doing.

## CHAPTER THREE

# Asking important questions

Once we know about The Mom Test and start trying to ask non-biasing questions, sometimes we over-compensate and ask completely trivial ones. Asking someone how old they are isn't biasing, but it also doesn't move your business forward. You have to apply The Mom Test to the questions which matter. Otherwise you're just spinning your wheels.

In addition to ensuring that you aren't asking trivialities, you also need to look for the world-rocking scary questions you're shrinking from. The best way to find them is to run thought experiments. Imagine that the company has failed and ask why that happened. Then imagine it as a huge success and ask what had to be true to get there. Find ways to learn about those critical pieces.

You can tell it's an important question when the answer to it could completely change (or disprove) your business. If you get an unexpected answer to a question and it doesn't affect what you're doing, it wasn't a terribly important question.

Every time you talk to someone, you should be asking a question which has the potential to completely destroy your currently imagined business.

One of my companies had some legal ambiguities around content ownership. It was okay in theory, but lacked strong precedents. I was always a bit nervous we would get "found out." Their execs were excited, their creatives were thrilled. We had even brought the stubborn tech team around to our

side. But in all my early customer conversations, I never asked to talk to their lawyers. For whatever reason, that was an important question which I shrunk from, and not asking it cost us at least half a million bucks.

There's no easy solution to making yourself face and ask these questions. I once heard the general life advice that, for unpleasant tasks, you should imagine what you would have someone else do if you were delegating it. Then do that.

And remember, you're allowed to ask about money. You're a startup. It's okay.

Rule of thumb: You should be terrified of at least one of the questions you're asking in every conversation.

## Love bad news

One of the reasons we avoid important question is because asking them is scary. It can bring us the upsetting realisation that our favourite idea is fundamentally flawed. Or that the major client is never going to buy. Although it seems unfortunate, this we need to learn to love bad news. It's solid learning and is getting us closer to the truth.

If you've only got one shot, then bad news is bad news. If your bungee jump doesn't work, that's bad. If you've sunk your retirement savings into opening a cafe and it doesn't work, that's bad. If you hustle together \$50k to start your business and spend all \$50k on your first idea only to see it fail, that's bad.

On the other hand, if you have \$50k and spend \$5k to learn you're running down a dead end, that's awesome. You can use the rest to find a viable path to your goal.

Similarly, if you have an exciting idea for a new product and go talk to a couple customers who don't actually care about it, then that's a great result. You just saved yourself however much time and money it would have cost to try building and selling it.

We go through the futile process of asking for opinions and fish for

compliments because we crave approval. We want to believe that the support and sign-off of someone we respect means our venture will succeed. But really, that person's opinion doesn't matter. They have no idea if the business is going to work. Only the market knows.

You're searching for the truth, not trying to be right. And you want to do it as quickly and cheaply as possible. Learning that your beliefs are wrong is frustrating, but it's progress. It's bringing you ever closer to the truth of a real problem and a good market.

The worst thing you can do is ignore the bad news while searching for some tiny grain of validation to celebrate. You want the truth, not a gold star.

Some of the most informative (and thus best) responses you can get are along the lines of, "Umm, I'm not so sure about that" and "That's pretty neat." Both are lukewarm responses which tell you they don't care.

In this context, "best" means learning, not selling. If you're a sales guy going door to door selling gadgets and someone doesn't care, then that is a bad result: you're not getting paid. But if you're trying to decide whether to invest your time and money in developing, building and promoting that gadget, then lukewarm is a terrific response. It gives you a crystal clear signal that this person does not care. It's perfectly reliable information you can take to the bank.

The classic error in response to a lukewarm signal is to "up your game" and pitch them until they say something nice. Unless they're holding a check, the only thing to gain from "convincing" them are false positives. You're not here to collect compliments; you're trying to learn the truth. Their lukewarm response already gave you that.

If they're still engaged in the conversation, it's worth asking a couple follow-up questions to understand the nature of their apathy. Is the "problem" not actually that big of a deal? Are they fundamentally different from your ideal customers? Do they not care about the specific implementation? Are they worn out and skeptical from hearing too many pitches, like cafe owners in the aftermath of Groupon? Are they just plain tired today?

After that, say a big thanks and leave them to their day. They've probably

helped you more than the guy who said he loved it.

Rule of thumb: There's more reliable information in a "meh" than a "Wow!" You can't build a business on a lukewarm response.

## Look before you zoom

Another way we miss the important questions is by instead spending our time on ultimately unimportant details. This can happen when we get stuck in the details before understanding the big picture.

Most people have lots of problems which they don't actually care enough about to fix, but which they'll happily tell you the details of if you ask them. Before you have solid evidence that you're fixing a meaningful problem for your customer segment, you can really mess yourself up by zooming in too quickly.

### A (really, really) bad conversation:

You: "Hello. Thanks for taking the time. We're building phone and tablet apps to help people stay in shape and just wanted to understand how you stay fit." This isn't a terrible opening, but I'd generally avoid mentioning the idea immediately since it gives them a good idea of which answers you're hoping to hear.

Them: "Okay." I never exercise, so this should be quick.

You: "How often do you go to the gym?" This sort of demographic data doesn't give you any new insight, but can still be useful at the start of a conversation to figure out what sort of person you're talking to so you can ask relevant follow-ups.

Them: "Not really ever." Well, looks like we're done here then!

You: "What would you say your biggest problem with going to the gym is?" This is where the conversation goes horribly wrong. Instead of figuring out whether staying fit is actually a real problem, we're prematurely zooming in on it. Any response we get is going to be dangerously misleading.

Them: “I guess the time it takes to get there. I’m always kind of busy, you know?” Wait, who says I have a problem with going to the gym? I thought I just told you I don’t care about the gym! But if I had to choose one, I guess I’d go with convenience. Not that I’ve done a pushup in 5 years. Pushups are pretty convenient.

You: “Perfect. That’s great. And could you rank these 4 in terms of which is most important to you in a fitness program: convenience, personalisation, novelty, or cost?” Note that we’re still assuming we’re talking to a person who actually cares about getting in shape. Questions like this don’t actually tell you if the person cares about any of it at all.

Them: “Probably convenience, then cost, then personalisation, then novelty.” Since you asked, I’ll answer. Hypothetically speaking, of course.

You: “Okay. Awesome. Thanks so much. We’re working on an app to help you exercise in the convenience of your own home. I think it’s going to be a great fit for what you care about.” Totally missing the point and mis-interpreting the conversation as validation. Now fishing for compliments.

Them: “Cool. I’d love to try it when it launches.” Half-hearted compliment plus non-committal stalling tactic.

You: “Great — I’ll send over one of our beta keys so you can check it out.” We got a user!

Them: “Thanks.” I am literally never going to type that in.

The reason this conversation is so very bad is because, if you aren’t paying attention, it seems like it went well. If you focus the conversation too quickly on one problem area, you can think you’ve validated a “top” problem when you haven’t. You just led them there.

If you ask me what my biggest problem with staying fit is, I’ll probably tell you it’s the time cost of going to the gym. But then, if you build me a

workout-at-home app, I'm going to ignore it. Even though commute time is the biggest problem with getting in shape, the whole area of fitness just isn't something I care about enough to act on. My #1 fitness problem is still an unimportant one.

Let's start the conversation again and fix it when it starts to go off track:

### A good conversation:

You: "How often do you go to the gym?"

Them: "Um. Not really ever." Looks like we're done here.

You: "Why not?" Instead of taking for granted that staying fit is one of their top priorities, let's dig into the motivations.

Them: "I don't know, it's just not something I'm that worried about, you know?" Not trying to fix this, so unlikely to buy or use an app.

You: "When's the last time you did try? Have you ever joined a gym or taken up jogging or anything?" Let's anchor the generic just to make sure...

Them: "Oh yeah, I used to be into sports in high school. It just hasn't been a big deal since I settled down. Running around after the kids gives me all the cardio I need!"

You: "Haha, gotcha. Thanks for the time!" This was a pleasant conversation and we learned what we came for, so we can abandon ship and leave him to his day.

The premature zoom is a real problem because it leads to data which seems like validation, but is actually worthless. In other words, it's a big source of false positives.

Let's re-run the same conversation, but instead of immediately zooming in on exercise, we'll start more generic, since we aren't sure that fitness is a must-solve problem:

## A good conversation:

You: "What are your big goals and focuses right now?" Products which solve problems on this list are infinitely more likely to get bought. We might alternately ask for major annoyances, costs, or joys.

Them: "The big one is finalising that promotion at work. And we just bought our first house, so I've got to get that all fixed up and ready to go. Exciting times. And I want to find a bit more time for the missus, you know? Things have been pretty busy lately." Work, house, and marriage. Not looking good for us!

You: "You're buying a new house and expect to be less busy?"

Them: "Can't blame a guy for hoping."

You: "Is getting healthier on that list?" We probably already know the answer, but it doesn't hurt to ask leading questions when you're about to abort the conversation anyway. If they come back with a positive, just be a little extra careful in making sure they aren't lying.

Them: "I'm actually feeling pretty good at the moment." Not a customer.

However, we don't always need to start the conversation from the square one of do-they-care-at-all. Sometimes we know the problem exists as a top priority and we can safely zoom in immediately.

For example, let's say we help drive qualified leads to small business websites. We know that marketing is always a top 3 problem for small businesses, so we can focus on it and start the conversation by zooming in with a question like:

You: What are your big problems with marketing? We can immediately zoom in on the problem if we are 100% certain it's a must-solve problem which people are ready to pay for.

Versus:

You: What are your big problems right now? If we aren't sure it's a must-solve problem, we start more generic to see if they care at all about the problem category, in which case they'll mention it.

Now imagine you've built the aforementioned marketing tool for small businesses and realise it could also be used to help bloggers get more attention. You're wondering if you have another strong customer segment. However, since blogs have a harder time monetising traffic than small businesses, we can't necessarily assume that they're also going to happily pay for traffic.

For example, I have a blog which I quite like (but which I don't take seriously as a business). If you're talking to me and you ask, "Hey Rob, what are your top problems with marketing your blog?" Then you've just prematurely zoomed on a non-problem.

I'm going to tell you some sort of answer which sounds legit but is actually misleading. I might say that my keywords are all kind of generic, so it's hard to attract the right people. Or that I walk a fine line between writing beginner and advanced articles, so it's tough to attract the right people. Whatever. Problems exist with my blog marketing, but the whole space just isn't something I'm too fussed about. I write because it's fun, not because it's how I pay my rent.

To have a useful conversation, you need to zoom back out to ask about my blog in general, rather than marketing my blog.

### A good conversation:

You: "Hey Rob, what are the top problems with your blog?"

Me: "I'm pissed that Google Reader is disappearing — I feel that I'm going to lose like half my followers. And this book is consuming all of my interest in writing, so I haven't really posted in months. And Wordpress seems so slow these days." Of the topics here, one of them (Google Reader and audience size) is related to marketing, so you can anchor on that and figure out whether I'm a customer or just a complainer.

You: “That Google Reader thing is a mess. What are you doing about it?” Now that you’ve let me raise the topic, you know it’s on my mind and can more safely zoom in to talk about that specifically. As before, try to figure out what I’m already spending time and money on.

Me: “Nothing, really. I don’t know what to do. But it sucks.” I’m not appearing terribly motivated, but the fact that I don’t know what to do could give you hope.

You: “Have you looked into what your options are?” Continue anchoring and digging.

Me: “No, I just caught the drama on Hacker News.” I knew the reader-pocalypse was coming and didn’t even search around to properly understand the implications and my options. This just isn’t a big deal for me, despite how “annoyed” I claim to be.

You: “Are you going to make a serious effort to build your audience back up?” You are digging into the audience size signal, since it’s relevant to your space. It’s a fluff-inviting question (hypothetical future-tense), so you should be skeptical of the answer, but it’s hard to see a better way to get at the information you want from here. Not every question can be perfect, sadly.

Me: “Probably just keep on writing when I have something to say. It’s more of a hobby than a business, really.”

At this point, you might be suspicious about how much I actually care about my blog. When it’s not clear whether a problem is a must-solve-right-now (e.g. you’re selling a painkiller) or a nice-to-have (you’re selling a vitamin), you can get some clarity by asking cost/value questions like the following.

### **“Does-this-problem-matter” questions:**

- “How seriously do you take your blog?”

- “Do you make money from it?”
- “Have you tried making more money from it?”
- “How much time do you spend on it each week?”
- “Do you have any major aspirations for your blog?”
- “Which tools and services do you use for it?”
- “What are you already doing to improve this?”
- “What are the 3 big things you’re trying to fix or improve right now?”

Some of these questions are generic, but give us signals that we can anchor on and dig around. The bulk of them are about finding out whether the person we’re talking to is taking this space seriously. Are they spending money or making money? Is it in their top 3? Are they actively looking for solutions?

When you fall into a premature zoom, you can waste a ton of time figuring out the minutia of a trivial problem. Even if you learn everything there is to know about that particular problem, you still haven’t got a business.

Rule of thumb: Start broad and don’t zoom in until you’ve found a strong signal, both with your whole business and with every conversation.

## **Look at the elephant**

Lastly, sometimes we comfort ourselves by asking questions which don’t actually de-risk the business or resolve those critical, big, scary, lurking questions. We ignore the elephant in the room.

Let’s say we suspect that teachers from the poorest schools are completely overloaded, and that our tools would save them time so they could better educate their students. We go talk to them and confirm that yes, they are completely overloaded. We then spend weeks with them, figuring out exactly what their dream tool would do. Unfortunately, we’ve missed the elephant, which is that the poorest schools may not have the budgets available to pay us what we need. We’re liable to spend a huge amount of time exploring a real and urgent problem, only to hop into the deadpool due to our customer’s budgeting issues.

Successful startups tend to depend on multiple failure points. In this case it

is both the needs of the teachers and the ability of the schools to pay us. If any of these conditions doesn't exist, we have to significantly overhaul our idea. It's tempting to obsess over the most interesting of several failure points and ignore the others. It's a great way to miss important questions.

Beyond the risks of our customers and market, we also have challenges with our own product. Overlooking the product risks is just as deadly as overlooking the goals and constraints of our customers. Take the following conversation with a professional public speaker. Is it full of good data or bad data?

### **An ambiguous conversation:**

Them: “...I get paid 2 or 3 grand per talk. Sometimes more if it’s corporate work.” Some good pricing and value signals.

You: “Where do you get your gigs? Do you have an agent?” Trying to understand the alternatives.

Them: “Yeah. He kind of sucks though. Most of my work comes through people who just know me from my blog or have seen my other talks.” Hardly a must-solve problem since he has a reliable workaround, but at least it’s high value.

You: “What’s wrong with the agent? And why do you still work with him?” Dig.

Them: “I’m one of the lowest-paid people they work with, so I get ignored a lot. But sometimes he brings in deals, so whatever. It’s free money.” Good information on his motivations and goals.

At this point, let’s say I’m confident that getting gigs is important to him. I also know what it’s worth and how he’s currently accomplishing it. So I zoom in to introduce the problem I’m solving and the way I want to approach it.

You: “I’m building a marketplace to cut out the agents and connect event organisers directly with speakers. It should help you get more gigs and keep the agent fees. How would that fit into your

speaking life?”

Them: “Man, that’s awesome. If you could get me more more gigs — or better paid ones — I’d happily drop my agent and pay you 20% of the boost. I know a bunch of other people who would love to as well.” This is the important bit — is it good?

So what’s the result? Beyond being excited, we got some concrete data about how valuable this could be to him. Plus, it involved a commitment to be one of our early users. It sure seems good.

But what did he actually tell us? He said that if we can get him more gigs, then he’ll pay a cut. Well, obviously. Who doesn’t want free money? His needs are clear: he wants to make more money by speaking. If we can send him work, he’ll share some of it with us. This was never really in doubt.

The key phrase of “if you could get me more gigs” is basically shifting the burden from the customer to your product. Even though you’ve found a pain, your success is dependent on a bunch of other factors, such as your ability to grow a healthy supply of paying gigs which are a good fit for him. Will you be able to do that? It remains to be seen.

This situation is easier to spot in the online advertising industry. Imagine running customer conversations with an advertiser to try to understand their pains so you can convince them to advertise on your site. They’d sort of look at you blankly and say, “Listen, if you can get enough page views, we’ll pay you for them.” In fact, it’s such a well established would-pay-to-solve-problem that you don’t even need to talk to them to set it up. You just plug in an ad network and you’re done.

Similarly with affiliate commissions. If you sell a company’s products, you get a cut. That’s just how it works. You don’t need to explore or validate or understand their problems. The risk resides in your ability to get lots of traffic and sell lots of products. If you can, they’ll pay you.

In all of these examples, the risk is in your product, not in the market or the customer. The customer will pay if your product gets big enough.

- Product risk — Can I build it? Can I grow it? Will they keep using it?

- Market risk — Do they want it? Will they pay? Are there enough of them?

You don't want to overlook one or the other. I met a founder who had wasted 3 months on worthless customer conversations. He wanted to start a company building gadgets to track the fertility of farm animals, ultimately boosting birthrates and thus revenue. When he talked to farmers, he asked questions like, "Would you switch trackers if something cheaper and more effective was available?" That's the same as asking someone whether they would like more money. The answer is always "Yes." The farmers responded along the lines of, "If you can build what you say you can build, I'll equip my whole herd." The problem is, he couldn't build it. The risk was in the product.

I've also seen this strike several of the recent companies who want to use mobile/realtime deals to drive foot traffic to bars and clubs. They run customer conversations with bar owners who confirm that: yes, they would like more customers on the slow nights; and yes, they would pay you if you could send customers on demand. The founders take this as strong validation ("They have the problem and committed to pay!") without recognising that the vast majority of the risk is in the product, not the market. Bars will pay, but only if you can amass a huge audience of consumers. Then the founders talk to consumers and ask if they would use an app which always pointed them to booming parties with cheap booze. Again, obviously yes. But that doesn't tell us whether we can actually get to that critical mass of users.

