



How To Build A Hardware Startup

Created by Marc Barros



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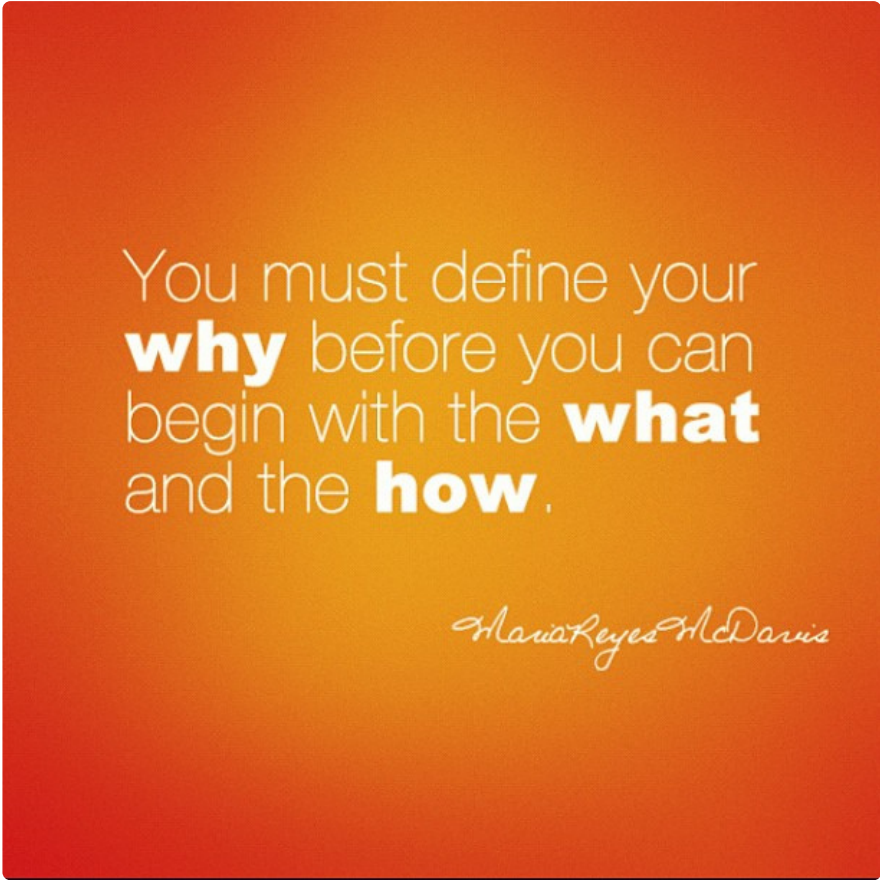
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Know Your Why



You must define your **why** before you can begin with the **what** and the **how**.

Maria Reyes McDavis

It's a simple question: Why are you starting a company?

It's hard to answer. Either because you don't know or you are embarrassed about how simple the reason is.

The good news is you can get away without have a clear why for a very long time. Most people will never ask you, instead they will focus on what you have built.

The bad news is down the road then the deck is stacked against you, when you are exhausted from the journey, and when you are wavering between a crappy and a really crappy decision, not having a clear why make you a leader without a compass.

To figure out your why, here is a simple exercise you can take yourself through:

- List what you are passionate about.
- List all the reasons you want to start a company.
- List all the emotions and desires you feel. (Frustration, hope, happiness, wanting freedom, etc)

- List what you want to change, improve, or make better in the world. These could be literal to the activity (i.e., make something easier), the feeling your customers will have (i.e., make people happy), or something you want to change (i.e., make the world better).

Once you create these lists you can step back and find the common thread. While being honest with yourself can be hard, it's necessary if you want to be a great entrepreneur. If you can't understand why, you will start and run the wrong company.

As you discover your why, I'd like to leave you with this thought: [Don't do it for the money.](https://adafru.it/cOc) (<https://adafru.it/cOc>)

Because if you do, it changes everything. You start with a spreadsheet instead of a real problem in the world. The people around you turn into costs. Your brand is referred to as an asset to be leveraged. Your customers become annoying people who won't leave you alone. Your handshake gets replaced with a legal contract that protects you in all circumstances. You start taking short cuts expecting the acquiring company to fix it. You stop worrying about making your culture great because it won't matter once everyone makes money.

You will destroy the very masterpiece you are trying to build.

Instead, choose to take this journey because no matter what happens at the end of the day you are happier after your company than before it. If not, when you don't have a pile of money, your company fails, or you're on the outside looking in, you won't be happy.

Have A Purpose



In the start-up world, purpose isn't talked about. Unless a founder is determined enough to drive home their beliefs, the conversation always starts with, "So what do you do?"

Especially in the beginning, having a purpose can be terribly lonely. Finding others who share your same beliefs takes a lot of time. If you have a consistent commitment to start with "why" instead of "what," you will spend a lot of time meeting people who just don't understand.

[Simon Senick \(https://adafru.it/cOd\)](https://adafru.it/cOd) says it best, "people don't buy what you do, they buy why you do it."

The Marines are an incredible organization. Whether you believe in the military or not, there is no denying that every Marine has an unwavering sense of purpose. Whenever I see a Marine in uniform, I can't help but notice because they have such a presence to them, a strength that leaves no doubt about the reason they wear their colors. Adopting the mark, *Semper Fi* (Always Loyal), members of the Marines are clear about why they exist.

Most startups don't have this same loyalty or this same collective unity. The startup culture has become one of minimal viable convincability. A culture focused on quantity over quality, we are in a rush to convince a lot of people that *what* we are building is meaningful. Because if not, the best talent won't join, investors will pass, and we will spend a lot of time coming up with new ideas until something sticks.

Your company will stand for one thing, which means you must be clear about what it

is.

To provide inspiration...

- “We make things that work for people.” ~ [Nest \(https://adafru.it/cOe\)](https://adafru.it/cOe)
- “Tools for living the city.” ~ [Chrome Industries \(https://adafru.it/cOf\)](https://adafru.it/cOf)
- “Enhance each life we touch.” ~ [Apple \(https://adafru.it/cOg\)](https://adafru.it/cOg)

Just because the product you make doesn't save lives, doesn't mean you can't have a deeper purpose. Personally, I love photography and as a former camera maker I definitely believe that the world is a better place with beautiful pictures. Even if I was going to add more plastic to the world by making another camera, I would want to tie it's existence to impacting the world through beautiful pictures.

“Making the Web a Better Place and loving every second of it” ~ [Moz \(https://adafru.it/cOh\)](https://adafru.it/cOh)

A simple purpose, Moz is focused on making the web a better place for its customers. Empowering people to optimize their business, Moz is consistently telling the world what they believe in. Whether it's their purpose, their TAGFEE values, or their complete transparency, Moz is clear about what they believe in.

At the end of the day, nothing matters unless you measure it. Sticking a purpose on the wall that is not tied to what you track, is pointless. If all you measure is revenue, customer engagement, and profits, then you should just change your purpose to, “We are leveraging our customers so we can make as much money as possible.”

Instead, spend time on creating a single purpose, measuring it, and telling the world about it. When you are winning people will follow you, but when you hit a massive bump in the road having a team with shared beliefs is the only way to survive it.

Image Credit: [No Author \(https://adafru.it/cOi\)](https://adafru.it/cOi) via Creative Commons

Picking Your Co-Founders



Picking a co-founder is as personal as picking a spouse and as financially binding as picking an investor. Co-founders are the pillar of your company and a relationship you need to spend real time thinking about.

When looking for the right co-founder, the best place to start is by spending time with people. And not just a coffee meeting. Spend time with them for breakfast, lunch, dinner, and the bar. Figure out if you like the person in the morning as much as the evenings. Spend time talking about ideas, business philosophy, family, food, interests, life, etc. Just like when you date you want to find out if you have similar interests.

In your discussions, you want to find out three things.

1. What are they passionate about?
2. What kind of company do they want to build?
3. What is their cost structure and appetite for financial risk?

You need to be able to talk about your answers. It's one thing to write them down but you have to be able to talk about them openly. Talking about your feelings can be hard, but you have to. You have to ask questions that make both of you vulnerable. If you can't do this, you will never be able to have the type of communication you need down the road. A co-founder is like a spouse, you have to be able to talk about everything.

If you don't believe in the same things, end the dating. You CAN NOT compromise on what you believe in or you'll end up the cliché spouse in the relationship admitting you gave up on your dreams when you got married.

Along with similar beliefs you want to know they aren't going to give up. An easy solution is picking a fellow co-founder who has also started a company. Joining one early is nice, but finding someone who has been through hell and back as a founder is an invaluable experience.

If they haven't started a company you want to go back to their roots and understand what tragedies they have faced, what set-backs have they had to overcome, or what challenges have they beat. This can include a variety of life experiences from a rough childhood to losing someone to excelling at sports. You are looking for experiences they can talk about that took incredible personal commitment to overcome.

When you are in the dating phase with your potential new co-founder, BE OBSERVANT. Looking at small things can tell you a lot, such as how do they talk about other people, are they positive or negative, do they follow through, and/or are they on time? Small clues tell you a lot about the person, signs you want to pick up as early as possible.

Once you have established your new co-founder relationship I STRONGLY recommend that every founder (including you) earns their ownership over four years. For example, if someone leaves after two years then they get half of their equity. This is very, very important because you can't predict the future and you can't afford a massive amount of equity being held by a former co-founder who is no longer involved with the business. Relationships don't always work out and you have to structure the company with a fair way to reward people for the time they put in, while providing the company with an easy out if the person leaves for whatever reason. Your company won't have cash to buy them out, so equity for time is the only way to go. If a co-founder is not willing to do this, walk away.

Getting to this point in the relationship is the most important part. If you have the same beliefs, a strong chemistry, totally open communication, and you know the person won't give up, you can figure out the rest. Determining roles, ownership structure, which idea to pursue, etc can be worked out. In fact, working these out together will better confirm your choice to take the co-founder plunge.

Finding The Right Market



Investors love to talk about market size. It's the part in your presentation where their ears perk up and they start doing the math in their head about what it takes to be a billion dollar company. Conversely entrepreneurs waste countless hours trying to find market numbers that justify why they have a billion dollar idea.

In reality it doesn't work like that.

A lot of the best hardware brands start by solving a single, niche problem and over time become billion dollar opportunities. [Skullcandy](https://adafru.it/cOj) (<https://adafru.it/cOj>) started because the founder wanted to listen to music while he snowboarded and he got tired of taking his gloves off to answer his phone. [Jawbone](https://adafru.it/cOk) (<https://adafru.it/cOk>) began with technology to help soldiers better communicate in noisy environments. [Go Pro](https://adafru.it/cOI) (<https://adafru.it/cOI>) was a cheap camera you wore on your wrist to capture photos while you surfed.

One of the things that makes hardware startups so expensive to build, is the cost to acquire a new customer. The use of online and offline marketing tactics means you spend a lot of money trying a variety of ideas that are difficult to measure, hoping they result in positive sales.

In the end, you come to realize that the more niche and passionate your initial market is, the easier it is to grow your customer base. If you can profitably gain more customers, you can build a really successful hardware company. If you can't, you never get past your Kickstarter backers.

In finding a the right niche, you first want to identify the right market trends and second find a set of customers who are passionate about the problem you are solving.

Identifying A Positive Market Narrative

I'm a big believer that finding the right market is about [understanding the narrative \(https://adafru.it/cOm\)](https://adafru.it/cOm) behind it. The numbers are helpful in estimating total size, but the trends within and around the market are more important.

Take the elderly population in the US. By running a few google searches you can see that the elderly population is expected to nearly double in size over the next 15 years. That's a staggering result, which means this increased market segment will be looking for products that make their life easier.

[Lively \(https://adafru.it/cOn\)](https://adafru.it/cOn) is a startup that is hoping to ride this positive market momentum to success. Their use of sensors and a mobile app gives the entire family confidence that the matrons of the family are safely going about their day.

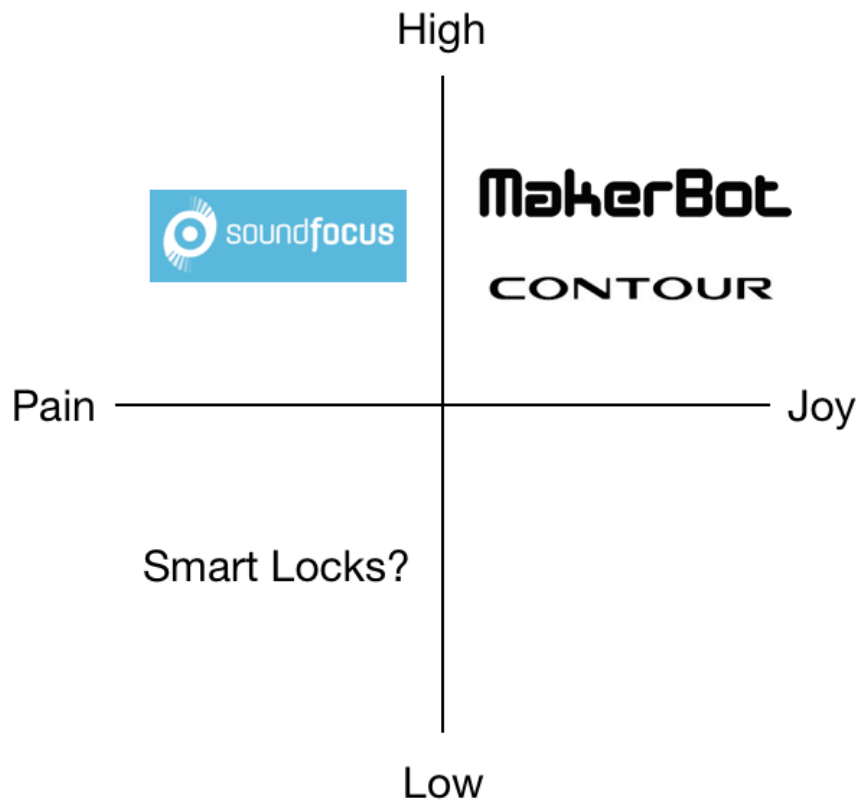
Smart locks on the other hand, don't have the same market momentum. Yes people are continuing to buy products that are connected to their phones, but there isn't a strong narrative that says people are buying more locks. Because the housing market isn't growing, these new companies will be hoping that the growth in home rental sites, like AirBnB, will be enough to drive the need for keyless locks. Otherwise these new startups will be competing on features, trying to convince all of us why a smart lock is better than a dumb lock.