Video games are pure product risk. What sort of question could you ask to validate your game idea? "Do you like having fun?" "Would you like to have even more fun?" Practically 100% of the risk is in the product and almost none is in the customer. You know people buy games. If yours is good and you can find a way to make them notice it, they'll buy it. You don't need to rediscover people's desire to play video games.

This isn't to say that you shouldn't talk to anyone if you're building something with product risk. In the case of the farm fertility monitor, it's good to know that the farmer isn't opposed to switching tech once he's already got something installed, for example. For the nightclubs, it's good to know that they're at least theoretically willing to pay for promotion. It would be tragic to succeed at the hard work of creating the technology or

community only to learn nobody will pay for it.

What all this does mean is that if you've got heavy product risk (as opposed to pure market risk), then you're not going to be able to prove as much of your business through conversations alone. The conversations give you a starting point, but you'll have to start building product earlier and with less certainty than if you had pure market risk.

# Prepare your list of 3

Always pre-plan the 3 most important things you want to learn from any given type of person.

Pre-planning your big questions makes it a lot easier to ask questions which pass The Mom Test and aren't biasing. It also makes it easier to face the questions that hurt. If we go through an unplanned conversation, we tend to focus on trivial stuff which keeps the conversation comfortable. Instead, decide what to ask with your team in a calm environment.

Your 3 questions will be different for each type of person you're talking to. If you have multiple types of customers or partners, have a list for each.

Don't stress too much about choosing the "right" important questions. They will change. Just choose the 3 questions which seem murkiest or most important right now. Doing so will give you firmer footing and a better sense of direction for your next 3.

You might get answers 1-3 from customer A, answer 4 from customer B, answers 5-7 from customer C. There's overlap and repetition, but you don't need to repeat the full set of questions with every participant. Don't feel obliged to repeat questions you already have reliable data on. Pick up where you left off and keep filling in the picture.

Knowing your list allows you to take better advantage of serendipitous encounters. Instead of running into that dream customer and asking to exchange business cards so you can "grab a coffee" (exactly like everyone else), you can just pop off your most important question. And that goes a long way toward Keeping it Casual.

Rule of thumb: You always need a list of your 3 big questions.

## CHAPTER FOUR

# Keeping it casual

We know that zooming prematurely and introducing your idea too early creates biases and can get you stuck on a local maximum. In his original book on Customer Development, 4 Steps to the E.piphany, Steve Blank solves this by recommending 3 separate meetings: the first about the customer and their problem; the second about your solution; and the third to sell a product. By splitting the meetings, you avoid the premature zoom and biasing them with your ideas.

In practice, however, I've found it both difficult and inefficient to set them up. The time cost of a 1-hour meeting is more like 4 hours once you factor in the calendar dance, commuting, and reviewing. It's also a big time commitment to ask from the customer before you're in a position to show them anything in return.

In the early days, asking for the first conversation was simply impossible for me. I wasn't credible enough, so nobody wanted to take a meeting just to talk to me about their day. Steve recommends starting with friendly first contacts. Definitely do that if you have them. Thanks to The Mom Test, the fact that they're friends won't bias your data, so long as you ask good questions. In my case though, I was entering a new industry with high walls (brand advertising) and no friendly first contacts.

As my credibility built after a couple years in the industry, I found I was now able to get meetings without any real "reason". The 3-meeting structure was finally viable! But once I started doing it, it felt like a bad use of my time. The most precious resource a startup has is its founders' time and attention. You have to put yourself where you matter most, and I wasn't finding early customer meetings to be that place. I wished I could get the

learning without all the overhead.

If the solution isn't a 3-meeting series, then what is it? You may have noticed a trend throughout the conversation examples we've seen so far: keeping it casual.

Let's say I'm trying to build tools to help public speakers get more speaking gigs and I bump into one at a conference. I'm not going to try to set up a meeting. Instead, I'm just going to immediately transition into my most important question: "Hey, I'm curious—how did you end up getting this gig?" As a side bonus, we're also now having an interesting conversation and I'm far more likely to be remembered and get a meeting later.

When you strip all the formality from the process, you end up with no meetings, no interview questions, and a much easier time. The conversations become so fast and lightweight that you can go to a industry meet-up and leave with a dozen customer conversations under your belt, each of which provided as much value as a formal meeting.

The structure of separate problem/solution/sales conversations is critical for avoiding bias, but it's important to realise that the first one doesn't actually need to be a meeting.

Rule of thumb: Learning about a customer and their problems works better as a quick and casual chat than a long, formal meeting.

## The meeting anti-pattern

The Meeting Anti-Pattern is the tendency to relegate every opportunity for customer conversation into a calendar block.

Beyond being a bad use of your time and setting expectations that you're going to show them a product, over-reliance on formal meetings can cause us to overlook perfectly good chances for serendipitous learning.

Imagine that you're in a crowded cafe, tapping away at your keyboard, when your dream boy/girl sits down next to you. They're wearing a charming hat and give you a friendly nod before cracking open a dog-eared old novel which just totally completes the mood. You slam down a quick espresso to

psych yourself up and fumble through some sort of awkward monologue about how they seem like a really nice person and this is kind of weird because you don't even know each other but maybe they want to go get a coffee sometime? Like, a different coffee? At a different place?

We know this is a silly situation. After all, the purpose of a date is to talk to each other and see if you get along. Therefore, for all intents and purposes, you were already on a date. And then you messed it up by trying to over-formalise it when you could have just chatted a bit and skipped that whole first date completely.

We're going to pull exactly the same trick on our early customer conversations. We're going to strip the pomp and circumstance and reduce it from a meeting to a chat. If we do it right, they won't even know we were talking about our idea.

I was considering a product idea to make office managers more efficient. I played with the possibilities on Friday, figured out the big questions over the weekend, and then went to an industry event on Monday. A handful of office managers were there and without any of them realising we'd "had a meeting", I'd learned that the big problem was really about debt collection rather than efficiency. I got there by just being interested and chatting with them over a beer: "X seems really annoying, how do you deal with it?" "Is Y as bad as it seems?" "You guys did a great job with Z... Where did you get that from?"

Being too formal is a crutch we use to deal with an admittedly ambiguous and awkward situation. Instead of leaving wiggle room for the unexpected, everything becomes a process.

### Symptoms of formality:

- "So, first off, thanks for agreeing to this interview. I just have a few questions for you and then I'll let you get back to your day..."
- "On a scale of 1 to 5, how much would you say you..."

Learning from customers doesn't mean you have to be wearing a suit and drinking boardroom coffee. Asking the right questions is fast and touches on

topics people find quite interesting. You can talk anywhere and save yourself the formal meetings until you have something concrete to show.

At their best, these conversations are a pleasure for both parties. You're probably the first person in a long time to be truly interested in the petty annoyances of their day.

Rule of thumb: If it feels like they're doing you a favour by talking to you, it's probably too formal.

# How long are meetings?

Early conversations are very fast. The chats grow longer as you move from the early broad questions (“Is this a real problem?”) toward more specific product and industry issues (“Which other software do we have to integrate with to close the sale?”).

It only takes 5 minutes to learn whether a problem exists and is important. Learning how someone currently achieves a certain goal or solves a problem is also quick.

Soon you’ll find yourself asking questions which are answered with long stories explaining their workflow, how they spend their time, or what else they’ve tried. You can usually get what you came for in 10-15 minutes, but people love telling stories about themselves, so you can keep this conversation going indefinitely if it’s valuable for you and interesting for them.

At the longer extreme, learning the details of an industry takes an hour or more. Thankfully, those are easier conversations to manage since the other person (usually some sort of industry expert) can go into a monologue once you point them in the right direction.

The duration of formal B2B meetings (the kind you schedule) is determined more by the arbitrary calendar block than by what you actually want to learn. Of course, you’re liable to burn 15 minutes just to get a cup of tea and say hello.

Once you have a product and the meetings take on a more sales-oriented feel, you’ll want to start carving out clear blocks of 30+ minutes. You might lose 5 minutes due to miscellaneous tardiness, spend 5 minutes saying hello, 5 minutes asking questions to understand their goals/problems/budget, 10 minutes to show/describe the product, and the last 5 minutes figuring out next steps and advancement. That’s your half hour.

The potential speed of the early conversations one of the big reasons I like keeping it casual and skipping the meeting. Scheduling and going to a meeting has a lot of overhead for a 10 minute chat. Even explaining that you’re starting a company and would love to ask a couple questions can take

5 or 10 minutes. You'll make progress a lot faster if you're able to leave your idea out of it for as long as possible.

## Putting it together

Even within a more formal meeting, you still might want to keep it casual if you're hoping to get non-biased feedback.

I once had a product idea to help busy investors to manage their dealflow. I knew they got hundreds of applications per month and figured it must be a spreadsheet nightmare. I lined up a couple meetings to ask about the industry. I showed up to the first meeting and, while making smalltalk, said something like “I was thinking, you guys must get a ton of leads, right?” The guy laughed and said, yeah, it was crazy. “How in the world do you deal with all of that?” He sort of shrugged and pointed at a cluster of about a dozen sticky notes on the wall.

Each held a name and a phone number. “Our analysts kill most of them before they ever reach us, and then we throw out a bunch more. We only end up with about 10 apiece that are serious contenders. We just call every couple weeks to see how it’s going.” Well that doesn’t sound so bad, I said. “Yeah, it works pretty well,” he replied. “Anyway, what did you want to talk about?”

They don’t have the problem. That’s successful learning. We disproved our idea before the guy even realised we were talking about it. It took 5 minutes, avoided biases, and didn’t feed us any bad data in the form of compliments, fluff, or ideas. Instead, we got concrete facts about our customers which are directly relevant to our core business questions.

Of course, it took me a 2-hour commute to get to those 5 minutes. It can’t be perfect every time.

In the aforementioned case, we proved ourselves wrong. Sometimes, however, it goes in the opposite direction and everything we learn from customers makes us even more excited. In that case, we stand atop all that we’ve learned and take the visionary leap of coming up with a specific product and business to make our customers’ lives better. And then we ask them to commit to it.

Rule of thumb: Give as little information as possible about your idea while still nudging the discussion in a useful direction.

# CHAPTER FIVE

# Commitment and advancement

Once we've learned the key facts about our industry and customers, it's time to zoom in again and start revealing our idea and showing some product. The bad news is that this invites nefarious compliments. The good news is that since we have the beginnings of a product, we're now in a position to cut through the false positives by asking for commitments.

In sales, moving a sales relationship to the next stage is called "advancement". It's like pushing a customer into the next step of your real-world acquisition funnel. They'll either move forward or make it clear that they're not a customer. Both are good results for your learning.

When you fail to push for advancement, you end up with zombie leads: potential customers (or investors) who keep taking meetings with you and saying nice things, but who never seem to cut a check. It's like your startup has been friend-zoned. Thankfully, you caused it, and that means you can fix it. It's a consequence of being clingy and fearing rejection. By giving them a clear chance to either commit or reject us, we get out of the friend-zone and can identify the real leads.

As always, you're not trying to convince every person to like what you're doing. When you've got the information you came for (even if it's that they don't care), you can leave. But at some point, you do need to put them to a decision in order to get it.

**Symptoms:**

- A pipeline of zombie leads
- Ending product meetings with a compliment
- Ending product meetings with no clear next steps
- Meetings which "went well"
- They haven't given up anything of value

As I use them in a customer learning context, commitment and advancement are separate concepts which overlap quite a lot and tend to appear together.

- Commitment — They are showing they're serious by giving up something they value such as time, reputation, or money.
- Advancement — They are moving to the next step of your real-world funnel and getting closer to a sale.

Commitment and advancement often arrive hand-in-hand. For example, to move to the next step (advancement), you might need an introduction to your contact's boss (reputation commitment). As such, they are functionally equivalent for our purposes and I'm going to blur them into one concept for the following sections.

Rule of thumb: “Customers” who keep being friendly but aren’t ever going to buy are a particularly dangerous source of mixed signals.

## **Meetings succeed or fail**

It took me years to learn that there’s no such thing as a meeting which just “went well”. Every meeting either succeeds or fails. You’ve lost the meeting when you leave with a compliment or a stalling tactic. While we might spot something as blatant as “Let’s talk again after the holidays... Don’t call me, I’ll call you,” we accept the more subtle versions every day.

A meeting has succeeded when it ends with a commitment to advance to the next step. But you have to force this resolution or the meetings drift along in la-la-land while performing their ancient duty: wasting everyone’s time.

If you leave with worthless wishy washiness, I'd bet you're falling for one or both of the following traps:

1. You're asking for their opinion about your idea (e.g. fishing for compliments)
2. You're not asking for a clear commitment or next steps

You know how to deal with compliments by now: deflect, ignore, and get back to business. Commitments are similarly easy to master, once we know what we're looking for. When we leave without a commitment, sometimes it's because we asked and got rejected. That's sad, but it happens. Not everyone is going to convert and at least you now know where you stand. You have a strong negative data point.

The real failure is listed above as #2: not even asking. I never consider rejection to be a real failure. But not asking certainly is. This can happen because you avoid the scary question or because you haven't figured out what the next steps should be.

Commitment is important. It tells us whether people are actually telling the truth. The more they give us, the more we can trust what they say.

Rule of thumb: If you don't know what happens next after a product or sales meeting, the meeting was pointless.

## The currencies of conversation

Commitment can be cash, but doesn't have to be. Think of it in terms of currency—what are they giving up for you? A compliment costs them nothing, so it's worth nothing and carries no data. The major currencies are time, reputation risk, and cash.

A time commitment could include:

- Clear next meeting with known goals

- Sitting down to give feedback on wireframes
- Using a trial themselves for a non-trivial period

Reputation risk commitments might be:

- Intro to peers or team
- Intro to a decision maker (boss, spouse, lawyer)
- Giving a public testimonial or case study

Financial commitments are easier to imagine and include:

- Letter of intent (non-legal but gentlemanly agreement to purchase)
- Pre-order
- Deposit

Sometimes, strong commitments combine multiple currencies, such as someone agreeing to run a paid trial with their whole team, thus risking their time, money, and reputation.

Just like compliments aren't data when you're trying to learn about a problem, they also aren't progress when you're trying to validate a product. Hearing a compliment can still be useful though—it's a warning flag that the person you're talking to is trying to get rid of you.

Rule of thumb: The more they're giving up, the more seriously you can take their kind words.

## Good meeting / bad meeting

Game time again. We just had a meeting. But how did it go? Were they good meetings or bad meetings? Why? And if they're bad, what can we do to fix them?

Have a think about the meetings listed below and then turn the page for further discussion.

“That’s so cool. I love it!”

“Looks great. Let me know when it launches.”

“There are a couple people I can intro you to when you’re ready.”

“What are the next steps?”

“I would definitely buy that.”

“When can we start the trial?”

“Can I buy the prototype?”

“When can you come back to talk to the rest of the team?”

**"That's so cool. I love it!"**

Bad meeting. Pure, unadulterated compliment. This may make you feel good, but there is precisely zero data here. But at least you won't hurt yourself on this one since it's so obviously fluff.

To fix it, deflect the compliment and get back to business.

**"Looks great. Let me know when it launches."**

Bad meeting. A compliment plus a stalling tactic is the classic way to end a pitch for something you're never going to buy. This comes in a lot of flavours, but they're all basically a polite way to say, "Don't call me, I'll call you."

The big error you can make here is to mistake this compliment-stall for a pre-order ("He said he'll buy it when it launches!"). To fix it, I'd look for a commitment I could ask for today.

If I was very early stage, I might ask for an introduction to his boss or tech team or the budget-holder so I can make sure I fully understand their needs.

If I was slightly further through development, I might push him to agree to be one of our alpha users and to roll it out to some subset of their team and be a case study for launch. If I've hit on a real problem, he'll jump at the chance to start making progress today and get early access.

"There are a couple people I can introduce you to when you're ready."

Nearly a good meeting, but right now it's bad. There's some data here, but probably not as much as you initially hope. On the bright side, at least you know he doesn't think you're completely nuts or he wouldn't have even made the fluffy offer (unless he's just name dropping). The problem is that the promise is so generic that it's a worthless signal.

To fix it, try to convert fuzzy promises into something more concrete. The more specific it is, the more seriously you can take it. For example: who does he want to introduce you to and what does "ready" mean? And why can't he make the intro now? This isn't about being pushy. You don't have manifest destiny over his rolodex. But you do need to distinguish between legitimate offers and polite gesturing. Knowing what "ready" means can also give you a better sense of what your short-term goals should be.

"What are the next steps?"

Good meeting. A classic good meeting conclusion. To succeed, a meeting doesn't need to end with a check in your pocket. It just needs to advance to the next step, whatever that is.

It's worth noting that you need to know your next steps to benefit from this. If you have to say, "Let me have a think about that and get back to you," then you've ruined a perfectly good meeting.

Of course, even clear next steps can be a lie. Everything can be a lie. But with next steps in your pocket, you've got a fighting chance.

## "I would definitely buy that."

Bad meeting. Danger! There's admittedly some signal here, but the false positive danger is off the charts. This is the mis-interpreted answer which sunk the first startup I worked at to the tune of ten million bucks.

To fix it, you need to shift from fuzzy future promises into concrete current commitments. For example, you could ask for a letter of intent, a pre-purchase or deposit, or intros to other decision makers and team members. Kickstarter is so wonderful because it forces customers who say they would buy it to actually pull out a credit card and commit.

## "When can we start the trial?"

Maybe a good meeting. Unlike "when does it launch," which is usually a stall, "When can we start" is a step forward. Setting up new software and training staff to use it is a big deal for most businesses. Even a "free" trial can cost them serious money. However, in some cases, "trying" software costs nothing, especially for individuals. For example, I've "tried" countless CRM (contact management) apps. It takes ten seconds to log in, look around, and never think about it again.

As always, think in terms of currency. What are they giving up to try it out? If your trial is too "cheap" to try, you can try to increase the cost of it. For example, you could ask to write a case study about them after they've spent 2 weeks using it. Or you could get them to promise to try using it with their team for at least a week. If you've got a more developed product, you can take their credit card and just charge them nothing if they cancel within 30 days. The more they are giving up for you, the more seriously you can take their validation.

## "Can I buy the prototype?"

Great meeting. The best meeting conclusion I've seen is the rarely-heard but always appreciated, "Can I buy the prototype?"

A product designer was once showing me a brilliant smartphone tripod he was designing. He demo'd the 3D-printed prototype unit for me and I immediately asked him how much it would cost to buy the prototype. He laughed and said he'd gone through about a dozen prototypes already because people kept buying them. That's a good sign.

## "When can you come back to talk to the rest of the team?"

Good meeting. Bingo! If you are selling anything to companies, you're going to have to talk to multiple people. If they won't introduce you, then it's a sure bet you're at a dead end.

Enterprise sales is tedious, but one of the perks is that you can get really accurate signals like this one quite early in the process. Building consumer products is a lot murkier since the customer conversation process doesn't mimic the purchase process.

## How to fix a bad meeting

The worst meetings are the wishy-washy ones that you leave with neither rejection nor advancement. You are in no-man's-land and you won't learn anything until you fix the meeting by forcing a next step (or rejection).

A lost meeting can often be saved by just pushing for a commitment at the end while you're being brushed off with a compliment.

But don't be annoying. You aren't trying to strong-arm folks into handing over their wallet. You are trying to cut through some of the polite rejections and find out if they're actually going to become a partner/investor/customer.

If they aren't excited, then good news: you got the information you came for. Assimilate it, decide if it matters enough to change your strategy, and then keep on keeping on. The goal is just to put them to a decision so you can

learn whether you've found a must-have product and a real customer.

Rule of thumb: It's not a real lead until you've given them a concrete chance to reject you.

## **Don't pitch blind**

Even once you've moved on to more product-focused sales meetings, you still want to start with some open-ended learning to get your bearings. You may know what the market cares about, but figuring out what's unique about this particular person feels. It will make the rest of the conversation much smoother, increases your chances of closing the deal, and also gives you ongoing learning even after you've got a product.

Startup sales meetings too often go like this:

You: "We do X. Want to buy it?"

Them: "No thanks."

Those rejections aren't helpful. Hard pitching gives binary feedback: you either nailed it or you didn't. That's okay when you're making fine adjustments (tweak this feature) but bad for bigger questions (does anybody care at all about what I'm doing).

Ask learning questions which pass The Mom Test. Then confirm by selling it. This happens over both the life of your company and during a single meeting.

## **Crazy customers and your first sale**

It's pretty weird that anybody buys anything from young startups. In all likelihood, before the year is up, you're going to either go out of business, abandon the product, or sell the company. And even if you stay the course, there's no guarantee you can actually do what you say you can do.

First customers are crazy. Crazy in a good way. They really, really want

what you're making. They want it so badly that they're willing to be the crazy person who tries it first.

Keep an eye out for the people who get emotional about what you're doing. There is a significant difference between: "Yeah, that's a problem" and "THAT IS THE WORST PART OF MY LIFE AND I WILL PAY YOU RIGHT NOW TO FIX IT."

Steve Blank calls them early evangelists (early evangelists). In the enterprise software world, they are the people who:

- Have the problem
- Know they have the problem
- Have the budget to solve the problem
- Have already cobbled together their own makeshift solution

They're the company who will commit way before it makes rational sense to do so. It's the guy who will give you cash right now from his discretionary budget to run a trial. Or who will fight for you against his boss and lawyers when they're saying the tech is unproven.

In the consumer space, it's the fan who wants your product to succeed so badly that they'll front you the money as a pre-order when all you've got is a duct-tape prototype. They're the one who will tell all their friends to chip in as well. They're the person reading your blog and searching for workarounds.

We've got 2 takeaways.

Firstly, when someone isn't that emotional about what you're doing, it's pretty unlikely that they're going to end up being one of the people who is crazy enough to be your first customer. Keep them on the list, but don't count on them to write the first check.

Secondly, whenever you see the deep emotion, do your utmost to keep that person close. They are the rare, precious fan who will get you through the hard times and turn into your first sale.

In summary, after you've learned the facts of your industry and customers and designed the solution, you start pushing for advancement and commitments to separate dead leads from real customers.

Rule of thumb: In early stage sales, the real goal is learning. Revenue is just a side-effect.

CHAPTER SIX

# Finding conversations

Now that you know how to ask good questions and fix bad meetings, you know enough to have good customer conversations. Take this opportunity to go flex your conversational muscles and talk to some people.

If you're scratching your own itch with this business, you likely already know your customers. Great! Go talk to them. Now that you're armed with The Mom Test, they won't be able to lie to you even though they know you.

But if you don't already know folks, where do these conversations and meetings come from?

# Going to them

Drumming up good conversations from cold leads is hard. It's doable and sometimes you have no choice, but it's far from ideal.

The goal of cold conversations is to stop having them. You hustle together the first one or two from wherever you can, and then, if you treat people's time respectfully and are genuinely trying to solve their problem, those cold conversations start turning into warm intros. The snowball is rolling.

## Cold calls

What does it mean if you reach out to 100 people and 98 of them hang up on you? Well, nothing, except that people don't like getting cold calls. No surprise there. More importantly, it means you've now got 2 conversations in play. Unless your plan is to sell your app via cold calls, the rejection rate is irrelevant.

I know one team who successfully used cold LinkedIn messages to reach C-level execs of several major UK retailers. They were ignored by practically every exec in the country, but you only need one to say "yes" to start the intro train.

Beyond hard hustle, you should also stay open to serendipity. There are lots of ways you can get lucky when you're in the mood for it.

## Seizing serendipity

I was mulling over the idea of building tools for professional speakers and found myself at a friend-of-a-friend's engagement party. I heard someone across the room say "my talk in Tokyo next week" and made a beeline over to her. She left the party thinking I was a nice guy who was super interested in her career and I left with a bunch of useful customer insight and a commitment to use the prototype at her next talk.

If it sounds weird to unexpectedly interview people, then that's only the case because you're thinking of it as an interview instead of a conversation. The only thing people love talking about more than themselves is their problems. By taking an interest in the problems and minutia of their day, you're already

being more interesting than 99% of the people they've ever met.

Rule of thumb: If it's not a formal meeting, you don't need to make excuses about why you're there or even mention that you're starting a business. Just have a good conversation.

## Find a good excuse

I was chatting to an aspiring entrepreneur in a cafe. Among other things, his product helped cafe owners educate potential customers on the origins and backstory of their beans. He had been hitting the pavement for the past 2 weeks and getting turned away from cafe after cafe. He wanted to talk to me about his customer interview process. Ten minutes into the conversation, I cut in: "Who have you talked to so far?" "Nobody—I don't know the owners and the staff won't help me." "Have you talked to this cafe?" "No, I don't know them." A waitress walked by and I flagged her down. "Excuse me, can I speak to the owner?" "Umm." "Don't worry, it's nothing bad. This coffee is amazing and I wanted to ask him about the story behind the beans." The owner wasn't around, but with a good excuse in hand, we were soon chatting with the manager. And the manager, in turn, gave us the owner's contact details and said he'd be in on Tuesday.

You've got the ultimate excuse if you have a PhD student on your founding team. "Hello, I'm doing my PhD research on the problems around X, it would be a huge help if I could ask you a couple questions for my dissertation."

Rule of thumb: If it's a topic you both care about, find an excuse to talk about it. Your idea never needs to enter the equation and you'll both enjoy the chat.

## Immerse yourself in where they are

I wanted to build tools for public speakers and conference organisers. I knew a few at the lower and middle tiers, but none of the big names who charge \$5-50k per talk, who I thought might be a good customer segment for obvious reasons. I hit the conference circuit and gave free talks everywhere I could.

Permanently on the road, everywhere I went was an opportunity to meet new speakers, do favours for event organisers, and learn what they care about. By immersing myself in the community I met a load of people and soon had all the connections and conversations I could handle (I ultimately decided that big speakers and big conferences were a bad customer segment and walked away—not every conversation has to end in finding out your idea is awesome).

## Landing pages

Joel Gascoigne did a classic "landing page" test with his startup Buffer, describing the value proposition and collecting emails. But contrary to popular understanding, it wasn't the metrics or conversion rate which convinced him to move forward. Instead, it was the conversations which resulted from emailing every single person who signed up and saying hello.

I'm skeptical of the quantitative validation of landing page metrics. But they are certainly a great way to collect emails of qualified leads for you to reach out to and strike up a conversation with.

Paul Graham recommends a generic launch for the same purposes. Get your product out there, see who seems to like it most, and then reach out to those users.

This is starting to bring the customers to you instead of going to them, but still involves sending a mostly cold email. Next we'll look at how to run with this principle to make our lives even easier.

## Bringing them to you

When you are finding ways to sneak into customer conversations, you're always on the back foot. You made the approach, so they are suspicious and trying to figure out if you're wasting their time. Instead, we can look for ways to separate ourselves from the crowd so they can find us. Beyond saving you vast sums of time and frustration, bringing people to you also makes them take you more seriously and want to help you more. How can you plant a flag your customers can see? What can you offer them that will make them want to talk to you?

## Organise meetups

For marginally more effort than attending an event, you can organise your own and benefit from being the centre of attention.

Want to figure out the problems HR professionals have? Organise an event called “HR professionals happy hour”. People will assume you’re credible just because you happen to be the person who sent the invite emails or introduced the speaker. You’ll have an easy time chatting to them about their problems.

Nobody ever follows this recommendation, but it’s the first thing I would do if I got moved a new industry or geography. It’s literally the most unfair trick I know for rapid customer learning. As a bonus, it also instantly bootstraps your industry credibility.

## Speaking & teaching

Teaching is under-valued as both a learning and selling tool. Let's say you're making better project management software. In that case, you probably have both expertise and a strongly held opinion about how things could be better. That's the magic combination for being an effective teacher.

Spend the time to teach. You'll find chances at conferences, workshops, through online videos, blogging, or doing free consulting or office hours.

You'll refine your message, get in touch with a room full of potential customers who take you seriously, and will learn which parts of your offering resonate (before you've even built it). Then simply chat up the attendees who are most keen.

## Industry blogging

If you have a reasonably sized and relevant blog audience, lining up conversations is a total non-issue. You just write a post about it and ask people to get in touch. Of course, not everyone has a relevant audience. That's one big reason to start blogging to your customers today.

Even when I had no audience, I still found blogging to be helpful. When I sent cold emails from my blog email address, folks would often meet with me because they had checked my domain, seen my industry blog, and figured I was an interesting person to talk to. In other words, the traffic and audience were irrelevant. Blogging about an industry is also a good exercise to get your thoughts in a row. It makes you a better customer conversationalist.

## Get clever

I once heard a brilliant hack from a guy who wanted to sell to top-tier universities like Stanford and Harvard. But first he needed to understand their problems (difficult) and be taken seriously by the decision makers (even more difficult).

His solution was to organise a semi-monthly "knowledge exchange" call between the department heads of 3 top universities to discuss the challenges around his topic of choice. Furthermore, it was set up as a conference call where any other universities could dial in and listen to the best practices of the big 3.

By simply organising the call and playing host, he immediately absorbed all the credibility of the top universities and got direct phone access to a pile of great leads.

Every business is different. Don't just copy what someone else is doing. Consider your own situation, and then get clever.

## Creating warm intros

Warm intros are the goal. Conversations are infinitely easier when you get an intro through a mutual friend that establishes your credibility and reason for being there.

## 7 degrees of bacon

The world is a relatively small place. Everyone knows someone. We just have to remember to ask.

I was talking to a team of recent graduates who needed to reach McKinsey style consultants. They were pulling their hair out. We were in a coworking space full of other young entrepreneurs, so I just stood on a chair and yelled, “Excuse me! Does anyone here know anyone who works at McKinsey? Can we talk to you for a second? We’ll buy you a beer — you could really help us out!” They bought 3 beers, had 3 quick chats, and left with a diary full of intros.

This is even easier for consumer products. Not everyone knows folks at McKinsey, but everybody does know, for example, a recent mom or amateur athlete or theatre enthusiast.

Rule of thumb: Kevin Bacon’s 7 degrees of separation applies to customer conversations. You can find anyone you need if you ask for it a couple times.

## Industry advisors

I relied heavily on advisors in my first company. We didn’t know the industry and nobody took us seriously. Our 5 advisors each had around a half percent of equity and basically just made credible intros. I met with each once per month, so I ended up getting a fresh batch of intros weekly without it being a huge time burden for any of them.

On a bit of a tangent, you’d be surprised by the quality of the folks you can get to join your advisory board. The first conversation with a good advisor looks similar to the first conversation with a flagship customer: you get along and are talking about a space you both care about. You can sometimes poach killer advisors from your early customer conversations.

## Universities

I’m jealous of founders who are still in (or recently out of) university. Professors are a goldmine for intros. They get their grant funding from high-level industry folks they’re on good terms with. And since they’re investing in research, those industry folks are self-selected to be excited about new projects.

Professors are easy to get in touch with if you don’t know them yet. They post their emails and you can just wander into their office.

## Investors

Top-tier investors are awesome for B2B intros. Beyond their own rolodex and company portfolio, they can usually pull off cold intros to practically any industry. Investors can also help you close higher-tier advisors and directors than you'd be able to wrangle on your own.

Who has bought in to your idea already? Who could they connect you to?

## Cash in favours

Remember all those people who brushed you off by saying, “Sounds great, keep me in the loop and let me know how I can help.”

Now’s the time to call in those favours. Yes, they might not have actually meant it, but who cares? Reply back to that ancient email and tell them you’re ready for an intro to that guy they know. Use the format in the next section to make their lives easy and reassure them that you aren’t going to waste anybody’s time.

You’ll get ignored a lot, but again, who cares? You aren’t trying to minimise your failure rate; you’re trying to get a few conversations going. The person you’re being introduced to won’t know the backstory anyway, so it’s a clean start from there.

I wouldn’t make a habit of doing stuff like this since it’s a bit annoying and can burn bridges, but sometimes you’re backed into a corner and need to get started somehow.

## Asking for and framing the meeting

Sometimes a proper meeting can’t be avoided. For example, you might want the full hour or need to talk to someone senior outside of your peer or networking group. But since you don’t necessarily have anything to sell, it’s unclear what the meeting is for. In those cases, the right explanation and framing can do wonders.

If you don't know why you're there, it becomes a sales meeting by default, which is bad for 3 reasons. First, the customer closes up about some important topics like pricing. Second, attention shifts to you instead of them. And finally, it's going to be the worst sales meeting ever because you aren't ready.

### Symptoms:

- “Um. So....”
- “How’s it going?”

There are a lot of bad ways to frame the meeting, both when first asking for it and once it begins.

Questions like, "Can I interview you" or "Thanks for agreeing to this interview" both set off alarm bells that this meeting is going to be super boring. I don't want to be interviewed; I want to talk and help!

The common, "Can I get your opinion on what we're doing?" sets expectations of neediness and that you want compliments or approval.

No expectations at all are set by, "Do you have time for a quick coffee/lunch/chat/meeting?" which suggests you're liable to waste my time.

The framing format I like has 5 key elements.

1. You're an entrepreneur trying to solve horrible problem X, usher in wonderful vision Y, or fix stagnant industry Z. Don't mention your idea.
2. Frame expectations by mentioning what stage you're at and, if it's true, that you don't have anything to sell.
3. Show weakness and give them a chance to help by mentioning your specific problem that you're looking for answers on. This will also clarify that you're not a time waster.
4. Put them on a pedestal by showing how much they, in particular, can help.
5. Ask for help.

Or, in shorter form: **Vision / Framing / Weakness / Pedestal / Ask**

The mnemonic is “Very Few Wizards Properly Ask [for help].” Here’s what it might look like before you have a product:

Hey Pete,

I’m trying to make desk & office rental less of a pain for new businesses (vision). We’re just starting out and don’t have anything to sell, but want to make sure we’re building something that actually helps (framing).

I’ve only ever come at it from the tenant’s side and I’m having a hard time understanding how it all works from the landlord’s perspective (weakness). You’ve been renting out desks for a while and could really help me cut through the fog (pedestal).

Do you have time in the next couple weeks to meet up for a chat? (ask)

Sometimes the 5 parts will be combined into just one or two sentences, or they can be in a different order. For example, the next email sounded a little too pitchy and I was worried he would delete it as sales spam before getting through the first two sentences. As such, I moved my admission of weakness as early as I could get it:

Hey Scott, I run a startup trying to make advertising more playful and ultimately effective (vision).

We’re having a load of trouble figuring out how all the pieces of the industry fit together and where we can best fit into it (weakness). You know more about this industry than anyone and could really save us from a ton of mistakes (pedestal).

We’re funded and have a couple products out already, but this is in no way a sales meeting -- we’re just moving into a new area and could really use some of your expertise (framing).

Can you spare a bit of time in the next week to help point us in the

right direction over a coffee? (ask)

People like to help entrepreneurs. But they also hate wasting their time. An opening like this tells them that you know what you need and that they'll be able to make a real difference.

Once the meeting starts, you have to grab the reins or it's liable to turn into them drilling you on your idea, which is exactly what you don't want. To do this, I basically repeat what I said in the email and then immediately drop into the first question. If someone else made the introduction, I'll use them as a voice of authority:

Hey Tim, thanks so much for taking the time.

As I mentioned in the email, we're trying to make it easier for universities to spin out student businesses (vision) and aren't exactly sure how it all works yet (framing & weakness).

I think Tom made this intro (authority) because you have pretty unique insight into what's going on behind the curtain and could really help us get pointed in the right direction (pedestal)...  
(introductions continue)

I was looking at your spinout portfolio and it's pretty impressive, especially company X. How did they get from your classroom to where they are now? (grab the reins and ask good questions)

These conversations are easy to screw up. As such, you need to be the one in control. You set the agenda, you keep it on topic, and you propose next steps. Don't be a jerk about it, but do have a plan for the meeting and be assertive about keeping it on track.