Keep in mind, the size of your market doesn't have to be increasing to have a positive narrative. Digital cameras are being replaced by mobile phones, but it doesn't mean people are taking less pictures today. In fact the opposite is happening, which means there is increasing momentum for photography, even though the tools we use are changing.

Finding Passionate Customers

Within a positive market narrative you want to identify customers who are excited about the problem you are solving. Not only will it drive valuable word of mouth, but it will also result in a customer base that is willing to spend money to buy your product. To identify passionate customers I use a simple matrix. On one axis is how frequently consumers use your product, the higher the frequency the better. The second axis is

the reason behind their purchase. Products that bring joy (i.e. make your life better) are a marketing sell, while products that solve pain (i.e. a chronic problem) are an information sell.



At [Contour](https://adafru.it/cOo) (<https://adafru.it/cOo>) we were successful because outdoor enthusiasts frequently participated in their sport and received an incredible amount of personal satisfaction from recording their adventures. The competitive nature of sport combined with the desire to remember were powerful drivers in people needing an action camera.

The maker movement is another great example. It's a niche segment of Do-It-Yourself (DIY) builders that spend their weekends hacking together new product ideas. [Makerbot](https://adafru.it/cOp) (<https://adafru.it/cOp>) realized this and focused intently on building 3D printers that were convenient, high quality, and affordable for them to use.

[SoundFocus](https://adafru.it/cOq) (<https://adafru.it/cOq>) on the other hand is a new startup focused on hearing loss. Starting with a mobile app that makes music on your phone sound better, they will soon introduce hardware that challenges existing hearing aides. The founder's experience with hearing loss is a problem he deeply understands, which gives them an important advantage in solving a problem that is high in frequency and pain.

Going back to smart locks it's hard to see where they fit on this matrix. Losing your keys sucks, but does the problem happen enough to warrant replacing your locks? People who rent their homes on a regular basis, frequently need to provide access, but are there enough home renters to justify a market with three startup competitors? Time will tell.

Conclusion

Identifying the right market narrative and finding a passionate consumer within it, is critical to finding hardware startup success.

Image Credit: [The Rocketeer \(https://adafru.it/cOr\)](https://adafru.it/cOr) via Creative Commons

Minimal Viable Product



A minimal viable product (MVP) for product is about the fastest path to cash.

Hardware has a very simple business model: People either buy the product or they don't. And although hardware has a very clear path to market, building a successful MVP is anything but obvious.

Thanks to Apple, the bar for consumer hardware is incredibly high. Even though you are a startup, everyone will compare your product to the phone in their pocket, which means you have to nail the experience right out of the box.

Here is a short guide to help you build a hardware MVP that doesn't suck.

Talk To People

In hardware you get one chance to solve the right problem. Even if you deeply understand the problem, it's important to validate that others have the same struggles.

Customer interviews can be an informal process, but the key to them is to understand how people solve the problem today, why they chose the product they did, and what frustrates them. The goal is to gather customer insights by asking them questions and watching them use existing products.

If I was building an action video camera my interviews would go something like this...

Q: How do you capture action video today?

The goal of the question is to understand who is capturing action video and with what products.

Q: If no, why not?

Every time you hear a no, you want to understand why. You will either learn a series of problems you can solve or you will learn that your problem doesn't exist.

Q: If yes, why are you capturing action video?

The goal is to understand the real reason they even record action video. This motivation is super important and will be the basis of your customer experience.

Q: Can you walk me through the experience you take from capture to share?

Ideally you watch people use the product from beginning to end, asking them why they took each action. If you can't watch people, you can change this question to asking what frustrates them from capture to share.

If you don't interview potential customers, you will create a product that either slightly misunderstands the customer or even worse, solves a problem they don't actually have.

Map Out The Entire Customer Journey

Hardware is considerably harder than software because the problem is totally unconstrained. Starting with the customer need you have to first imagine a device that doesn't exist today and then create software to make that device useful. To do this right, you have to understand all the customer problems from the beginning to the end of the experience.

A standard tool used in user experience research, a customer journey maps out the key interactions before, during, and after. Listing these key interactions at the top of the chart, you then brainstorm multiple ways to solve each problem, from easy to hard. Once everything is on the board you begin to draw a line from left to right, demonstrating what level of solution you will provide in your MVP for each core problem.

	Before			During			After		
	Touch Point 1	Touch Point 2	Touch Point 3	Touch Point 4	Touch Point 5	Touch Point 6	Touch Point 7	Touch Point 9	Touch Point 10
Easy ↓ Hard	Solution A	Solution A	Solution A	Solution A	Solution A	Solution A	Solution A	Solution A	Solution A
	Solution B	Solution B		Solution B	Solution B	Solution B		Solution B	Solution B
	Solution C				Solution C			Solution C	Solution C
	Solution D				Solution D			Solution D	
	Solution E				Solution E			Solution E	
	Solution F							Solution F	

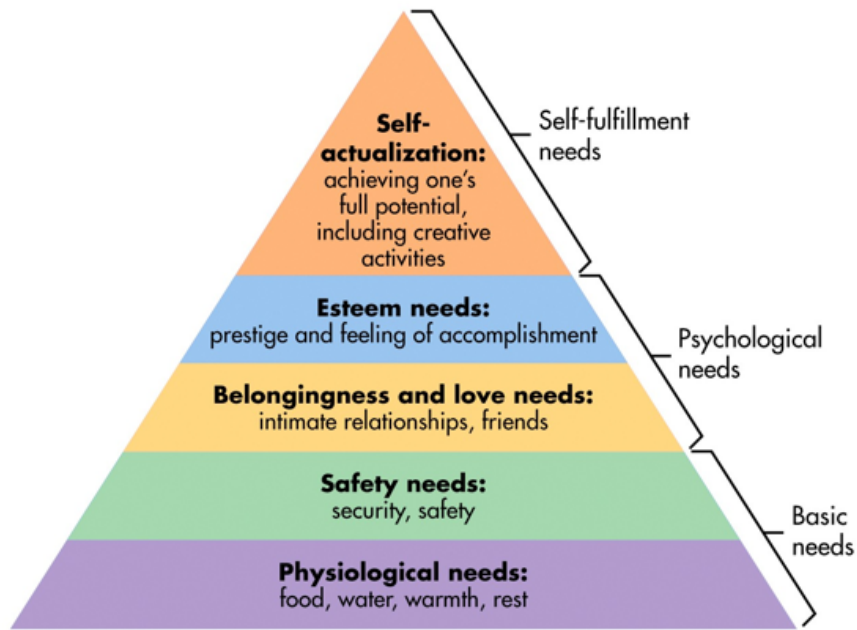
If done properly, a robust customer journey will provide you with a series of problems you can **solve over time**.