It's worth noting that this is how I set up meetings from warm intros. The main goal is to clarify what I need and how they can help. Cold approaches are a totally different beast and are much more of a gamble. Again, the point of cold calls is to stop having them. Find a clever ways to generate warm intros and tell those people how they can help. You'll have a much easier time.



# To commute or to call

One of the solutions to the time cost of these conversations is to move them onto Skype or phone calls. In most situations, I don't think the added volume is worth the information you lose by not being in the room. I get confused enough by what people are telling me in person. Losing access to their face and body language feels like shooting myself in the foot.

More subtly, calls damage the delicate power dynamic of these conversations. When someone is having a coffee with you, there's the potential to chat as friends. You can just shoot the breeze about the industry for a bit. You can keep it casual. They're enjoying the conversation

The same is decidedly not true on the phone or Skype. People try to squeeze calls in between other activities, wondering how quickly they can "finish with business" and hang up. Folks on the phone are super annoyed when you "just want to chat". So you need to make the whole thing more formal, which is one of the exact mistakes we're trying to avoid!

Phone calls end up sounding more like scripted interviews than natural conversations, because they are. It's a constraint of the medium.

Plus, nobody becomes friends over the phone, which means you aren't going to get the warm intros and future meetings you need. Setting up a call feels like less overhead in the short-term, but that's because you aren't yet able to see all the time-saving and business-saving benefits of in-person relationships with your customers.

That being said, some other great people in the field like and recommend phone calls. Use whatever works. But I will say that you should start in person. It's too easy to use surveys or phone calls as an excuse to skip the awkwardness of meeting in person rather than as a considered trade-off.

# The advisory flip

In terms of mindset, don't go into these discussions looking for customers. It creates a needy vibe and forfeits the position of power. Instead, go in search of industry and customer advisors. You are just trying to find helpful, knowledgeable people who are excited about your idea.

With that mindset switch, you'll know why you're there. And instead of it being a customer-learning-but-I-really-want-to-do-sales meeting, it's a let-me-find-out-if-you-are-a-good-advisor-by-asking-lots-of-questions meeting.

Willpower is a finite resource. The way to overcome difficult situations isn't to power through, but rather to change your circumstances to require less willpower. Changing the context of the meeting to "looking for advisors" is the equivalent of throwing out all your chocolate when you start a diet. You change the environment to naturally facilitate your goals.

You don't need to explicitly tell them you're looking for advisors. In fact, I wouldn't unless you already quite like them and it happens to come up in conversation. It's really about orienting your state of mind to give you a helpful internal narrative and consistent front.

Somewhat counterintuitively, the sales-advisor switch also puts you firmly in control of the meeting, since you're now evaluating them. Even if the topics of discussion are basically the same, you (and they) will notice the difference.

# How many meetings

Every meeting has an opportunity cost. While you're sitting in a bus on your way there, you aren't writing code or generating leads or drinking wine.

If you're running a sales-driven business (especially enterprise sales), the opportunity cost of early conversations is low since many of them will become sales leads. You're doubling up on learning and dealflow.

The UX community (who knows their customer conversation!) says you should keep talking to people until you stop hearing new information.

In my experience, that could take as few as 3-5 conversations if you have a relatively simple industry and a focused customer segment. If you've run more than 10 conversations and are still getting results that are all over the map, then I'd guess that your customer segment is too fuzzy and could stand to be tightened up.

This isn't about having a thousand meetings. It's about quickly learning what you need, and then getting back to building your business. You should be able to answer almost any customer question and move onto new ones within a week.

Rule of thumb: Keep having conversations until you stop hearing new stuff.

# CHAPTER SEVEN

# Choosing your customers

They say that startups don't starve, they drown. You never have too few options, too few leads, or too few ideas. You have too many. You get overwhelmed. You do a little bit of everything.

When it comes to avoiding drowning and making faster progress, good customer segmentation is your best friend.

## Segmentation

When we look at the big successes, they seem to serve the whole world. Google lets anyone find anything. Paypal helps anyone send money anywhere. Evernote backs up all the writing of everybody.

But they didn't start there. If you start too generic, everything is watered down. Your marketing message is generic. You suffer feature creep. Google helped PhD students find obscure bits of code. EBay helped collectors buy and sell Pez dispensers. Evernote helped moms save and share recipes.

When you have a fuzzy sense of who you're serving, you end up talking to a lot of different types of people, which leads to confusing signals and three problems:

1. You get overwhelmed by options and don't know where to start
2. You aren't moving forward but can't prove yourself wrong

1. You receive incredibly mixed feedback and can't make sense of it

## Babies or body builders?

I talked to a woman who had developed a very cool powdered condiment. It was sweet (like a cinnamon brown sugar), but had all the nutrition of a multivitamin. In fact, it was an all-natural superfood — you could eat nothing but that powder and survive indefinitely.

She said that it had countless uses: you could sprinkle it on your breakfast or mix it in with your protein shake. Moms could trick their kids into being healthy. Restaurants could leave it on the tables as a healthy sugar alternative. However, she was running in circles because the bodybuilders wanted one thing, the restaurants wanted another, and the moms needed a third. Making one of them happy always disappointed the others. She didn't know how to start.

Before we can serve everyone, we have to serve someone. By thinking about who would be most likely to buy, she realised it was moms with young kids who are currently shopping at health food stores. She also knew where to find them: in the health food stores! But the stores were an important partner and she didn't know what they would want.

She decided to kill two birds with one stone by going into only the small, independent health food stores (slice that segment!) and asking them to place a few bottles of her condiment beside the breakfast foods. It's a great way to cut through opinions by asking for a commitment (some shelf space) and she would come back in a week to ask them about their experiences. If the stores were happy and the product sold, she could begin finding ways to talk to their customers (and her end consumers), perhaps via an in-store tasting.

By getting specific, she was able to cut through the noise, stop drowning, and start making progress.

## Big brands or mom & pop?

I was once thrilled that my customer segment was “advertisers”. Everyone advertises somehow, so naturally this was very exciting. Our market was

practically infinite! I talked to mom-and-pop shops, e-tailers, big brands, creative agencies, SMEs, music labels and more. Everyone I talked to had different needs, constraints, problems, and desires.

Everything we did ended up sort of working. Everything was somewhat promising. Some people were talking about paying us \$10,000/month while others scoffed at the idea of paying \$10. Every feature was more or less well-received. But if we tried to cut any of those middling features, we would get an uproar. It was always someone's favourite part.

In reality, our customer segment was just too broad. We were trying to serve everyone simultaneously. We said "yes" to every request. Every debate over a new feature could be won by claiming, "Well, those guys would love it." The reverse argument could be made to prevent any feature's removal.

The big trouble was that we could prove ourselves neither right nor wrong. We could never say that a new idea had really worked or totally failed. We were paying attention to so many customer segments that there was pretty much always someone it worked for. But making a so-so product for a bunch of audiences isn't quite the same as making an incredible product for one.

Getting specific about who your ideal customers are allows you to filter out all the noise which comes from everyone else. In our case, we eventually noticed unusually strong signals from creative agencies who wanted to be edgy. We cut a bunch of features and were finally able to get a sense of what was working and what wasn't.

## But what does it mean!?

I recently spoke to a couple founders who have been working hard on their customer conversations. They were doing a great job of ensuring they use every sales meeting as an opportunity to learn. They're asking good questions which pass The Mom Test and are pushing for advancement and commitment whenever it's relevant. And yet, they have no idea what is going on and aren't sure how to move the business to the next level. They don't know which features to build and which to cut. They don't know how to improve their marketing language. Why aren't customer conversations helping them?

To make matters worse, the feedback they're getting is absurdly inconsistent. If they run twenty conversations, they end up with twenty different must-have features and twenty separate must-solve problems. The more people they talk to, the more confused they get. What's going on here?

Their customer segment was incredibly broad, but in a sneaky way. Imagine I tell you my customer segment is "students". Okay, you say, with a picture of an American undergraduate university student in your head. Maybe it's a male student. He sits down in the lecture hall, cracks open his mac (adding to the sea of glowing apples the professor's view has recently become), and fires up reddit to help him survive the next ninety minutes.

So I've built a product for students, and feedback starts coming in. But it's not what I expect. One user needs to add formal citations. Another wants practice questions. A third needs it to run on the iPad. A fourth needs eighty pupils to be able to use it on the same computer. The next needs to use the app through an intermittent internet connection. We're looking at this list of requirements and our soul feels like it's being forced through a colander. This will literally take us years to build. Where do we start?

It turns out that "students" is a broader segment than we initially expected. The first is a PhD student. The second is an ambitious youngling at a prep school. The third is a homeschooling parent who wants to use it with her kid. The fourth is a rural village in the Indian rice belt where all the local kids are self-educating through the one village computer. The fifth is in Africa, running the app off a shaky cellphone connection. All are "students".

The founders I mentioned were having the same experience, but for "sales organisations" instead of "students". There are countless different kinds of sales organisations with fundamentally different needs and workflows and tools and goals. But from the outside, they all look like companies who do sales. Even if you narrow it down with a demographic constraint, as these guys did (sales organisations with 25-250 salespeople), you're still facing unfathomable diversity.

They weren't having 20 conversations with their customers. They were having one conversation each with 20 different types of customers. That's why the feedback was so inconsistent. It was as if they were exploring two dozen business ideas simultaneously.

In these cases, talking to an industry expert can be hugely informative to provide you with a taxonomy of the industry. That will give you a better starting point for choosing where to begin. If you don't have access to this high-level view, you still want to take your best guess and get specific. The next section on Customer Slicing will show you one way to approach it. Over time, your understanding of the industry will improve and you can adjust your mental categories as needed. When the feedback is all over the map, it's really hard to extract value. Once you get specific, you can learn.

Rule of thumb: If you aren't finding consistent problems and goals, you don't yet have a specific enough customer segment.

## Customer slicing

If you've already got a product and users, you can explore your way to a good segment by seeing who likes it and focusing on that group. The other approach is to just make a best-guess. In both cases, you're ending up with a specific idea of who you're serving so you can really make the features and language resonate for them.

You'll want even more specific segmentation for your conversations than for your whole business. Going out and talking to people is that it takes time. If you talk to five people who each have different goals, you're going to get mixed signals which don't give you the confidence you need to move forward.

This drilling down into ever more specific groups is called Customer Slicing. You take a segment and then keep slicing off better and better subsets of it until you've got a tangible sense of who you can go talk to and where you can find them. Start with a broad segment and ask:

- Within this group, which type of this person would want it most?
- Would everyone within this group buy/use it, or only some of them?
- Why do they want it? (e.g. What is their problem or goal)
- Does everyone in the group have that motivation or only some of them?
- What additional motivations are there?
- Which other types of people have these motivations?

We now have a two groups of segments: the first is a collection of quite specific demographic groups and the second is a series of motivations. When we look at them, some will be more generic than others. Go back through the generic ones and keep slicing. Just repeat the questions above. Within that sub-group, who wants it most? Next we're going to look at our groups' behaviours and figure out where to find them.

- What are these people already doing to achieve their goal or survive their problem?
- Where can we find our demographic groups?
- Where can we find people doing the above workaround behaviours?

Are any of these groups un-findable? If so, go back up the list and slice them into finer pieces until you know where to find them. A customer segment isn't very useful if there's no way you can get in touch!

Now that we have a bunch of who-where pairs, we can decide who to start with based on who seems most:

1. Profitable
2. Easy to reach
3. Rewarding for us to build a business around

For example, if we were thinking about building an app to help students become more confident speakers, we might decide the best-case-students are graduating students nervous about their first big job interview. They are motivated not to screw up their big day. Other folks with those motivations might be first-time TV/radio guests, someone giving a wedding speech, or new authors who are about to go on book tour. Additional motivations (beyond coping with nervousness about a particular event) might be to improve at a valuable long-term skill or to fix some of the quirks of being a non-native speaker. That gives us some additional demographics, such as young professionals who have to talk a lot, such as teachers and salespeople. Or foreign exchange students who are about to graduate. Or non-native speaking PhD students who have an upcoming conference talk.

As we get specific, it becomes easier to imagine where to find these groups. Instead of the generic “students” (I guess I’ll walk around campus?), we can easily find non-native speaking PhD students through the admissions office or the department advisors. We know exactly who to look for and won’t waste our time talking to a bunch of irrelevant folks. Or we can find people online. We might reach new authors by searching Amazon’s upcoming release list and then reaching out to them on Twitter.

Now that we’ve got some focused demographics, we also want to look at existing behaviours. A lot of people are terrified of speaking and just ignore it. They probably aren’t going to be our customer. Others talk to a therapist about their anxiety in general, while others try to improve speaking in particular by googling for tips, reading books, or going to workshops and meetups like Toastmasters. There are more existing solutions (e.g. new salespeople might get on-the-job training), but you get the idea.

Once we know a group’s existing behaviours, it’s incredibly easy to get in touch with them. Nervous wedding speakers might be Googling for examples of great wedding speeches. We could advertise on those search terms and offer a bit of re-assurance and support in exchange for a quick chat. If someone is listening to a podcast about speaking skills, we could sponsor it or propose to the host that they run a “call in to talk about your speaking fears and solutions” live event.

If this was my business, I would probably shift my preferred customer segment from “students” to “people scared of public speaking who are trying to get better.” I would start by going to a Toastmasters meetup since I could have a dozen conversations over the course of the evening by Keeping it Casual. That one evening would give me a great starting point for understanding the motivations, worldview, and needs of a large group of totally ideal customers who are already spending time and money to try to get better.

On the other hand, if you were attacking the same vision and happened to be a secret bibliophile, you might choose to start by tracking down some authors who are about to go on book tour.

You needn’t be planning and theorising all day about this stuff — use it to quickly get to a specific, best-possible customer so you can go grab a few of

them and move the business forward.

Since you'll spend a lot of time talking to your customers, it's worth choosing someone who is both accessible and fun for you to be around. This stuff is hard work and can be a real grind if you're cynical about the people or the industry you're trying to understand and serve.

As we mentioned, you can broaden your segment back out later. Make your life easy for now by choosing someone who is specific and who also meets the three big criteria of being reachable, profitable, and personally rewarding.

Rule of thumb: Good customer segments are a who-where pair. If you don't know where to go to find your customers, keep slicing your segment into smaller pieces until you do.

## Talking to the wrong people

You can't get the data you need if you're talking to the wrong people. There are 3 ways to end up fall into this clearly unhelpful trap.

1. You have too-broad of a segment and are talking to everyone
2. You have multiple customer segments and missed some of them
1. You are selling to businesses with a complicated buying process and have overlooked some of the stakeholders

We've already talked about #1. If you talk to everyone, many of them are inevitably going to be the wrong people.

You can miss segments and overlook buyers in lots of ways. The first important step is to know they exist. Sometimes it's obvious. If you are a multi-sided marketplace, you obviously have multiple customer segments.

Other times, it's sneakier. If you're building an app for kids, need to "sell" to both them and their parents. If you're building something for public schools, you could potentially be affected by the concerns of the teachers,

the students, the administration, the parent-teacher association, and the tax payers.

You'll also need to worry about multiple groups if you rely on an important partner, whether for manufacturing, distribution, or promotion. If your business relies on a certain partner, you'd better understand their goals and constraints just as well as you understand your customers'.

Don't just talk to the most senior or important people you can find. You want to talk to people who are representative of your customers, not ones who sound impressive on your status report. When I was building interactive advertising products, I spent lots of time talking to guys in suits and very little (well, none) talking to the teenagers we were assuming would enjoy using our products. Telling my board that I had successfully talked to ten children that week just didn't seem like the most important thing I could be doing. In retrospect, it clearly was.

## CHAPTER EIGHT

# Running the process

Even if you do everything else right, you can get bad results if you don't have the right process wrapped around your conversations. If you just show up to meetings and hope for the best, you aren't making a good use of anyone's time. You need to do a little bit of work before and after to extract full value.

A common anti-pattern is for the business guy to go to all the meetings and subsequently tell the rest of the team what they should do. Bad idea. Telling the rest of the team "What I learned" is functionally equivalent to telling them "What you'll do." Therefore, owning the customer conversations creates a de-facto dictator with "The customer said so" as the ultimate trump card.

But as we've seen, it's easy to misinterpret what the customer said.

When all the customer learning is stuck in someone's head instead of being disseminated to the rest of the team, you've got a learning bottleneck. Avoid creating (or being) the bottleneck. To do that, the customer and learning has to be shared with the entire founding team, promptly and faithfully. That relies on good notes plus a bit of pre- and post-meeting work.

The most extreme way to bottleneck is to go to the meetings alone and take crappy notes which you don't review with your team. At that point, your head has become the ultimate repository of customer truth and everyone just has to do what you say.

In my case, I bottlenecked so hard that our CTO quit while saying, "We're never going to succeed if you keep changing what we're doing." In my

defence, the stuff I'd learned was true (at least, I think it was). But it didn't matter anyway since I hadn't properly communicated it to the rest of the team.

### **Symptoms of a learning bottleneck:**

- “You just worry about the product. I’ll learn what we need to know.”
- “Because the customers told me so!”
- “I don’t have time to talk to people — I need to be coding!”

Avoiding bottlenecks has three parts: prepping, reviewing, and taking good notes.

## **Prepping**

Your most important preparation work is to ensure you know your current list of 3 big questions. Figure them out with your team and make a point to face the scary questions.

If you've already learned the facts of your customer and industry, then you should also know what commitment and next steps you are going to push for at the end of the meeting.

It's easier to guide the conversation and stay on track if you have an existing set of beliefs that you're updating. Spend up to an hour writing down your best guesses about what the person you're about to talk to cares about and wants. You'll probably be wrong, but it's easier to keep the discussion on track and hit important points if you've created a skeleton. If you have an appropriately focused segment, then you'll only rarely need to do this.

While prepping, if you come across a question which could be answered with desk research, take a moment to do it. You want to move past the obvious stuff and spend your conversations finding answers the internet can't give you.