Only Ship the Core Need

Cash and time are your biggest constraints in building hardware. Cash enables you to hire large teams to make hard problems look easy, while time enables you to be patient as you craft and re-craft the experience.

Unless you can raise millions before you launch, your only option is to start driving cash by selling your product. Being forced to get to market quickly is a fantastic constraint that requires you to only solve THE most important customer problem.

To help you do this, you can borrow Maslow’s hierarchy of needs to refine your customer journey to what the product has to do really, really well. The bottom of the triangle represents THE basic (core) customer need. Any product you ship that misses the core need will result in poor reviews.



At [Contour \(https://adafru.it/cOo\)](https://adafru.it/cOo) the core need was to capture action video, which meant the product had to be robust, easy to use, and capture amazing video. Except our first version wasn't anything like you see today. It wasn't even a stand-alone camera. Instead we combined a CMOS security lens, battery pack, and AV cable to create an [accessory lens that plugged into your existing video camera \(https://adafru.it/cOs\)](https://adafru.it/cOs). Sold for \$250 we quickly built a \$400K business doing one thing: Turning your camcorder into an action camera.

Even our competitor started small. The [first GoPro cameras](#) strapped to a person's wrist and only captured pictures of the ride. But it didn't stop them from selling thousands of cameras long before they could capture HD, and millions before they could even connect to a mobile phone.

Driving positive cash flow as quickly as possible is incredibly important because with that cash you can re-invest in the product to make it better. If we hadn't created a \$400K accessory lens business, we never could have paid a firm to design the iconic Contour product you see today.

Build On Your Foundation

Once you launch your MVP you should iterate quickly to introduce your next version within 12-14 months. It doesn't mean version two should add a bunch of new features. More importantly it should perfect the features you already shipped, making the product robust enough for millions of customers.

No matter the device, it takes a lot of work to bring the whole system (engineering, design, testing, packaging, supply chain, certifications, documentation, logistics, etc.)

together into a product ready for mass consumer adoption. Starting basic and adding one feature at a time, is incredibly important.

- Fitbit started with a single pedometer that wasn't wireless and didn't have subscription revenue.
- The iPhone began as the iPod with up/down/left/right buttons.
- Skullcandy started with black headphones that didn't have color until the supplier accidentally shipped the company a set of red headphones.
- The Kindle was first an e-reader that every editor blasted because it didn't have a color screen, couldn't browse the internet, and wasn't a tablet.

Don't be afraid to break up the system and ship one piece at a time. Despite being a hardware startup, the guys at [SoundFocus \(https://adafru.it/cOq\)](https://adafru.it/cOq) launched their software first as a stand-alone mobile app. And now with thousands of customer downloads they are ready to take the next step, introducing hardware that makes their software better.

Just remember, every new feature multiplies the level of complexity so think hard about what comes second, third, and fourth in your product.

Conclusion

A Minimal Viable Hardware Product is not about searching for a business model, smearing features on the wall until people buy the product, or promising something you can't execute.

A true hardware MVP is about quickly delivering a simple, but amazing product that customers will pay for. Because driving positive cash flow is the most important ingredient to making your product better.

Image Credit: Eigenes Bild via Creative Commons

Pricing Your Product

Before you can launch, one of the most important things you need to figure out is pricing. Unlike software, you can't AB test your pricing and change it for different customers, which means your product has one price and everyone wants to know what it is.

I have found pricing matters for two reasons. First, it determines your profits, i.e. how long you can stay in business. Second, you are stuck with the initial price you set, which means you need to get it right.

Although you may want your product to be affordable, it likely isn't cheap to make when you get started. You have a cart before the horse problem. Your pricing is determined by your volumes, which you have no understanding of until you launch your product, which you can't do without a price. It doesn't mean you can't change your price on future models, but the rule of thumb is you can always lower the price, you can't raise it.

The mistake most hardware startups make is they don't charge enough because they don't think of the problems they will encounter at scale. They don't calculate the real cost to deliver their product to a customer's door, they leave no margin to sell through retail down the road when opportunities arise, and they can't easily raise the price after it has been set.

After some painful lessons, this is the process I would go through if I was bringing a new device to market.

Profits Matter

At the end of the day you are picking a price that enables you to stay in business. As [@meganauman says](https://adafru.it/cOu) (<https://adafru.it/cOu>) "Profit is not something to add at the end, it is something to plan for in the beginning."

Before you can calculate your price you need to understand how much money you need to make per unit, which in the hardware world is called [gross margin](https://adafru.it/cOv) (<https://adafru.it/cOv>). It's the difference between how much cash you keep from the customer and the amount in cash you paid to deliver a final product to your front door. This spread stays in your bank account as your profit.

Because gross margin dollars between products can vary so widely, I prefer to use gross margin percentage. Unless your product includes ongoing service revenues, i.e. the Kindle that makes money on book sales, you want to make at least a 50% gross margin on the sale of your device. Especially when you start, your volumes will be low, your mistakes will be high, and you will wonder where all the money went after you fulfill the initial customer demand.

Know Your Costs

This seems obvious, but it's not. You start by calculating the cost of the physical product, with packaging, shipped to your door. Don't get fooled when the supplier gives you an initial price without packaging or a price with packaging you have never

seen before. Assuming anything is a mistake, especially when the Apple like packaging you are thinking about is a far cry in cost from the packaging they initially quoted you.

Once you come to an agreement on the final price of the product, you can call on a handful of logistics companies to figure out the shipping costs. You are a long ways from shipping pallets or containers full of product, which means you will be airfreighting everything, the most expensive option available. Be sure to shop around for the best price.

Your cost analysis doesn't end here. You also need add in the cost to support the customer and manage defective units.

Although it's only you and your dog when you start, you should expect to hire 1-2 people at \$10 per hour to help you with customer support, shipping, and managing random surprises. This is something you can scale up after you determine the success of your product, so for now use it as a rough guide.

Defective units on the other hand are very real. A 2% defective rate would be amazing, but don't be surprised if it's 15% when you start. Yes, 15%. If you haven't already, you will need to have worked out in grave detail with your supplier, who is going to cover what, as well as the process to repair units. Regardless, expect to cover the customer's shipping costs (both directions) to replace the the crappy product you sold them.

To demonstrate how you calculate your product cost, lets assume I am launching a new device that costs me \$50 (with packaging), has a 15% defective rate and requires me to hire my first employee. You want to estimate a monthly sales volume for your product so as that grows over time you can see how your cost per unit changes. I picked a flat number of 1,000 units sold per month to be conservative, recognizing that with larger volume I can likely drive my costs down across the board. But until I am at that point, I'm not.

Estimated Units Sold Per Month	1,000
Product Cost (in packaging)	\$ 50.00
Shipping (to your door)	\$ 5.00
Support Costs	\$ 1.60
number of people	1
salary per hour	\$10.00
hours worked per month	160
Defective Cost	\$1.50
percent defective	15%
shipping (to and from customer)	\$10
Total Cost Per Unit	\$ 58.10

What you notice right away is the \$50 per unit price I get from my supplier is a far cry from my final cost. If I had missed this \$8.10, I would have been \$8,100 short in the first month and almost \$50,000 after six months.

Top Down Pricing

In school they teach you about top down pricing. It's where you look at the market, compare similar products, and try to guess what the price should be. Regardless of your cost structure this exercise is an estimation of what you think people will pay. Largely irrelevant when you start, I recommend using top down pricing strictly to guide where you ultimately want your product to be priced in the market.

Early in your product development process you can ask people how much they would pay. This exercise can be helpful, but often misleading because the quality they are picturing for your product is a lot higher than will come off the production line when you start. And until they actually give you the money you can't be certain how much they will pay.

Next you can look at your target customer and think about what else they buy. At Contour we recognized that our customer was an outdoor enthusiast, therefore spending significant money on gear, travel, and sport. We compared the prices of helmets, goggles, clothes, and select accessories to give us an idea of how much they were spending on their existing sport. Hoping to be an accessory to their gear, this gave us an idea of what price range our product needed to fit into.

Last, you can look at adjacent products. Again using the [Contour \(https://adafru.it/cOo\)](https://adafru.it/cOo) example, we researched both digital cameras and video cameras. We found similar pricing for both categories, where \$149-299 was for every day consumers, \$299-1000 was a large enthusiast range, and \$1,000 was the beginning of the professional market. These numbers helped us understand where our prices needed

to be over time to reach different types of customers. Even though a Contour camera is now \$199 we spent many years in the \$299-399 price range.

Continuing my example I have created a top down analysis for my new device. Wanting the product to retail at \$200, I calculate how much it will cost me to reach a customer and therefore my gross profit. Whether you go to retail or not, it's important to build a model that shows you the impact on your margins either way. Pricing your product to sell direct when you aren't yet sure on your distribution strategy can be a costly mistake, especially if you want to be in retail down the road.

TOP DOWN PRICING		Retail	No Retail
MSRP		\$ 200.00	\$ 200.00
	Less Retail Margin 40%	\$ (80.00)	\$ -
Wholesale Price		\$ 120.00	\$ 200.00
	Less Sales Rep Commission 5%	\$ (6.00)	\$ -
	Less Return Allowance 3%	\$ (3.60)	\$ -
	Less Shipping \$ 5.00	\$ (5.00)	\$ (5.00)
	Less Credit Card Fee 3%	\$ (3.60)	\$ (6.00)
Dollars Received From Customer		\$ 101.80	\$ 189.00
	Less Product Cost	\$ (58.10)	\$ (58.10)
Gross Margin		\$ 43.70	\$ 130.90
Gross Margin Percentage		42.9%	69.3%

Please keep in mind I used general retail channel percentages based on my experience at Contour. Although applicable to most consumer electronics, you will want to spend time understanding what margins retailers expect to make on your category.

If your gross margin is less than 50% your price is too low.

Bottom Up Pricing

As a start-up and first time maker of your new product, I highly recommend this method of pricing. Sure, you want your product to be affordable out of the gate, but picking a retail price (MSRP) that enables you to stay in businesses is even more important.

To calculate bottom up pricing, you start at the bottom (your costs) and work up to what the retail price would be. The number you arrive at will freak you out, thinking there is no way someone will pay that price. You're right, millions of people probably won't, but when you start you're focused on hundreds to low thousands of first

customers.

Again continuing my example I assumed I needed a 50% gross margin and that I wanted to understand the pricing impact both in and outside of retail.

BOTTOM UP PRICING		Retail	No Retail
Product Cost		\$58.10	\$58.10
	Add Gross Margin	50%	
		\$ 58.10	\$58.10
Dollars Received From Customer		\$ 116.20	\$ 116.20
	Add Credit Card Fee	3%	
		\$ 3.59	\$ 3.59
	Add Shipping	\$ 5.00	\$ 5.00
	Add Return Allowance	3%	
		\$ 3.59	\$ -
	Add Sales Rep	10%	
		\$ 12.91	\$ -
Wholesale		\$ 141.30	\$ 124.79
	Add Retail Margin	40%	
		\$ 94.20	\$ -
MSRP		\$ 235.50	\$ 124.79

In this model you can quickly see the price impact to the customer if you leave room for a healthy retail channel. It is why a lot of products, including FitBit, started online only, enabling the company to build cash flows, lower its costs, and ultimately it's MSRP price.

Conclusion

Everyone wants to deliver a great price to their customers, but recognize that if you don't make enough money per unit sold you won't be in business very long. You are a start-up and it does take time to efficiently deliver a quality product to market. You can't short-cut this learning curve and reducing your own margin is one of the fastest ways to become non-existent.

I believe that bottom up pricing is the best way to go. And yes it will make the MSRP of your product more expensive than you first imagined, but that's okay. Your initial customers will be early adopters and if they aren't willing to pay your high price, you most likely didn't create a product they can't live without.

Don't be afraid to charge more. Long term, your loyal customers will thank you for staying in business.

Image Credit: [Enjoy The Fresh \(https://adafru.it/cOw\)](https://adafru.it/cOw) via Creative Commons

Creating Your Brand



Building a successful hardware startup is all about being the brand of choice in consumers minds. No matter how amazing your new technology is, if people don't know you exist your company will never get off the ground.

I learned this the hard way at Contour. We had the better product for many years, but we constantly lost in the market because people didn't know we existed. Instead we lost to a competitor who did an amazing job at building their brand.

Although you will never gain the [10,000 hours](https://adafru.it/cOD) Gladwell says is required to become an expert in the field, you do have to understand this: You are creating a brand.

So before you blindly hire an agency or send your marketing person on a wild goose chase to create the wrong brand, here is a framework you can use to help you answer the question, “How do you define your brand?”

Start With the History

The only way you know who you want to become is to understand where you came from. Digging deep to reveal the reason you started this company requires you to be vulnerable, talking about feelings you never verbally expressed before. The best brands are connected with the company's purpose, and anchored in the emotions of the beginning stages of the journey.

Even to this day, Nike never lets us forget about Coach Bowerman and Phil Knight. Iconic black and white photos capture the emotion of the sport and the pursuit for improvement. Despite evolving to neon shoes, crazy social campaigns, and

memorable advertising, [Nike is clear about its past \(https://adafru.it/cOE\)](https://adafru.it/cOE).

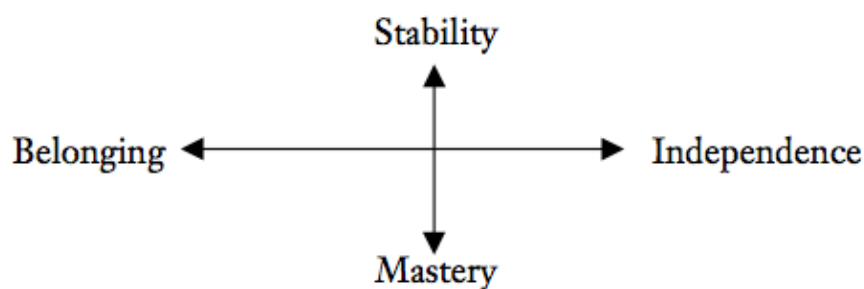
Beyond understanding the motivations of the original founders, you need to study the history of your product category. Everything has been done before, which means there is a tremendous wealth of inspiration around the original culture, products, and brands.