Similarly, if you're about to meet with a business, do your basic due diligence on LinkedIn and the company website. It takes 5 minutes and will

save you from borking the conversation and looking like an idiot.

Sit down with your whole founding team when you prep. You want both business and product to be represented. If you leave part of the company out of the prep, then you end up missing their concerns in the customer conversations.

Some founders react with hostility to the whole idea. They'll say something along the lines of, "We need to be building the gosh darned product, not fussing around talking to people." On the surface, it appears to be a refusal to face the reality that there might be something wrong with the product's foundations. But having seen it in several teams now, I think it's actually the desire for speed, where speed is measured by building features instead of by de-risking and validating the business.

Beyond asking a grumpy cofounder to "humour me", there are 2 questions to help tease out hidden product risks. The first is asking, "If this company fails, what is most likely to have killed it?" If we had asked that about my very first product (a user-generated cartoon community), we would have answered that either nobody wants to create cartoons or that their cartoons will be so bad that nobody wants to watch them. This gives us a good starting point to begin exploring with a combination of technical and conversational tools.

### **Prep questions to unearth hidden risks:**

- If this company were to fail, why would it have happened?
- What would have to be true for this to be a huge success?

The second question is a flipped version of the first, from Lafley/Martin's strategy book. "What would have to be true for this to be a huge success?" In this case, I might have answered that we need lots of hilarious cartoons plus scaling revenue from brand advertisers.

These aren't long, involved strategy discussions. Your gut reaction is enough. You don't need to be too rigorous. All you're really trying to figure out is:

- “What do we want to learn from these guys?”

In fact, if you’re tight for time, asking this question is the only prep you really need.

Rule of thumb: If you don’t know what you’re trying to learn, you shouldn’t bother having the conversation.

# Reviewing

After a conversation, just review your notes with your team and update your beliefs and 3 big questions as appropriate.

The goal is to ensure the learning is now on paper and in everyone's head instead of just in yours. Talk through the key quotes and main takeaways of the conversation, as well as any problems you ran into.

I also like to talk about the meta-level of the conversation itself: which questions worked and which didn't? How can we do better next time? Were there any important signals or questions we missed? This stuff is more craft than science: you have to actively practice it to get better. It's a valuable skill for your team to have, so it's worth spending a bit of time improving.

Just like prepping, reviewing is so simple that it sounds like a non-step. It's tempting to skip it. Don't! The review is important. Disseminate learnings to your team as quickly and as directly as possible, using notes and exact quotes wherever you can. It keeps you in sync, leads to better decisions, prevents arguments, and allows your whole team to benefit from the learning you've worked so hard to acquire.

# Who should show up

Everyone on the team who is making big decisions (including tech decisions) needs to go to at least some of the meetings. The tech guys don't need to go to most of the meetings, but you'll all learn a ton from hearing customer reactions first-hand occasionally. You'll also be able to help each other catch and fix your conversation mistakes and biases.

Meetings go best when you've got two people at them. One person can focus on taking notes and the other can focus on talking. As the second person, sometimes you'll notice the lead asking bad questions or missing a signal they should be digging into. Just jump in and fix them.

Don't send more than two people unless it's group-on-group or you've got a particularly good reason to do so. Three folks interviewing someone can be

a little overwhelming.

Going in solo is fine once you get good at taking concise notes. The main problem of running solo is that it's harder to catch yourself and recover once you start going off-track asking bad questions or missing the point.

If you're shy and have no cofounder to take the lead, call in a favour with a friend to come to your first couple conversations with you. You can just play the role of the note-taker until you're comfortable. If there's no workaround and you have to bite the bullet, remember that confidence is domain-specific. Instead of suffering through, focus on getting better and understanding the process. It will get less scary as you improve.

You can't outsource or hire someone to do customer learning. There are exceptional team dynamics where it works, but generally speaking, the founders need to be in the meetings themselves. When a hired gun brings you bad news ("This problem isn't real and nobody cares about what we're doing"), properly assimilating it is difficult.

More insidiously, if the signal is lukewarm, it's tempting for a hire to gloss over it. Hiring out your learning is a guaranteed way to get bad signals. Until you've got a working business model and a repeatable sales or marketing process, the founders need to be in the meetings themselves.

On the bright side, even though you have to be in the room to process the learning, you don't necessarily have to be the one setting up or leading the meetings. You can hire people to help as long as you're there with them, listening.

# How to write it down

Taking good notes is the best way to keep your team (and investors and advisors) in the loop. Plus, notes make it harder to lie to yourself. And when, months later, you decide to adjust the business's direction, you'll be able to return to your notes instead of having to go do a whole new set of interviews.

When possible, write down exact quotes. Wrap them in quotation marks so you know it's verbatim. You can later use them in your marketing language, fundraising decks, and to resolve arguments with skeptical teammates. Other times the exact quote isn't relevant and you just write down the big idea.

In either case, add symbols to your notes as context and shorthand. I use 12 main symbols and make up more in the field as I need them. You probably won't exactly copy mine, so don't worry about memorising them. You'll build your own go-to list as you have more conversations.

:) :( :| ↘ □ ↩ ^ ✅ \$ ♀ ☆

## Emotions

- :) Excited
- :( Angry
- :| Embarrassed

Someone saying "that's a problem" should be interpreted totally differently depending on whether they are neutral or outraged. Any strong emotion is worth writing down. For example, depending on your industry, you might also choose to make symbols for lust or laughter. Capture the big emotions and remember to dig into them when they come up.

## Their life

- ↖ Pain or problem (symbol is a lightning bolt)
- Goal or job-to-be-done (symbol is a soccer/football goal)
- Obstacle
- ↗ Workaround
- ^ Background or context (symbol is a distant mountain)

These five “life” symbols are your bread and butter. Combine them with emotion symbols where appropriate. Pains and obstacles carry a lot more weight when someone is embarrassed or angry about them.

Obstacles are preventing a customer from solving their problems even though they want to. They're important because you'll probably also have to deal with them. For example, a lot of corporate folks would love to use cloud services and hate their current options, but can't use anything else because their company's IT policy is an obstacle. Their workaround might be to use their personal phone as a secondary computer or by doing certain work at home. Also worth noting.

## Specifics

- ✓ Feature request or purchasing criteria
- \$ Money or budgets or purchasing process
- ♀ Mentioned a specific person or company
- ☆ Follow-up task

As we discussed, feature requests usually get ignored, but they're a good signal to capture and explore. Must-have purchasing criteria are obviously more important. Money signals are also key.

Write down specific names and companies. If it's someone they know, ask for an intro at the end of the conversation. If it's a competitor or alternate solution, write it down to research it later.

Put a big star on items to follow-up on after the meeting, especially next steps you promised as a condition of their advancement/commitment.

## Where to write it down

You want to take your customer notes so that they are:

- Able to be sorted, mixed, and re-arranged
- Able to be combined with the notes of the rest of your team
- Permanent and retrievable

- Not mixed in with other random noise like todo lists and ideas

In practice, I've found that taking notes in my primary notebook is practically useless. Over the course of several months' sprawl, you set an insurmountable search and retrieval task for yourself. If you won't look at your notes, they aren't much good.

If you do end up taking notes in non-ideal places, you just need to spend a little extra post-meeting time moving them over into your permanent format. Otherwise you'll be kicking yourself when you remember that amazing quote someone gave you which you can't quite remember well enough to convince those skeptical investors.

What is a better note-taking medium?

Google Docs spreadsheets and Evernote are both great for team sharing, search, and retrieval. Spreadsheets are wonderfully sortable if you write your key signals in their own column. The downside is that it comes across as rude to take notes directly on a computer during a meeting, so you add a bit of mandatory post-meeting work to transfer your notes. I always found this a bit annoying, but it's way better than losing your learning in an off-topic notebook.

A dedicated notebook is fine, if you can remember to carry it with you and use it. For a while, I would use my regular notebook for my customer notes and then just tear out every page which wasn't from an interview so it was easier to find them later. Hardly the most elegant.

My favourite medium is index cards. Post-it notes also work. I carry around blank cards and take notes on them, with one quote or learning per card (along with a signal icon, of course). After the meeting I jot down the date and name of the person on each card. It takes a couple minutes, but it's faster than moving over all your notes. When we review, we lay the cards out on the table and sort through them. Cards are great because of the random access and sorting. If you learn that the problem you're solving doesn't really matter, you can just pull out all the cards marked with a lightning bolt and find yourself a new problem that's already been confirmed.

When I first started, I would make audio recordings, but that suffered from

the same problem as notebooks. I'd end up with a ton of content and no real way to sort it or find the bit I wanted, so I ended up ignoring the recordings.

If you do want to use audio, you'll find people are surprisingly willing to be recorded. Put your phone on the table as you sit down and say, "Hey, is it cool if I record this, because I'm always paranoid I'll miss something important in my notes. It won't get shared with anyone or posted anywhere." Almost everyone says yes, but it does blow your cover if you're trying to Keep it Casual.

If you embrace Keeping it Casual, you'll find customer conversations appearing out of nowhere and catching you by surprise. Just go with it. I've got notes written on paper plates from a pizza party, on beer mats from the pub, and on newspapers from the cafe. You'll want to transfer them over to your main storage system once you get back to the office, but it's better to capture what's said on something weird than to try to remember all the important bits.

If it's totally inappropriate to take notes during the chat, just have the conversation and then immediately retreat to a corner to write down what was said. This is how I usually handle customer conversations at the pub or conferences.

Regardless of the medium, the most important thing is that the notes are lightweight enough that you'll actually review them yourself and with your team.

Rule of thumb: Notes are useless if you don't look at them.

## The process

Talking to customers is a tool, not an obligation. If it's not going to help or you don't want to do it for whatever reason, just skip it. I'm sure you've been on the receiving end of a half-assed survey sent out by some new startup to tick the box marked "learn from customers" on their startup todo list. There are better ways to waste your time.

Without figuring out what actually matters to your company and how to deal with it effectively, you're just going through the motions.

When it comes to conversations, it looks like this:

### **Signs you're just going through the motions:**

- 
- You're talking more than they are
- They are complimenting you or your idea
- You told them about your idea and don't know what's happening next
- You don't have notes
- You haven't looked through your notes with your team
- You got an unexpected answer and it didn't change your idea
- You weren't scared of any of the questions you asked
- You aren't sure which big question you're trying to answer by doing this

The persistent presence of any of these problems suggests that you're doing something wrong and wasting your time.

Here are the steps I go through to keep on track. Feel free to ignore or tweak as needed given your situation and company. It's as light-weight as I've been able to get it and should reduce rather than increase the amount of time you need to spend on conversations.

### **The process before a batch of conversations:**

- If you haven't yet, choose a focused, findable segment
- With your team, decide your big 3 learning goals
- If relevant, decide on ideal next steps and commitments
- If conversations are the right tool, figure out who to talk to
- Create a series of best guesses about what the person cares about
- If a question could be answered via desk research, do that first

### **During the conversation:**

- Frame the conversation
- Keep it casual

- Ask good questions which pass The Mom Test
- Deflect compliments, anchor fluff, and dig beneath signals
- Take good notes
- If relevant, press for commitment and next steps

### **After a batch of conversations:**

- With your team, review your notes and key customer quotes
- If relevant, transfer notes into permanent storage
- Update your beliefs and plans
- Decide on the next 3 big questions

The goal of this process is twofold. Firstly, to make sure you're spending your time well by attacking the questions which really matter and using the whole founding team's brains. Secondly, to spread any new learning through your team as quickly and completely as possible.

There you go. Now you know everything I do about how to learn from conversations. Combine this process with The Mom Test, Keeping it Casual, and Advancement for maximum learning in minimum time. But even if it goes wrong, don't worry so much. Eternity will forgive.

## **This stuff is fast**

The time scales of the process are important. The point is to make your business move faster, not slower.

Don't spend a week prepping for meetings; spend an hour and then go talk to people. Anything more is stalling.

Don't spend months doing full-time customer conversations before beginning to move on a product. Spend a week, maybe two. Get your bearings and then give them something to commit to.

You'll keep talking to customers for the life of your company, of course. I'm not advising you to become a recluse after the first two weeks. Your

customers are a crucial source of ongoing insight and will help catch any badgers in the bush, so to speak. With the tools in this book (especially Keeping it Casual) you should be able to keep benefitting from customer learning without spending any real time on it. You can do it alongside growing your business rather than in place of it.

This stuff moves really quickly when you're doing it right. This book isn't meant to be an excuse to squander precious months on theorising. It's meant to help you extract maximum value in minimum time from conversations so you can get back to what really matters: building your business.

Rule of thumb: Go build your dang company already.

# Conclusion and cheatsheet

I still ask dumb questions all the time. You will too. Don't beat yourself up over it. In fact, just yesterday I screwed up a particularly important meeting by slipping into pitch mode (this was yesterday at the time of writing... hopefully not again at the time of reading).

It happens. It's okay. Review with your team, don't beat yourself up (or your cofounders) over mistakes. Work on getting better as a team.

I make tons of mistakes. At least now I notice and have a chance to fix them. Most bad conversations can be fixed. You're trying to do something difficult. You're never going to be perfect, but it always helps to be better.

People love startups. Startups do cool stuff and make their lives better. Everyone supports the entrepreneur. When entrepreneurs screw up, people want to forgive them. They want the entrepreneur and the startup to succeed.

By asking good questions, we can fix many flawed ideas before they get us in trouble. But still, sometimes it doesn't work out. It's okay. Go to the people who believed in and supported you and thank them. If relevant, apologise. They'll say something like:

“Hey, don't even worry about it — I know how it goes.”

Eternity will forgive our earthly blunders. Everyone loves an entrepreneur.

After all, you're putting it on the line to try and make their lives better.

Rule of thumb: It's going to be okay.

## Hack it

In ancient times it was prophesied that whoever undid the convoluted Gordian Knot would rule the land. Coming across the knot, Alexander drew his sword and with a single stroke, cut the knot in half. The knot was undone and he became “the Great”.

Struggling to untie the knot was the “proper” process. Cutting through it was a hack (ba-dum tish!). Alexander jumped straight to the end result without any of the work.

When we find a new and exciting process, it’s easy to spend hours obsessively geeking out about exactly the right way to untie this big, gnarly knot.

At a workshop about customer segmentation, a personal trainer said he was spending most of his time on the non-billable commutes between his clients. At some point it was suggested that the police might be a better customer, since he could go to the station and spend all day working with different officers. No commute, more billable hours, and a less price-sensitive customer. Sounds good in theory.

We all started geeking out about how he was going to validate this. Who could he talk to? Did anyone have family in the police? What should his interview questions be? What was the market size? Etc etc.

He looked at us like we were all idiots and held up his phone. “Why wouldn’t I just call them?” It’s not like he didn’t know their number. We all stood around a bit dumbfounded while he went outside and called the police. Twenty minutes later, he came back in with a trial session scheduled.

Having a process is valuable, but don’t get stuck in it. Sometimes you can just pick up the phone and hack through the knot.



# Cheatsheet

Just in case you like lists.

## Key skills:

- Asking good questions (Chapters 1 & 3)
- Avoiding bad data (Chapter 2)
- Keeping it casual (Chapter 4)
- Pushing for commitment & advancement (Chapter 5)
- Framing the meeting (Chapter 6)
- Customer segmentation (Chapter 7)
- Prepping & reviewing (Chapter 8)
- Taking notes (Chapter 8)

## The Mom Test:

1. Talk about their life instead of your idea
2. Ask about specifics in the past instead of generics or opinions about the future
3. Talk less and listen more

## Getting back on track (avoiding bad data):

- Deflect compliments
- Anchor fluff
- Dig beneath opinions, ideas, requests, and emotions

## Mistakes and symptoms:

1. Fishing for compliments

“I’m thinking of starting a business... so, do you think it will work?”  
“I had an awesome idea for an app — do you like it?”

## 1. Exposing your ego (aka The Pathos Problem)

- “So here’s that top-secret project I quit my job for... what do you think?”
- “I can take it — be honest and tell me what you really think!”

### 1. Being pitchy

- “No no, I don’t think you get it...”
- “Yes, but it also does this!”

### 1. Being too formal

- “So, first off, thanks for agreeing to this interview. I just have a few questions for you and then I’ll let you get back to your day...”
- “On a scale of 1 to 5, how much would you say you...”
- “Let’s set up a meeting.”

### 1. Being a learning bottleneck

- “You just worry about the product. I’ll learn what we need to know.”
- “Because the customers told me so!”
- “I don’t have time to talk to people — I need to be coding!”

## 1. Collecting compliments instead of facts and commitments

- “We’re getting a lot of positive feedback.”
- “Everybody I’ve talked to loves the idea.”

### **The process before, during and after the meeting:**

- If you haven’t yet, choose a focused, findable segment
  - With your team, decide your big 3 learning goals
  - If relevant, decide on ideal next steps and commitments
  - If conversations are the right tool, figure out who to talk to
  - Create a series of best guesses about what the person cares about
  - If a question could be answered via desk research, do that first
- 
- Frame the conversation
  - Keep it casual
  - Ask good questions which pass The Mom Test
  - Deflect compliments, anchor fluff, and dig beneath signals
  - Take good notes
  - If relevant, press for commitment and next steps
- 
- With your team, review your notes and key customer quotes
  - If relevant, transfer notes into permanent storage
  - Update your beliefs and plans
  - Decide on the next 3 big questions

### **Results of a good meeting:**

- Facts — concrete, specific facts about what they do and why they do it

(as opposed to the bad data of compliments, fluff, and opinions)

- Commitment — They are showing they're serious by giving up something they value such as meaningful amounts of time, reputational risk, or money.
- Advancement — They are moving to the next step of your real-world funnel and getting closer to a sale.

### **Signs you're just going through the motions:**

- You're talking more than they are
- They are complimenting you or your idea
- You told them about your idea and don't know what's happening next
- You don't have notes
- You haven't looked through your notes with your team
- You got an unexpected answer and it didn't change your idea
- You weren't scared of any of the questions you asked
- You aren't sure which big question you're trying to answer by doing this
- You aren't sure why you're having the meeting

### **Writing it down — signal symbols:**

- :) Excited
- :(  
:( Angry
- :| Embarrassed
- ↖ Pain or problem (symbol is a lightning bolt)  
Goal or job-to-be-done (symbol is a soccer/football goal)
- Obstacle
- ↗ Workaround
- ^K Background or context (symbol is a distant mountain)
- ✓ Feature request or purchasing criteria
- \$ Money or budgets or purchasing process
- ♀ Mentioned a specific person or company
- ☆ Follow-up task

### **Signs you aren't pushing for commitment and advancement:**

- A pipeline of zombie leads
- Ending product meetings with a compliment
- Ending product meetings with no clear next steps
- Meetings which "went well"
- They haven't given up anything of value

### **Asking for and framing the meeting:**

- Vision — half-sentence version of how you're making the world better
- Framing — where you're at and what you're looking for
- Weakness — show how you can be helped
- Pedestal — show that they, in particular, can provide that help
- Ask — ask for help

### **The big prep question:**

- “What do we want to learn from these guys?”

# Thanks!

It's been fun. Thanks for reading :). I hope it was helpful. For slides, videos, and other information, check out [momtestbook.com](http://momtestbook.com).

When you hit a stumbling block I can help with or learn that I gave some bad advice, hit me up on twitter [@robfitz](https://twitter.com/robfitz).

My blog where I write about early stage startup stuff is [thescriptoolkit.com](http://thescriptoolkit.com). Subscribe to the rss or email updates and dig through the archive.

To learn to be a better founder, you've got to get your hands dirty. Startups are more craft than science. It's something you learn by doing. The tools help, but you need to get out in the field. I've learned more from launching silly projects than I ever did from reading books or blogs. Make it happen.

And finally, if you're in the business of supporting, training, mentoring, or investing in startups, I work with a few other founders building educational curriculum (slides, workshops, videos, facilitation guides, etc) at [foundercentric.com](http://foundercentric.com). Download resources, join the mailing list, and get involved. We've run training from Costa Rica to Kiev with folks ranging from Oxford to the UN. Get in touch at [aloha@foundercentric.com](mailto:aloha@foundercentric.com).

# Acknowledgements

A huge thanks to all the people who helped with feedback, and especially those who took the time to write up their ridiculously useful line-by-line comments: Daniel Tenner, Andreas Klinger, Veronica Torras, Dave Chapman, Salim Virani, Sabrina Kiefer, Madeleine Evans, Spike Morelli, Adele Barlow, and Orsolya Toth. Thanks!

Nobody gets through the startup life alone. Thanks to Paul Graham for taking a punt on us when we were so clearly clueless and to Devin, Laurence, and Ryan for getting on that crazy train. Thanks to Saul Klein for lovingly yelling at me about sales every Friday and for forcing me to actually read 4 Steps to the E.piphany. Thanks to Steve Blank for writing it. Thanks to Peter Read and Andy C for showing me how sales really works.

Thanks to Ian and Pete for getting us settled in London. Thanks to my peers in the Braintrust who were the perfect sounding board, and especially Salim Virani for calling me on my BS. Thanks to Tom Stone, Dave Chapman, John Spindler, and Tim Barnes for showing me the good bits of the startup education world and giving me my first chance to teach.

Beyond the obvious influence from Steve Blank and Eric Ries, a big thanks to some other writers who have directly helped this book with their work: Amy Hoy on worldviews, Brant Cooper on segmentation, Richard Rumelt and Lafley/Martin on strategy, Neil Rackham on sales, and Derek Sivers on remembering that businesses are meant to make you happy.

And of course, big thanks for Mom & Dad for gently planting the entrepreneurial seed through both encouragement and their own collection of insane startup and/or shipwreck stories.

The cover was put together by Devin Hunt.  
The author image is provided by [heisenbergmedia.com](http://heisenbergmedia.com). Thanks!

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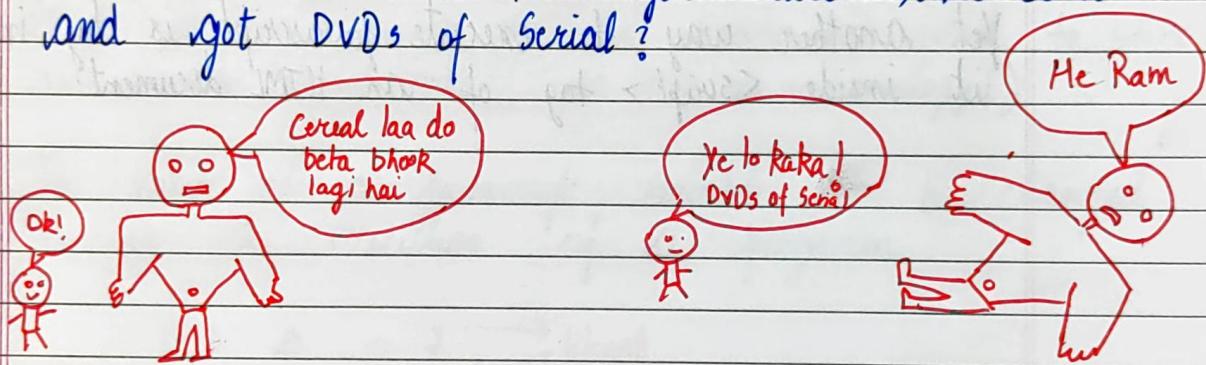


## Introduction to programming

Programming is a way to talk to computers. A language like Hindi, English or Bengali can be used to talk to a human but for computers we need straightforward instructions.

Computer is Dumb!

When was the last time you ordered some cereal and got DVDs of Serial?



Programming is the act of constructing a program, a set of precise instructions telling a computer what to do.

What is EcmaScript?

ECMA Script is a standard on which Javascript is based! It was created to ensure that different documents on javascript are actually talking about the same language.

JavaScript & ECMA Script can almost always be used interchangably. JavaScript is very liberal in what it allows.

How to execute JavaScript?

JavaScript can be executed right inside one's browser. You can open the javascript console and start writing javascript there.

Another way to execute javascript is a runtime like Node.js which can be installed and used to run javascript code.

Yet another way to execute javascript is by inserting it inside <script> tag of an HTML document.

## Chapter 1 - Variables & Data

Just like we follow some rules while speaking English (the grammar), we have some rules to follow while writing a JavaScript program. The set of these rules is called syntax in JavaScript.

What is a Variable?

A variable is a container that stores a value. This is very similar to the containers used to store rice, water and oats (Treat this as an analogy!)

The value of a JavaScript variable can be changed during the execution of a program.

`var a = 7;`  $\Rightarrow$  literal  
`let Identifiera = 7;`  $\Rightarrow$  Declaring Variables  
 $\downarrow$  assignment operator

Rules for choosing variable names

- Letters, digits, underscores & \$ sign allowed.
- Must begin with a \$, - or a letter.
- JavaScript reserved words cannot be used as a variable name.
- Harry & harry are different variables (case sensitive)

Var vs let in JavaScript

- 1> Var is globally scoped while let & const are block scoped
- 2> Var can be updated & re-declared within its scope
- 3> let can be updated but not re-declared
- 4> const can neither be updated nor be re-declared.

5. var variables are initialized with undefined whereas let and const variables are not initialized.
6. const must be initialized during declaration unlike let and var

### Primitive Data Types & Objects

Primitive data types are a set of basic data types in javascript

Object is a non primitive datatype in javascript

These are the 7 primitive datatypes in javascript

- Null
- Number
- String
- Symbol
- Undefined
- Boolean
- BigInt

### Object

An object in JavaScript can be created as follows.

const item = {

    key ← name : "Led Bulb", value  
    key ← price : "150" → value  
    }

Quick Quiz: Write a JavaScript program to store name, phone number and marks of a student using objects.

## Chapter 1 - Practice Set

- 1 Create a variable of type string and try to add a number to it.
- 2 Use typeof operator to find the datatype of the string in last question
- 3 Create a const object in javascript. Can you change it to hold a number later?
- 4 Try to add a new key to the const object in Problem 3. Were you able to do it?
- 5 Write a JS program to create a word-meaning dictionary of 5 words.

## Chapter 2 - Expressions & Conditionals

A fragment of code that produces a value is called an expression. Every value written literally is an expression. For ex: 77 or "Harry"

### Operators in JavaScript

#### 1. Arithmetic Operators

+	Addition
-	Subtraction
*	Multiplication
**	Exponentiation
/	Division
%	Modulus
++	Increment
--	Decrement

#### 2. Assignment Operators

=	$x = y$
+=	$x = x + y$
-=	$x = x - y$
*=	$x = x * y$
/=	$x = x / y$
%=	$x = x \% y$
**=	$x = x ** y$

### 3. Comparison Operators

$= =$	equal to
$\neq$	not equal
$= = =$	equal value and type
$\neq = =$	not equal value or not equal type
$>$	greater than
$<$	less than
$\geq$	greater than or equal to
$\leq$	less than or equal to
$?$	ternary operator

### 4. Logical Operators

$\&\&$	logical and
$\  \ $	logical or
$!$	logical not

Apart from these, we also have type and bitwise operators. Bitwise operators perform bit by bit operations on numbers.

$$\begin{array}{c} \curvearrowleft \text{operands} \\ 7 + 8 = 15 \rightarrow \text{Result} \\ \curvearrowleft \text{operator} \end{array}$$

### Comments in JavaScript

Sometimes we want our programs to contain a text which is not executed by the JS Engine

Such a text is called comment in Javascript

A comment in Javascript can be written as follows :

let a = 2; // this is a single line comment

/\*  
 I am a  
 multiline comment  
 \*/

} Multiline comment

→ Single line comment

Sometimes comments are used to prevent the execution of some lines of code

let switch = true;  
// switch = false → commented line won't execute

### Conditional Statements

Sometimes we might have to execute a block of code based off some condition.

For example a prompt might ask for the age of the user and if its greater than 18, display a special message.

In JavaScript we have three forms of if .... else statement.

1. if statement

2. if ... else statement

3. if ... else if ... else statement

## If statement

The if statement in JavaScript looks like this:

```
if (condition) {  
    // execute this code  
}
```

The if statement evaluates the condition inside the ()  
If the condition is evaluated to true, the code inside  
the body of if is executed else the code is  
not executed.

## if - else statement

The if statement can have an optional else clause.  
The syntax looks something like this

```
if (condition) {  
    // block of code if condition true  
}  
else {  
    // block of code if condition false  
}
```

If the condition is true, code inside if is  
executed else code inside else block is executed

## if - else if statement

Sometimes we might want to keep rechecking a set  
of conditions one by one until one matches.  
We use if else if for achieving this.

Syntax of if...else if looks like this

```
if (age > 0) {  
    console.log("A valid age");  
}  
else if (age > 10 && age < 15) {  
    console.log("but you are a kid");  
}  
else if (age > 18) {  
    console.log("not a kid");  
}  
else {  
    console.log("Invalid Age")  
}
```

JavaScript ternary Operator

Evaluates a condition and executes a block of code based on the condition

Condition ? exp1 : exp2

Example syntax of ternary operator looks like this:

(marks > 10) ? 'Yes' : 'No'

↳ if marks are greater than 10, you are passed  
else not

## Chapter 2 - Practice Set

- 1 Use logical operators to find whether the age of a person lies between 10 and 20 ?
- 2 Demonstrate the use of switch case statements in JavaScript
- 3 Write a JavaScript program to find whether a number is Divisible by 2 and 3.
- 4 Write a JavaScript program to find whether a number is Divisible by either 2 or 3.
- 5 Print " You can Drive" or " You cannot Drive" based on age being greater than 18 using ternary operator.

## Chapter 3 - Loops & functions

We use loops to perform repeated actions. For example - If you are assigned a task of printing numbers from 1 to 100, it will be very hectic to do it manually. Loops help us automate such tasks.

### Types of loops in JavaScript

- for loop → loops a block of code no of times
- for in loop → loops through the keys of an object
- for of loop → loops through the values of an object
- while loop → loops a block based on a specific condition
- do-while loop → while loop variant which runs atleast once

#### The for loop

The syntax of a for loop looks something like this

```
for (statement 1 ; statement 2 ; statement 3) {  
    // code to be executed  
}
```

- Statement 1 is executed one time
- Statement 2 is the condition base on which the loop runs (loop body is executed)
- Statement 3 is executed everytime the loop body is executed

Quick Quiz : Write a sample for loop of your choice.

The `for-in` loop  
 The syntax of `for-in` loop looks like this

```
for (key in object) {  
    // Code to be executed  
}
```

Quick Quiz : Write a sample program demonstrating `for-in` loop

Note - `for-in` loops also work with arrays which will be discussed in the later videos.

The `for-of` loop

The syntax of `for-of` loop looks like this

```
for (variable of iterable) {  
    // Code  
}  
→ For every iteration  
↳ Iterable data structure like Arrays, Strings etc.
```

Quick Quiz : Write a sample program demonstrating `for-of` loops

The `while` loop

The syntax of `while` loop looks like this :

```
while (condition) {  
    // Code to be executed  
}
```

Note : If the condition never becomes false, the loop will never end and this might crash the runtime!

Quick Quiz : Write a sample program demonstrating while loop.

The do - while loop

The do while loop's syntax looks like this :

```
do {  
    // code to be executed  
}  
while (condition)
```

Quick Quiz : Write a sample program demonstrating do while loop

Functions in Java Script

A JavaScript function is a block of code designed to perform a particular task.

Syntax of a function looks something like this :

```
function myFunc () {  
    // code  
}
```

```
function binodFunc (parameter 1, parameter 2) {  
    // code  
}
```

Function with parameters

Here the parameters behave as local variables

bind Func (7, 8)  $\Rightarrow$  Function Invocation

Function invocation is a way to use the code inside the function

A function can also return a value. The value is "returned" back to the caller

Const sum = (a, b)  $\Rightarrow \{$

Another way to create &  
use the function  
 $\uparrow$

let c = a + b;

return c;

}

$\Rightarrow$  Returns the sum

let y = sum (1, 3)

console.log(y)

$\rightarrow$  Prints 4

## Chapter 3 - Practice Set

- 1 Write a program to print the marks of a student in an object using for loop

obj = { harry: 98, rohan: 70, aakash: 73 }

- 2 Write the program in Q1 using for in loop

- 3 Write a program to print "try again" until the user enters the correct number.

- 4 Write a function to find mean of 5 numbers.

## Chapter 4 - Strings

Strings are used to store and manipulate text.  
 String can be created using the following syntax:

`let name = "Harry"` → Creates a string

`name.length`

↳ This property prints length of the string

Strings can also be created using single quotes

`let name = 'Harry'`

### Template Literals

Template literals use backticks instead of quotes to define a string

`let name = `Harry``

With template literals, it is possible to use both single as well as double quotes inside a string

`let sentence = `The name "is" Harry's``

→ Single quote  
backtic  
double quote

We can insert variables directly in template literal. This is called string interpolation.

`let a = `This is ${name}`` → Prints 'This is a Harry'

name is a variable

## Escape Sequence Characters

If you try to print the following string, JavaScript will misunderstand it

```
let name = 'Adam D'Angelo'
```

We can use single quote escape sequence to solve the problem

```
let name = 'Adam D\''Angelo'
```

Similarly we can use \" inside a string with double quotes

Other escape sequence characters are as follows

\n → Newline

\t → Tab

\r → Carriage Return

## String properties and Methods

1, let name = "Harry"  
name.length → prints 5

2, let name = "Harry"  
name.toUpperCase() → prints HARRY

3, let name = "Harry"  
name.toLowerCase() → prints harry

4, let name = "Harry"  
 name.slice(2, 4) → prints rr  
 (from 2 to 4, 4 not included)

5, let name = "Harry"  
 name.slice(2) → prints rry  
 (from 2 to end)

6, let name = "Harry Bhai"  
 let newName = name.replace("Bhai", "Bhai")

7, let name1 = "Harry"  
 let name2 = "Namam"  
 let name3 = name1.concat(name2, "Yes")  
 ↳ We can even use + operator

8, let name = " Harry "  
 let newName = name.trim()  
 ↳ Removes whitespaces

Strings are immutable. In order to access the character at an index we use the following syntax

let name = "Harry"  
 name[0] → Prints H  
 name[1] → Prints a

## Chapter 4 - Practice Set

- 1 What will the following print in JavaScript?  
`console.log ("har".length)`
- 2 Explore the includes, startsWith & endsWith functions of a string
- 3 Write a program to convert a given string to lowercase
- 4 Extract the amount out of this string  
"Please give Rs 1000"
- 5 Try to change 4<sup>th</sup> character of a given string.  
Were you able to do it?

## Chapter 5 - Practice Set

- 1 Create an array of numbers and take input from the user to add numbers to this array.
- 2 Keep adding numbers to the array in ① until 0 is added to the array.
- 3 Filter for numbers divisible by 10 from a given array.
- 4 Create an array of square of given numbers.
- 5 Use reduce to calculate factorial of a given number from an array of first n natural numbers. (n being the number whose factorial needs to be calculated)

## Chapter 5 - Arrays

Arrays are variables which can hold more than one value.