At [Contour \(https://adafru.it/cOo\)](https://adafru.it/cOo) we studied the origins of filmmaking and the artistic use of perspective. Because we didn't understand this early enough in our history, we struggled for many years to define the clear voice of our product against the 90-second action videos that GoPro produced. Outside of our iconic design, we failed to consistently tell our own story, bringing film making to the digital world.

Pick an Archetype

Archetypes have existed throughout the history of storytelling. Dating back to the ancient and Roman times, archetypes formed the bases of myths, in which they were depicted as gods and goddesses.

One of the best books I have found, "[The Hero and the Outlaw, \(https://adafru.it/BoU\)](https://adafru.it/BoU)" talks about 12 different archetypes and how they apply to building your brand. The book helps you transform a lifeless idea into a real character that you can picture, describe, and imagine. Broken into sections focusing on the four human drives of stability, mastery, belonging, and independence, the book does an amazing job of explaining the different archetypes that exist and the brands they represent.



At Contour we focused on the Creator. Found in the artist, the innovator, the musician, and the dreamer, the creator was inspired by any endeavor that taps into the imagination. Trying to sit at the intersection of engineering, design, and sport, our archetype was in stark contrast to GoPro's depiction of the Hero, an individual on an action-packed journey that always ended with a conquering feat.

[Download a free pdf version of the book \(https://adafru.it/BoU\)](https://adafru.it/BoU).

Define Your Attributes

Defining a brand is like defining a person. No different from how you would describe a friend, brand attributes are the adjectives you choose to define the personality of your brand. It's helpful to stick to single words with short descriptions, as these attributes help your team understand the values your brand stands for.

Although the words you use might be simple to pick, you want to think about how these adjectives can come to life in everything you do. From the products you make, to the out-of-box experience, to the service you provide, these attributes have to be abundantly clear with everyone involved with your brand.

Anchored in the Creator archetype, at Contour we created attributes around being personal, creative, connected, empowering, and authentic. Using words with simple descriptions, we tried to paint a picture that everyone across the organization could understand.

Create Stories

Stories aren't marketing campaigns. They are simple descriptions of what you want people to feel when they interact with your brand. Connected to your history, archetype, and attributes, these stories can change over time as you create a deeper understanding of your brand and what it represents.

Born in Encinitas, California, [Nixon](https://adafru.it/cOG) does an amazing job of telling stories. True to their Southern California roots, Nixon has successfully turned a boring category, watches, into a +\$400M brand. Consistent in who they are, Nixon tells rich stories through words, athletes, imagery, product design, and retail selection. Infamous in the action sports community, Nixon even concludes every retailer contract with "I am stoked to open this door." Because Nixon understands something that most startups miss: They are building a brand.

"We make the little shit better. The stuff you have that isn't noticed first, but can't be ignored. We pay attention to it. We argue about it. We work day and night to make the little shit as good as it can be, so when you wear it, you feel like you've got a leg up on the rest of the world." ~ [Nixon](https://adafru.it/cOH)

Bring It to Life

Now you can hire someone to bring your brand to life. Whether you hire a designer or an agency, you want to find people who have taken a brand from a piece of paper to

reality. Polishing existing brands is nice, but creating them is so much harder.

Remember, the brand framework you create will never leave your company's walls. It's simply a guide to make sure the tag lines you create on top of it, or the crazy marketing ideas you come up with, are consistent with your brand.

Constantly Be Inspired

Admiring other brands is a healthy thing to do, especially as you think about what you want your brand to represent. I'm passionate about great brands and here are a few of my favorites.

- [Nixon \(https://adafru.it/cOI\)](https://adafru.it/cOI)
- [Chrome Industries \(https://adafru.it/cOJ\)](https://adafru.it/cOJ)
- [Red \(https://adafru.it/cOK\)](https://adafru.it/cOK)
- [VSCO \(https://adafru.it/cOL\)](https://adafru.it/cOL)
- [Arc'teryx \(https://adafru.it/cOM\)](https://adafru.it/cOM)
- [Nike \(https://adafru.it/cON\)](https://adafru.it/cON)
- [Travis Rice \(https://adafru.it/cOO\)](https://adafru.it/cOO)

Conclusion

Defining your brand takes time. It requires you to dig deep, making yourself vulnerable in ways that make you uncomfortable. Great brands create beliefs regardless of the competitive landscape. They are clear about who they are and more importantly, who they aren't. Especially when everyone wants to change your brand, being consistent is worth more than being fresh.

If you think that brand is as simple as hiring an agency to create your logo, you have a very long road ahead of you. Understanding that brand is everything you represent, is the first step towards a long journey in creating something that matters.

Picking A Brand Name



Picking the right brand name is one of the most important decisions you are going to make. Regardless of your amazing technology or killer features, people will only remember one thing: The Name.

I have always been terrible at naming. Contour started as Twenty20, then VholdR, and finally we arrived at Contour. It was a painful process that took several years and resulted in lost market traction because with each change we had to start our branding efforts over. It resulted in lost time that we never made back against GoPro.

In retrospect it's easy to point at a name and call it obvious. Especially if the company you are referencing did a fantastic job of telling a story with their brand. Except when you are in the throws of naming, the word is anything but obvious.

In beginning the naming process here are a few categories that help to get the creative juices flowing.

- Emotions - what are the raw feelings people experience while using your product. [Uber \(https://adafru.it/cOP\)](https://adafru.it/cOP) is a great example here as they make it feel “vip” at an affordable price point.
- Purpose - what are works that relate to the purpose of the activity consumers are following? GoPro represents what a lot of young riders are aspiring toward, being a professional so this brand resonates with their struggle.
- History - are there original inventors or words used many years ago that symbolize something important about your product category, or behavior. Tesla

is now the most innovated car company, but [Nikola Tesla \(https://adafru.it/cOQ\)](https://adafru.it/cOQ) is one of the most amazing inventors of his time.

- Parts - are there any components, shapes, or parts of your product that are memorable. Square is tied to the shop of their credit card reader, while Mini represents the key feature about their car, size.
- Sounds - are there any distinct sounds that are reminiscent of your product or its experience? [Twitter \(https://adafru.it/cOR\)](https://adafru.it/cOR) was perfect because it's a word that relates to a bird chirping, the same sound you get when your mobile phone buzzes at you with a new update.
- Environment - is your product going to live in a unique environment that you could name? [Nest \(https://adafru.it/cOS\)](https://adafru.it/cOS), makers of the learning thermostat, instantly makes you think of home. While polar makes you think of the outdoors, exactly what [Polar Stuff \(https://adafru.it/cOT\)](https://adafru.it/cOT) was looking for when it branded their camping gear company.

Once you have lists of names you can begin combining, shortening them, or translating them in different languages. Using your gut instincts to guide which words are jumping off the page at you.

As part of your name filter be sure to check which domains and social handles are available. If you pick a generic name, like Square, you better have a massive opportunity on your hands and be ready to spend a lot of money owning the brand both legally and in consumer's minds.

Contour, for examples, was a lot harder to own than GoPro. Because Contour is both generic and used by large companies to describe their products, it is a very hard word to legally own around the world. Even though we were able to purchase the URL, we were going to need to spend a lot of money to own Contour in millions of consumers minds.