`const fruits = ["banana", "apple", "grapes"]`

`const a1 = [7, "Harry", false]`

↳ Can be different types

### Accessing Values

`let numbers = [1, 2, 7, 9]`

`numbers[0] → 1`

`numbers[1] → 2`

### Finding the length

`let numbers = [1, 7, 9, 21]`

`numbers[0] → 1`  
`numbers.length → 4`

### Changing the values

`let numbers = [7, 2, 40, 9]`

`numbers[2] = 8`

↳ "numbers" now becomes [7, 2, 8, 9]

Arrays are mutable

Arrays can be changed



In JavaScript, arrays are objects. The typeof operator on arrays returns object

const n = [1, 7, 9]

typeof n → returns "object"

Arrays can hold many values under a single name

Array methods

There are some important array methods in JavaScript. Some of them are as follows:

1. `toString()` → converts an array to a string of comma separated values

let n = [1, 7, 9]  
n.toString() → 1, 7, 9

2. `join()` → joins all the array elements using a separator

let n = [7, 9, 13]  
n.join("-") → 7-9-13

3. `pop()` → removes last element from the array

let n = [1, 2, 4]  
n.pop() → updates the original array  
returns the popped value

4. `push()` → Adds a new element at the end of the array

`let a = [7, 1, 2, 8]`

`a.push(9)` → modifies the original array  
↳ returns the new array length

5. `shift()` → Removes first element and returns it

6. `unshift()` → Adds element to the beginning.  
Returns new array length

7. `delete` → Array elements can be deleted using the delete operator

`let d = [7, 8, 9, 10]`

`delete d[1]` → delete is an operator

8. `Concat()` → Used to join arrays to the given array

`let a1 = [1, 2, 3]`

`let a2 = [4, 5, 6]`

`let a3 = [9, 8, 7]`

`a1.concat(a2, a3)` → Returns [1, 2, 3, 4, 5, 6, 9, 8, 7]

↳ Returns a new array

Does not change existing arrays

9> `Sort()` → `sort()` method is used to sort an array alphabetically.

`let a = [ 7, 9, 8 ]`

`a.sort()`

↳ `a` changes to `[ 7, 8, 9 ]`  
[modifies the original array]

`Sort()` takes an optional compare function. If this function is provided as the first argument, the `Sort()` function will consider these values (the values returned from the compare function) as the basis of sorting.

10> `Splice()` → `Splice` can be used to add new items to an array

`const numbers = [ 1, 2, 3, 4, 5 ]`

`numbers.splice( 2, 1, 23, 24 )`

Returns deleted items. modifies the array

position to add      no of elements to remove      Elements to be added

11> `Slice()` → slices out a piece from an array.  
It creates a new array.

`const num = [ 1, 2, 3, 4 ]`

`num.slice( 2 )` → `[ 3, 4 ]`

`num.slice( 1, 3 )` → `[ 2, 3 ]`

12. `reverse()` → Reverses the elements in the source array.

### Looping through Arrays

Arrays can be looped through using the classical JavaScript `for` loop or through some other methods discussed below

1. `forEach` loop → calls a function, once for each array element

```
const a = [1, 2, 3]
a.forEach((value, index, array) => {
    // function logic
});
```

2. `map()` → creates a new array by performing some operation on each array element.

```
const a = [1, 2, 3]
a.map((value, index, array) => {
    return value * value;
});
```

3. `filter()` → filters an array with values that passes a test. Creates a new array

```
const a = [1, 2, 3, 4, 5]
a.filter(greater - than - 5)
```

4, reduce method → Reduces an array to a single value

const n = [ 1, 8, 7, 11 ]  
let sum = numbers.reduce [ add )  
 $1+8+7+11$  ↳ A function

5, Array.from → Used to create an array from any other object

Array.from( "Harry" )

6, for...of → For-of loop can be used to get the values from an array

7, for...in → for-in loop can be used to get the keys from an array.

## Chapter 6 - JavaScript in the browser

JavaScript was initially created to make web pages alive. JS can be written right in a web page's HTML to make it interactive.

The browser has an embedded engine called the JavaScript engine or the Javascript runtime.

JavaScript's ability in the browser is very limited to protect the user's safety. For example a webpage on <http://goofy.com> cannot access <http://codeswear.com> and 'steal' information from there.

### Developer tools

Every browser has some developer tools which makes a developer's life a lot easier.

F12 on chrome opens Dev tools

All HTML Elements	Elements	Console	Network	All network requests All the errors + logs

We can also write JavaScript commands in the Console

The script tag

The script tag is used to insert JavaScript into an HTML page

The script tag can be used to insert external or internal scripts

```
<Script>  
alert ("Hello")  
</Script>  
// or ...  
<Script src = " /js/thisone.js " > </Script>
```

The benefit of a separate javascript file is that the browser will download it and store it in its cache

### Console object methods

The console object has several methods, log being one of them. Some of them are as follows:

- assert() → Used to assert a condition
- clear() → Clears the console
- log() → Outputs a message to the console
- table() → Displays a tabular data
- warn() → Used for warnings
- error() → Used for errors
- info() → Used for special information

You will naturally remember some or all of these with time  
Comprehensive list can be looked up on MDN

Interaction : alert, prompt and confirm

alert : Used to invoke a mini window with a msg.

`alert ("hello")`

prompt : Used to take user input as string

`inp = prompt ("Hi", "No")`

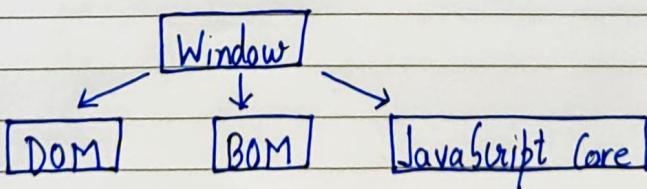
↳ optional default value

Confirm : Shows a message and waits for the user to press ok or cancel. Returns true for ok and false for cancel.

The exact location & look is determined by the browser which is a limitation

Window object, BOM & DOM

We have the following when JavaScript runs in a browser



Window object represents browser window and provides methods to control it. It is a global object

## Document Object Model (DOM)

Dom represents the page content as HTML

`document.body` → Page body as JS object

`document.body.style.background = "green"`  
↳ Changes page background to green

## Browser Object Model (BOM)

The Browser Object Model (BOM) represents additional objects provided by the browser (host environment) for working with everything except the document.

The functions `alert` / `confirm` / `prompt` are also a part of the BOM

`location.href = "https://codewithharry.com"`

↳ Redirected to another URL

## Chapter 6 - Practice Set

- = 1 Write a program using prompt function to take input of age as a value from the user and use alert to tell him if he can drive!
- = 2 In Q1 use confirm to ask the user if he wants to see the prompt again
- = 3 In the previous question, use console.error to log the error if the age entered is negative
- = 4 Write a program to change the url to google.com (Redirection) if user enters a number greater than 4
- = 5 Change the background of the page to yellow, red or any other color based on user input through prompt.

## Chapter 7 - Walking the DOM

DOM tree refers to the HTML page where all the nodes are objects. There can be 3 main types of nodes in the DOM tree:

1. text nodes
2. element nodes
3. comment nodes

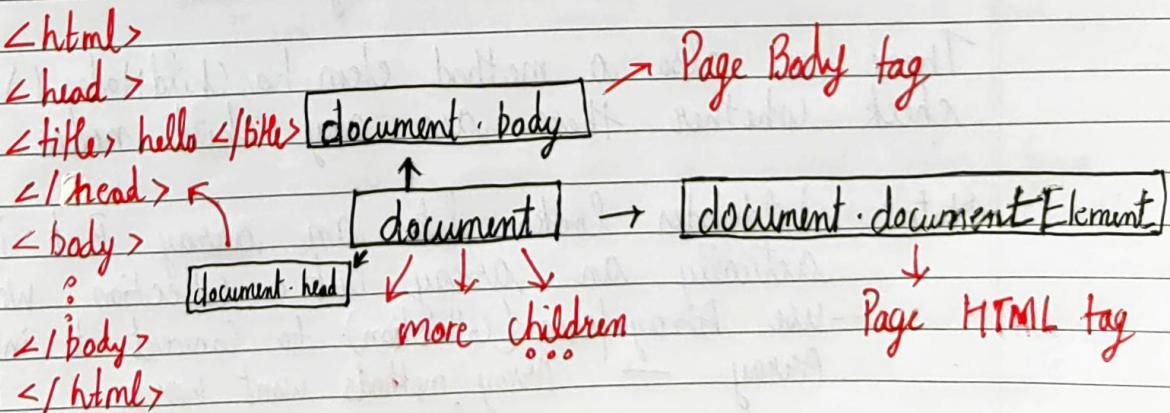
In an HTML page, `<html>` is at the root and `<head>` and `<body>` are its children, etc.

A text node is always a leaf of the tree

### Auto Correction

If an erroneous HTML is encountered by the browser, it tends to correct it for example, if we put something after the body, it is automatically moved inside the body. Another example is `<table>` tag which must contain `<tbody>`

### Walking the DOM



Note : document.body can sometimes be null if the javascript is written before the body tag.

Children of an element

Direct as well as deeply nested elements of an element are called its children

Child nodes → Elements that are direct children  
For example head & body are children of <html>

Descendant nodes → All nested elements, children, their children and so on ...

firstChild, lastChild & childNodes

element.firstChild → first child element

element.lastChild → last child element

element.childNodes → All child nodes

Following is always true :

elem.childNodes[0] == elem.firstChild

elem.childNodes[elem.childNodes.length - 1] == elem.lastChild

There is also a method elem.hasChildNodes() to check whether there are any child nodes.

Note: childNodes looks like an array. But it's not actually an array but a collection. We can use Array.from(Collection) to convert it into an Array. → Array methods won't work

## Notes on DOM collections

- They are read-only
- They are live. elem.childNodes variable (reference) will automatically update if childNodes of elem is changed.
- They are iterable using for...of loop

Siblings and the parent

Siblings are nodes that are children of the same parent.

- For example: <head> and <body> are siblings.  
Siblings have same parent. In the above example its html
- <body> is said to be the "next" or "right" sibling of <head>, <head> is said to be the "previous" or "left" sibling of <body>
- The next sibling is in nextSibling property, and the previous one in previousSibling.  
The parent is available as parentNode.

```
< alert ( document . documentElement . parentNode ); //document  
alert ( document . documentElement . parentElement ); // null
```

## Element only Navigation

Sometimes, we don't want text or comment nodes. Some links only take Element nodes into account. For example

document.previousElementSibling → Previous sibling which is an Element

document.nextElementSibling → next sibling (Element)

document.firstElementChild → first Element child

document.lastElementChild → last Element child

### Table links

Certain DOM elements may provide additional properties specific to their type for convenience.  
Table element supports the following properties:

table.rows → collection of tr elements

table.caption → reference to <caption>

table.tHead → reference to <thead>

table.tFoot → reference to <tfoot>

table.tBodies → collection of <tbody> elements

tbody.rows → collection of <tr> inside

tr.cells → collection of td and th

tr.sectionRowIndex → index of tr inside enclosing element

tr.rowIndex → Row number starting from 0

td.cellIndex → no of cells inside enclosing <tr>

Quick Quiz: Print typeof document and typeof window in the console & see what it prints

## Searching the DOM

DOM navigation properties are helpful when the elements are close to each other. If they are not close to each other, we have some more methods to search the DOM.

→ `document.getElementById`

This method is used to get the element with a given "id" attribute

```
let span = document.getElementById('span')
span.style.color = "red"
```

→ `document.querySelectorAll`

Returns all elements inside an element matching the given CSS selector

→ `document.querySelector`

Returns the first element for the given CSS selector.  
A efficient version of `elem.querySelectorAll(css)[0]`

→ `document.getElementsByTagName`

Returns elements with the given tag name

→ `document.getElementsByClassName`

Returns elements that have the given CSS class

→ Dont forget the "s" letter

→ `document.getElementsByName`

Searches elements by the name attribute.

matches, closest & contains methods

There are three important methods to search the DOM

- 1> elem.matches(css) → To check if element matches the given CSS selector
- 2> elem.closest(css) → To look for the nearest ancestor that matches the given CSS - selector. The elem itself is also checked
- 3> elemA.contains(elemB) → Returns true if elemB is inside elemA (a descendant of elemA) or when elemA == elemB

## Chapter 7 - Practice Set

- 1 Create a navbar and change the color of its first element to red.
- 2 Create a table without tbody. Now use "View page source" button to check whether it has a tbody or not.
- 3 Create an element with 3 children. Now change the color of first and last element to green.
- 4 Write a javascript code to change background of all `<li>` tags to cyan.
- 5 Which of the following is used to look for the farthest ancestor that matches a given CSS selector  
(a) matches    (b) closest    (c) contains    (d) none of these

## Chapter 8 - Events & other DOM properties

Console.dir function

Console.log shows the element DOM tree

Console.dir shows the element as an object with its properties

tagName / nodeName

Used to read tag name of an element

tagName → only exists for Element nodes

nodeName → defined for any node (text, comment etc.)

innerHTML and outerHTML

The innerHTML property allows to get the HTML inside the element as a string.

↳ Valid for element nodes only

The outerHTML property contains the full HTML: innerHTML + the element itself.

innerHTML is valid only for element nodes. For other node types we can use nodeValue or data.

textContent

Provides access to the text inside the element: only text, minus all tags.

The hidden property

The "hidden" attribute and the DOM property specifies whether the element is visible or not.

<div hidden> I am hidden </div>

<div id = "element"> I can be hidden </div>

<script>

element.hidden = true;

</script>

## Attribute methods

1. elem.hasAttribute (name) → Method to check for existence of an attribute
2. elem.getAttribute (name) → Method used to get the value of an attribute
3. elem.setAttribute (name, value) → Method used to set the value of an attribute.
4. elem.removeAttribute (name) → Method to remove the attribute from elem.
5. elem.attributes → Method to get the collection of all attributes

data-\* attributes

We can always create custom attributes but the ones starting with "data-" are reserved for programmers use. They are available in a property named dataset.

If an element has an attribute named "data-one", it's available as element.dataset.one

### Insertion methods

We looked at some ways to insert elements in the DOM. Here is another way:

```
let div = document.createElement('div') // create
```

```
div.className = "alert" // Set class
```

```
div.innerHTML = "<span> hello </span>"
```

```
document.body.append(div)
```

Here are some more insertion methods:

1. node.append(e) → Append at the end of node

2. node.prepend(e) → Insert at the beginning of node

3. node.before(e) → Insert before node

4. node.after(e) → Insert after node

5. node.replaceWith(e) → replaces node with the given node.

Quick Quiz : Try out all these methods with your own webpage.

## insertAdjacentHTML / Text / Element

This method is used to insert HTML. The first parameter is a code word, specifying where to insert. Must be one of the following:

- 1, "beforebegin" - Insert HTML immediately before element
- 2, "afterbegin" - Insert HTML into element at the beginning
- 3, "beforeend" - Insert HTML into element at the end.
- 4, "afterend" - Insert HTML immediately after element.

The second parameter is an HTML string

Example :

```
<div id="div"> </div>
<script>
    div.insertAdjacentHTML('beforebegin', '<p> Hello </p>');
    div.insertAdjacentHTML('afterend', '<p> Bye </p>');
</script>
```

The output would be :

```
<p> Hello </p>
<div id="div"> </div>
<p> Bye </p>
```

## Node removal

To remove a node, there's a method `node.remove()`

`let id1 = document.getElementById("id1")`

`id1.remove()`

`ClassName` and `classList`

If we assign something to `elem.className`, it replaces the whole string of classes.

Often we want to add/remove/toggle a single class.

1. `elem.classList.add/remove("class")` - Adds/removes a class
2. `elem.classList.toggle("class")` - Adds the class if it doesn't exist, otherwise removes it.
3. `elem.classList.contains("class")` - Checks for the given class, returns true/false

`setTimeout` and `setInterval`

`setTimeout` allows us to run a function once after the interval of time.

Syntax of `setTimeout` is as follows:

`let timerId = setTimeout(function, <delay>, <arg1>, <arg2>)`

`returns a timerId`

`in ms`

clearTimeout is used to cancel the execution (in case we change our mind). For example:

```
let timerId = setTimeout(() => alert("never"), 1000);
```

clearTimeout(timerId)

→ cancel the execution

setInterval method has a similar syntax as setTimeout :

```
let timerId = setInterval(function, <delay>, <args...>);
```

All arguments have the same meaning. But unlike setTimeout, it runs the function not only once, but regularly after the given interval of time.

To stop further calls, we can use clearInterval(timerId).

### Browser Events

An event is a signal that something has happened. All the DOM nodes generate such signals!

Some important DOM events are:

Mouse events : click, contextmenu (right click), mouseover/mouseout, mousedown/mouseup, mousemove

Keyboard events : keydown and keyup

form element events : submit, focus etc.

Document events : DOMContentLoaded

### Handling Events

Events can be handled through HTML attributes

```
<input value = "Hey" onclick = "alert('hey')" type = "button">
```

↳ Can be another JS function

Events can also be handled through the onclick property

```
elem.onclick = function() {  
    alert("yes")  
};
```

Note: Adding a handler with JavaScript overwrites the existing handler

addEventListener and removeEventListener

addEventListener is used to assign multiple handlers to an event.

```
element.addEventListener(event, handler)
```

```
element.removeEventListener(event, handler)
```

↳ handler must be the same function object for this to work

## The Event Object

When an event happens, the browser creates an event object, puts details into it and passes it as an argument to the handler

```
elem.onclick = function(event) {  
    ...  
}
```

event.type : Event type

event.currentTarget : Element that handled the event

event.clientX / event.clientY : Coordinates of the cursor

## Chapter 8 - Practice Set

- 1 Write a program to show different alerts when different buttons are clicked
- 2 Create a website which is capable of storing bookmarks of your favorite websites using href
- 3 Repeat Q2 using event listeners
- 4 Write a javascript program to keep fetching contents of a website (Every 5 seconds)
- 5 Create a glowing bulb effect using classlist toggle method in JavaScript

## Chapter 9 - Callbacks, promises & async/await

Asynchronous actions are the actions that we initiate now and they finish later. e.g. setTimeout

Synchronous actions are the actions that initiate and finish one-by-one

### Callback functions

A callback function is a function passed into another function as an argument, which is then invoked inside the outer function to complete an action.

Here is an example of a callback:

```
function loadScript (src, callback) {  
    let script = document.createElement('script')  
    script.src = src  
    script.onload = () => callback(script)  
    document.head.append(script)  
}
```

Now we can do something like this:

```
loadScript ('https://cdn.harry.com', (script) => {  
    alert('script is loaded')  
    alert(script.src)  
});
```

This is called "callback-based" style of sync programming. A function that does something asynchronously should provide a callback argument where we put the function to run after its complete.