Down to your final few names, you are ready for the Bar Test. A straightforward test you want to know if people in a bar can remember the name of your company and understand what you do.

It works like this:

- Hang out in a noisy bar.
- When someone asks what you do, tell them the name of the company with a single sentence describing what the company does.

If they can't pronounce the name, or keep asking you how it's spelled, or don't understand how it's related to what you do, you failed.

We never did the bar test with VholdR and we should have because we would have realized that 9 out of 10 people couldn't spell it and when they did see it spelled they mispronounced it.

In conclusion, here are a few traps to avoid.

- Don't use "technology" in your name. That screams 1980's tech company, which you aren't. It's very hard to create an emotion around the word "technology."
- Be careful of the product versus company name. You get to brand one name so pick the right name and market the hell out of it. Don't confuse people with a product name and then some random company name. People remembered Flip Video, not Pure Digital Technologies (the company name).
- People struggle with weird spellings. If you have to correct them it means they will type it wrong when they search for it and tell their friends about it. Nothing is more frustrating than trying to figure out your cryptic spelling
- If you are successful you will need to trademark your brand all over the world. If you pick a name that is already heavily trademarked around the world by different companies, you will have a very expensive mess on your hands down the road.
- Long names are hard to remember. Shorter is always better.

Image Credit: [InverseHypercube \(https://adafru.it/cOU\)](https://adafru.it/cOU) via Creative Commons

Picking The Right Supplier



Picking the right supplier is one of the most important decisions you are going to make. You most likely won't stay with the same supplier over your lifetime, so the key

is to start pick the right partner for where you are in the lifecycle of your business.

When we started Contour, we had zero relationships in Asia and no idea about where to start. We ended up relying on a friend who had built electronics in China to introduce us to our first supplier. A long story short, they were a terrible choice. After 10 months of making our VholdR camera we had to shut down the line and move to a new supplier because their quality was so horrendous They did get us off the ground, but nearly killed us with unbearable defective rates.

Fast forward to today and a lot has changed in finding the right suppliers. You have a variety of options in where you product (US, Mexico, Asia) as well as a handful of service providers who will help you find the right manufacturer. As you think about making this choice, here is what you should be thinking about:

Finding Suppliers

Thankfully there are a handful of people you can turn to help you find the right supplier.

- Hiring firms like [Dragon Innovations \(https://adafru.it/cOV\)](https://adafru.it/cOV) and [D2M \(https://adafru.it/cOW\)](https://adafru.it/cOW) is ideal if you have capital and want to find a high volume, high quality supplier in Asia. They have years of producing product in Asai.
- [Haxlr8r \(https://adafru.it/cOX\)](https://adafru.it/cOX) is an accelerator based in Asia that will help you find the right partner as part of their program.
- [Lemnos Labs \(https://adafru.it/cOY\)](https://adafru.it/cOY) is also a similar type of accelerator based in San Francisco that brings a lot of production experience.
- [PCH \(https://adafru.it/cOZ\)](https://adafru.it/cOZ) has both an accelerator and an incubator, but their core business is helping you manage your supplier and supply chain.
- [Flextronics \(https://adafru.it/cPO\)](https://adafru.it/cPO) is one of the largest suppliers in the world and their accelerator works with startups to help get you off the ground, while offering to produce your product as part of the program.

Start With Quality

When you launch your MVP quality is the only thing you should be concerned about. Price is irrelevant, especially in the beginning when early adopters are willing to pay a lot more for your product. Because if your product has a high defective rate or takes longer to get to market, it will cost you a lot more than the difference in pricing suppliers are offering.

To find the highest quality I would start in the US, where you don't have to deal with language barriers, cultural differences, and massive time zones. You will pay a lot

more per unit, but you are likely to get a much higher quality product. [Reliance CM \(https://adafru.it/cP1\)](https://adafru.it/cP1) is an example of a US supplier, which provides both engineering and production services.

The next step would be Mexico, where labor is a little bit cheaper than the US and the quality is almost as high. [Tijuana \(https://adafru.it/cP2\)](https://adafru.it/cP2) is doing a lot to entice companies to produce in Mexico. [3D Robotics \(https://adafru.it/cP3\)](https://adafru.it/cP3) is a great example of a startup that grew from using third party suppliers in Tijuana to creating their own factory.

The last stop is Asia and I say Asia because there are a handful of places you can go. Taiwan and Korean suppliers generally provide better engineering services at slightly more expensive prices. China provides the cheapest prices, but engineering and production quality can be an issue. While Vietnam is becoming the new China with even cheaper labor.

Regardless of which direction you go, validate their quality through references and a tour of the factory. The personal relationship you create is super important.

Supplier With Experience

Once you identify where in the world you want to produce your product, I would then focus on suppliers that have experience making your type of product. It makes a world of difference both in the engineer advice they provide and the quality of product they produce off their production line.

For example our first supplier at Contour didn't make cameras, which lead to a high defective rate. Our second supplier made web cameras, which was better, but still not great for making a rugged action camera. Finally our third supplier had experience with waterproof video cameras, which meant they were highly qualified to make video cameras that went outdoors.

To make sure they have the right experience, have them provide a list of products they have worked on before. You can contact these companies to find out how they did producing their product and if they would recommend them.

Check Their Engineering Abilities

Early on I prefer a supplier that has an engineering team because they will help make sure your product is production ready. There is nothing worse than engineering your product only to find out that it can't be made.

Ideally the supplier you choose has engineers on staff (not contractors) that can help with the electronics, mechanicals, and production. The right partner will make these engineers available to supplement your own engineering efforts, while working with your team to make sure they can produce what you are making.

Negotiating The Agreement

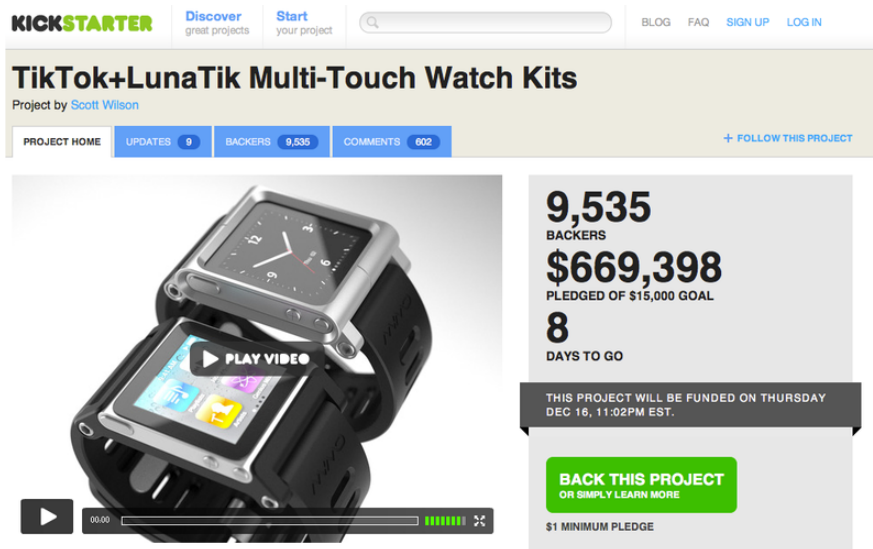
You must have a legal contract with your supplier that includes the services they will provide, the quality levels, and what happens if the product is defective. Although legal docs can be difficult to enforce overseas, they are super important. Your supplier should have a standard agreement they use and if not, ask other startups what docs they have used to setup their relationship.