### Handling errors

We can handle callback errors by supplying error argument like this :

```
function loadScript (src, callback) {  
    ...  
    ...  
    script.onload = () => callback(null, script);  
    script.onerror = () => callback(new Error('failed'));  
    ...  
};
```

Then inside of loadScript call :

```
loadScript ('cdn/harry', function(error, script) {  
    ...  
    if (error) {  
        // handle error  
    }  
    else {  
        // script loaded  
    }  
});
```

## Pyramid of Doom

When we have callback inside callbacks, the code gets difficult to manage

```
loadScript([...]) {
```

```
    loadScript(...)
```

← Pyramid of Doom

```
        loadScript(...)
```

```
            loadScript(...)
```

...  
...

As calls become more nested, the code becomes deeper and increasingly more difficult to manage, especially if we have real code instead of ...

This is sometimes called "callback hell" or "pyramid of doom"

The "pyramid" of these calls grows towards the right with every asynchronous action. Soon it spirals out of control. So this way of coding isn't very good!

## Introduction to Promises

The solution to the callback hell is promises.

A promise is a "promise of code execution". The code either executes or fails, in both the cases the subscriber will be notified.

The syntax of a Promise looks like this :

```
let promise = new Promise(function(resolve, reject) {  
    // executor  
});
```

predefined  
in JS engine

resolve and reject are two callbacks provided by javascript itself. They are called like this :

resolve (value) → If the job is finished successfully  
reject (error) → If the job fails

The promise object returned by the new Promise constructor has these properties

1. state : Initially pending, then changes to either "fulfilled" when resolve is called or "rejected" when reject is called
2. result : Initially undefined, then changes to value if resolved, or error when rejected

Consumers : then & catch

The consuming code can receive the final result of a promise through then & catch

The most fundamental one is then

```
promise.then(function(result) { /* handle */ },  
            function(error) { /* handle error */ })
```

If we are interested only in successful completions, we can provide only one function argument to .then():

```
let promise = new Promise(resolve => {
    setTimeout(() => resolve("done"), 1000);
});
```

```
promise.then(alert);
```

If we are interested only in errors, we can use null as the first argument: .then(null, f) or we can use catch:

```
promise.catch(alert)
```

promise.finally(() =>{}) is used to perform general cleanups

Quick Quiz: Rewrite the loadScript function we wrote in the beginning of this chapter using promises.

### Promises Chaining

We can chain promises and make them pass the resolved values to one another like this

```
p.then(function(result) => {
    alert(result);
    return 2;
}).then(...)
```

// p is a promise

The idea is to pass the result through the chain of .then handlers.

Here is the flow of execution

- 1> The initial promise resolves in 1 seconds (Assumption)
- 2> The next .then() handler is then called, which returns a new promise (resolved with 2 value)
- 3> The next .then() gets the result of previous one and this keeps on going

Every call to .then() returns a new promise whose value is passed to the next one and so on. We can even create custom promises inside .then()

Attaching multiple handlers

We can attach multiple handlers to one promise. They don't pass the result to each other; instead they process it independently.

let p is a promise

p.then(handler1)

p.then(handler2)

p.then(handler3)



→ Runs Independently

## Promise API

There are 6 static methods of Promise class:

- 1> `Promise.all(promises)` → Waits for all promises to resolve and returns the array of their results.  
If any one fails, it becomes the error & all other results are ignored.
- 2> `Promise.allSettled(promises)` → Waits for all the promises to settle and returns their results as an array of objects with status and value.
- 3> `Promise.race(promises)` → Waits for the first promise to settle and its result/error becomes the outcome.
- 4> `Promise.any(promises)` → Waits for the first promise to fulfill (& not rejected), and its result becomes the outcome. Throws AggregateError if all the promises are rejected.
- 5> `Promise.resolve(value)` → Makes a resolved promise with the given value.
- 6> `Promise.reject(error)` → Makes a rejected promise with the given error.

Quick Quiz : Try all these promise APIs on your custom promises.

## Async / Await

There is a special syntax to work with promises in javascript

A function can be made async by using `async` keyword like this :

```
async function harry() {  
    return 7;  
}
```

An `async` function always returns a promise.  
Other values are wrapped in a promise automatically

We can do something like this :

```
harry(). then(alert)
```

So, `async` ensures that the function returns a promise and wraps non promises in it.

The `await` keyword

There is another keyword called `await` that works only inside `async` functions

```
let value = await promise;
```

The `await` keyword makes javascript wait until the promise settles and returns its value.

It's just a more elegant syntax of getting the promise result than promise.then + its easier to read & write

### Error Handling

We all make mistakes. Also sometimes our script can have errors. Usually a program halts when an error occurs.

The try...catch syntax allows us to catch errors so that the script instead of dying can do something more reasonable

The try...catch syntax

The try...catch syntax has two main blocks:  
try and then catch

```
try {  
    // try the code
```

```
} catch (err) {  
    // error handling  
}
```

⇒ The err variable contains an error object

It works like this

1. first the code in try is executed
2. If there is no error, catch is ignored else catch is executed

try catch works synchronously  
If an exception happens in scheduled code,  
like in setTimeout, then try... catch won't  
catch it :

```
try {  
    setTimeout(function () {  
        // error code → Script dies and  
        // catch won't work  
    }  
    catch (...) {  
        // ...  
    }  
}
```

That's because the function itself is executed  
later, when the engine has already left  
the try... catch construct.

The error object  
For all the built in errors, the error object has  
two main properties:

```
try {  
    hey; // error variable not defined  
} catch (err) {  
    alert(err.name)  
    alert(err.message)  
    alert(err.stack)  
}
```

## Throwing Custom Error

We can throw our own error by using the `throw` syntax

```
if (age > 180) {  
    throw new Error("Invalid Age")  
    ...
```

We can also throw a particular error by using the built-in constructor for standard errors:

```
let error = new SyntaxError(message)
```

or

```
new ReferenceError(message)
```

## The `finally` clause

The `try...catch` construct may have one more code clause: `finally`

If it exists it runs in all cases:

after `try` if there were no errors

after `catch` if there were errors

If there is a return in `try`, `finally` is executed just before the control returns to the outer code.

## Chapter 9 - Practice Set

- 1 Write a program to load a JavaScript file in a browser using Promises. Use .then() to display an alert when the load is complete.
- 2 Write the same program from previous question and use async / await syntax.
- 3 Create a promise which rejects after 3 seconds. Use an async / await to get its value. Use a try catch to handle its error.
- 4 Write a program using Promise.all() inside an async / await to await 3 promises. Compare its results with the case where we await these promises one by one.

## Chapter 11 - Practice Set

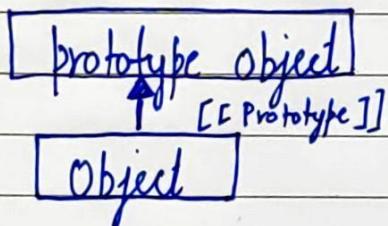
- 1 Create a JavaScript class to create a complex number. Create a constructor to set the real and the complex part
- 2 Write a method to add two complex numbers in the above class
- 3 Create a class Student from a class Human.  
Override a method & see changes
- 4 See if Student is an instance of Human using instanceof keyword.
- 5 Use getters & setters to set and get the real and imaginary parts of the complex number

## Chapter 11 - Object Oriented Programming

In programming we often take something and then extend it. For example we might want to create a user object and "admin" and "guest" will be slightly modified variants of it.

### [[ Prototype ]]

JavaScript objects have a special property called prototype that is either null or references another object.



When we try to read a property from a prototype and its missing, JavaScript automatically takes it from the prototype. This is called "prototypal inheritance".

### Setting Prototype

We can set prototype by setting `--proto--`. Now if we read a property from the object which is not in object and is present in the prototype, JavaScript will take it from prototype.

If we have a method in object, it will be called from the object. If its missing in object and present in prototype, its called from the prototype.

## Classes and Objects

In object-oriented programming, a class is an extensible program-code template for creating objects, providing initial values for state (member variables) and implementation of behavior (member functions)

The basic syntax for writing a class is :

```
Class MyClass {  
    // class methods  
    constructor() { ... }  
    method1() { ... }  
    method2() { ... }  
}
```

We can then use new MyClass() to create a new object with all the listed methods

### The constructor method

The constructor() method is called automatically by new, so we can initialize the object there

Quick Quiz : Create a class user and create a few methods along with a constructor.

## Class Inheritance

Class Inheritance is a way for one class to extend another class. This is done by using the extends keyword.

The extends keyword  
extends keyword is used to extend another class.

class Child extends Parent

We can create a class Monkey that inherits from Animal

```
class Monkey extends Animal {  
    hide() {  
        alert(`\$ {this.name} hides!`);  
    }  
}
```

```
let monkey = new Monkey("Monu")  
monkey.run(); // from Animal  
monkey.hide();
```

Method Overriding

If we create our own implementation of run, it will not be taken from the Animal class.

This is called Method Overriding

super keyword

When we override a method, we don't want the method of the previous class to go in vain. We can execute it using super keyword.

super(a, b) → call parent constructor

```
run () {  
    super.run ()  
    this.hide ()  
}
```

### Overriding Constructor

With a constructor, things are a bit tricky / different. According to the specification, if a class extends another class and has no constructor, then the following empty constructor is generated.

```
Class Monkey extends Animal {  
    // auto generated  
    constructor (...args) {  
        super (...args);  
    }  
}
```

⇒ Happens if we don't write our own constructor

Constructors in inheriting classes must call super (...) and do it before using this.

We can also use super.method() in a Child method to call Parent Method

### Static method

Static methods are used to implement functions that belong to a class as a whole and not to any particular object.

We can assign a static method as follows:

```
class Employee {  
    static sMethod () {  
        alert ("Hey");  
    }  
}
```

Employee.sMethod()

Static methods aren't available for individual objects

Getters and Setters

Classes may include getters and setters to get & set the computed properties

Example :

```
class Person {  
    get name () {  
        return this._name;  
    }  
  
    set name (newName) {  
        this._name = newName;  
    }  
}
```

First the name property is changed to \_name to avoid the name collision with the getter & setter. Then the getter uses the get keyword as shown above

## instanceof Operator

The instanceof operator allows to check whether an object belongs to a certain class

The syntax is:

<obj> instanceof <class>

It returns true if obj belongs to the class or any other class inheriting from it

## Chapter 12 - Advanced JavaScript

There are some JavaScript concepts which make the life of a developer extremely simple. We will discuss some of those in this chapter.

### IIFE

IIFE is a JavaScript function that runs as soon as it is defined.

```
(function () {  
    ...  
    ...  
})();
```

⇒ IIFE Syntax

It is used to avoid polluting the global namespace, execute an async-await, etc.

### Destructuring

Destructuring assignment is used to unpack values from an array, or properties from objects, into distinct variables.

```
let [x, y] = [7, 20]
```

x will be assigned 7 and y, 20

```
[10, x, ...rest] = [10, 80, 7, 11, 21, 88]
```

x will be 80      rest will be [7, 11, 21, 88]

Similarly we can destructure objects on the left hand side of the assignment

```
const obj = { a: 1, b: 2 }  
const {a, b} = obj;
```

Some more examples can be found on MDN docs.

### Spread Syntax

Spread syntax allows an iterable such as an array or string to be expanded in places where zero or more arguments are expected. In an object literal, the spread syntax enumerates the properties of an object and adds the key-value pairs to the object being created.

Example :

```
① const arr = [ 1, 7, 11 ]  
const obj = { ...arr }; // { 0: 1, 1: 7, 2: 11 }
```

```
② const nums = [ 1, 2, 7 ]  
console.log (sum (...nums)) // 10
```

Other examples can be found on MDN docs

Quick Quiz : Output of the following ??

```
const a = "the", b = "no"
```

```
const c = { a, b }
```

```
console.log (c)
```

local, global & block scopes  
JavaScript has three types of scopes :

1. Block scope
2. Function Scope
3. Global Scope

let & const provide block level scope which means that the variables declared inside a {} cannot be accessed from outside the block

{

```
let a = 27;
```

}

// a is not available here

Variables declared within a JavaScript function, become local to the function

A variable declared outside a function, becomes global

### Hoisting

Hoisting refers to the process whereby the interpreter appears to move the declarations to the top of the code before execution

Variables can thus be referenced before they are declared in JavaScript

hello ("Harry")

function hello (name) {  
 ...  
}

⇒ Works!

Important Note: JavaScript only hoists declarations, not initializations. The variable will be undefined until the line where its initialized is reached.

Hoisting with let and var

With let and var hoisting is different

console.log (num)  
let num = 6;

→ Error if let or const

→ with var undefined is printed

Function expressions and class expressions are not hoisted

## Chapter 12 - Practice Set

- 1 Write a JavaScript program to print the following after 2 second delay  

Hello  
World
- 2 Write a JavaScript program to find average of numbers in an array using spread syntax
- 3 Write a Javascript function which resolves a Promise after n seconds. The function takes n as the parameter. Use an IIFE to execute the functions with different values of n
- 4 Write a simple interest calculator using JavaScript.

## Exercise 1 - Guess the number

Write a JavaScript program to generate a random number and store it in a variable. The program then takes an input from the user to tell them whether the guess was correct, greater or lesser than the original number.

100 - (no of guesses) is the score of the user. The program is expected to terminate once the number is guessed. Number should be between 1 - 100.

## Exercise 2 - Snake Water Gun

Use Javascript to create a game of Snake Water & Gun. The game should ask you to enter S, W or G. The computer should be able to randomly generate S, W or G and declare Win or Loss using alert. Use confirm and prompt wherever required.

### Exercise 3 - Tell me a joke

`elem.innerHTML` is used to populate a `div` with HTML. Search online about this method and create a website with a `div` tag containing a random joke given an array of jokes. Use `Math.random` and `fetch` jokes from the internet (use any website to create the array). Your website should show a random joke on every reload. Min length of your jokes array should be 10.

## Exercise 4 - Digital Clock

1. Create a Digital Seconds clock using SetInterval and Date object in JavaScript.  
The Date object can be used to get the date, time, hours and seconds which can be updated using SetInterval.  
Try to keep the UI good looking.

## Exercise 5 - Hackerman

Write a javascript program to pretend to look like a hacker. Write an async function which will simply display the following output:

Initializing Hack program . . .

Hacking Ashish<sup>15</sup> username . . .

Username found aashish17 . . .

Connecting to facebook . . .

Try to use HTML & Styling if possible

## Exercise 6 - TODO List

Create a TODO List app capable of storing your TODOS in local Storage. Add an option to create, delete and access all the TODOS.

Try to make UI as good as possible

## Exercise 7 - Password Generator

Create a JavaScript program capable of generating a password which contains atleast one lowercase, one uppercase and one special characters.

Create a Password class to achieve the same

## Exercise 8 - Alarm Clock

The HTML Audio Element Interface can be used to play audio in the browser. Create an alarm clock which displays time and plays sound at a user specified time

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Ideation → UX → UI → App/Website Development (Python/Django/JavaScript/Flutter) → Feedback and Optimization → Marketing (Video/Images/Copywriting)

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- Department Secretary, Involved in choreography group, entrepreneurship cell and robotics.

## WORK EXPERIENCE

### Radio Rocket | co-founder / CPO

Dec'21-Present

#### Android Apps

// Skills: Product Management, UX/UI, Management

- **Created app based radio station for 13 districts.** 5 lakh+ cumulative downloads and 40 min avg time spent/user/day
- Raised \$500k from Whiteboard Capital and 12 angel investors.

### Classplus | Program Manager / Product Lead

Nov'20-Dec'21

// Skills: Product, Marketing & Strategy

- **Led Classplus Lite android app to ~1M downloads**
- Conceptualized and executed growth stack for educators (contributes to ~50% of engaged users)

### Bharat Class (Bozobaka Labs Pvt. Ltd.) | co-founder / CEO

Feb'17-Oct'20

[YourStory](#) | [YouTube](#) | [Android App](#) | [Website](#)

// Skills: EdTech Product (app/website/admin) and content (video/text) creation

- Launched full-stack Bank/SSC exam prep app Bboard. Pivoted to BharatClass which provides ready-made app and website for online educators.
- Used by 20,000+ educators and **40,000+ students**.

### BedBathMore (Homecraft Online Pvt. Ltd.) | Product Head

Apr'16-Jan'17

// Skills: Handling large tech & design teams, Launching new deep-tech product, Ecommerce product management

- **Led complete revamp** from BedBathMore to OliveTheory.com
- **Launched mobile apps** in react native and website in angularJS
- Handled multiple in-house projects for product cataloguing, web scraping for affiliate, product suggestions based on image recognition etc.

### Toppr | Growth / Marketing Manager

Jan'16-Mar'16

// Skills: Email, SMS, Social Media, Offline etc. Marketing, extracting growth insights using SQL

- **Tripled email open and click through rates.**
- Led new offline ad campaigns apart from online advertising and marketing

### Adister (Roorkites Educational Publishers Pvt. Ltd.) | co-founder / CEO

Sep'10 – Dec'15

[YourStory](#) | [The Hindu](#) | [YouTube](#)

// Skills: Team Management, Ideation to execution, Fund Raise, Operations

- Sold stylish notebooks at extremely low price (Supported by ads).
- Started company in 2<sup>nd</sup> year of college. First student of IIT Roorkee to opt for deferred-placement.
- At its peak, Adisters were the **largest selling online notebook brand in India**. Managed 2 offices in Delhi and Mumbai.

## FREELANCE / PART-TIME PROJECTS

- **Quetzal** – Built a News Android+iOS app & android app for recruitment consultants from scratch to production.
- Took **5+ freelance app/website development projects** for other companies.
- **Sattviko** – Entire offline+online marketing (ATL+BTL) from scratch till launch.
- **Gigstart & Delhi Tourism** – Digital marketing campaigns from ideation to execution.
- **Unacademy** - Educator - 2 Million+ watch minutes & 20,000+ followers.