When negotiating you want to be concerned about a few things.

- Quality: have them define what quality they will produce.
- Defectives: it should be spelled out how they are going to handle defective units and the timeline to provide you with quality product. They can wither provide excess stock (say +5% above of your orders) and any defectives under that percent you are responsible for. Or you can create and RMA process with them to return broken units.
- Price: the entire BOM should be spelled out in the agreement, including the product and packaging.
- Engineering Services: any and all engineering services should be outlined as if it's a work for hire program. You own the engineering they provide. Do your best to negotiate this as a per unit price and not cash up front.
- Tooling: this is your most expensive cash outlier. Ideally you can negotiate this to be rolled into the price over X thousands of units. If not, they will make you pay x% up front and x% upon delivery (normally 50/50).

Image Credit: [maltman23 \(https://adafru.it/cP4\)](https://adafru.it/cP4) via Creative Commons

Deciding to Crowdfund



To crowd-fund or not, that is the question most hardware startups eventually ask themselves.

A start-up you have no idea if people will buy your product. You may spend countless months researching your customers. You may even get dozens of customers to say "Yes, I would buy that if you made it." But until you ask them to put real money down you have no idea if it will sell. And without paying customers you don't have a business.

Crowd-funding provides you with the opportunity to validate if real customers will buy the product you are working on. But crowd-funding isn't a decision to take lightly. If done right, it can be lightening in a bottle. If done wrong, it can be incredibly painful.

With that in mind here is a quick guide about why you should sell your product before you make it, why you shouldn't, and what to watch out for.

Why You Should

A direct relationship with your customers is the most valuable relationship you have. Using retailers to launch your product has become an unnecessary and expensive layer between you and your customer. Some of the hottest product companies today (e.g., [FitBit \(https://adafru.it/cP5\)](https://adafru.it/cP5)) started as internet-only brands.

A few reasons you should:

- You want lots of customer feedback during the development process.

- You need to validate that people will buy your product, which can decrease your burn rate and increase your company valuation. Oftentimes investors, retailers, and even suppliers won't believe you until they see real sales.
- You want to know the customer demand before you spend money building it. Production costs are not cheap and spending money making the wrong product can kill you. Additionally you will learn what your early customers love, hate, and want in your product.
- You want to build community around your product. Having people cheering you on gives you a running start into the market. The large players will eventually copy you so the strength of your customer community matters. Assuming you have limited marketing dollars when you launch, you need every advantage you can get in reaching customer mind share.
- You believe in an open culture, customer relationship, and development process. If you want to build a totally open company there is no more open you can be, than allowing the world to watch as you create your product.

Why You Shouldn't

Letting the world know about the product you are making is not for everyone. It's an incredibly vulnerable way to come to market, requiring you to share with the world the good days and the struggles you are going through. Especially if your team does not have years of experience bringing a high-quality consumer product to market, it can be a humiliating, multi-month experience.

On the other hand, the momentum you may have already built with your investors, team, suppliers, etc. can come crashing down if your project flops. The response may not even reflect true market demand, but it will make you second guess what you are building and why. There are dozens of products that weren't even accepted to Kickstarter, but on their own [were a huge success \(https://adafru.it/cP6\)](https://adafru.it/cP6).

A few reasons you shouldn't:

- You don't want to be open. If you want to keep new product ideas away from your competitors or large companies who can either copy you quickly or create a lot of distracting noise. Apple protecting itself from fast followers is an extreme example.
- You have an existing product in the market and the news about a next version has the risk to tank sales of your existing model.
- You just raised a significant round of capital and already set big expectations for your yet-to-be-released product. Every investor is different, but negative momentum before you ship can be a big problem, especially if your revenue plan and burn rate will be significantly different.

- If you don't understand what it really takes to make the product you're showing. If you don't deeply understand the open items and you don't have a supplier on board who you have validated can make this product, you could promote a product that can't actually be made.

Best Practices

Getting the product up online and telling everyone about it is the easy part. If it's unique enough the word will spread quickly for you.

Once people give you money your product is real and the relationship changes from fans to customers. As a customer they expect great service, accurate information, and to be dealing with a reputable company. If not done right, you can turn thousands of potentially happy customers into an angry mob.

Some best practices:

- Be very honest upfront about how far you are, what is left to do, and how long it will take you to finish. Take the most conservative schedule you have, add 50% to it and use that as your initial timeline. People are happy when you ship early, but never understand when you ship late.
- Share both good news and bad news along the way. No news is bad news. Remember your customers are following your journey so post photos, videos, and write about what is going on. You don't need to make it a status update, but instead walk them through the process.
- Have a plan for when things go wrong. Unless your team has done this multiple times before things will go wrong. You should have an internal plan about how to handle it as well as a communication plan both with your customers and your retailers.
- Build a real team or hire firms that have brought high-quality, high-volume products to market. Just because your friend's friend makes products in Asia doesn't make him/her qualified. You might want to ask other entrepreneurs who have had success on Kickstarter who they are using.
- Don't ship crappy product. The longer customers wait the more you will be judged when it finally ships. You CANNOT ship a half-baked product. Even if it means cutting the features in half you are way better off to ship a product that does a single feature very well then shipping a product that barely delivers multiple features.
- Have an idea of what you want to do after the Kickstarter haze fades. Do you want to build a mega consumer brand like Jawbone, do you want to raise serious capital like Turtle Beach, or keep it small focused on selling direct and

making awesome product like Minimal? There is life after Kickstarter and you want to have a plan for how this will jump start the next phase for your company.

Conclusion

If I were to do it all over again I would have sold our initial camera before we made it. As two guys in a garage it helped to validate we had something real. But at the same time I would have done things very differently. I would have been more upfront with what we did and didn't know and I would have given ourselves a lot more time to bring the product to market.

Without selling our VholdR camera before we made it, we never would have gotten Contour off the ground.

Life After Crowdfunding



Crowdfunding success isn't the end, it's just the beginning of the journey to turn your hacker idea into a real product. Finding initial customer success is really hard, so if you met your goal congrats, you have already passed a major milestone. So now what do you do?

Assuming you survive the gauntlet of making and shipping the first version, here are what several, Kickstarter successful, founders had to say.

Keep Talking To Your Backers

Everyone one of the founders stressed this in some way. Your early supporters will be your most loyal customers so communicating with them frequently and consistently is super important. Even after you deliver the product, you want to keep them updated on the progress of the company, any future changes to the product, and how they can help you spread the word.

On top of keeping them in the loop, you want to begin learning as much as you can about who they are, how they heard about you, why they bought it, and how they use the product. This information will help you better understand how to improve the product and what marketing channels you should use to reach more of them.

Ultimately you are looking to reach [product market fit \(https://adafru.it/cP7\)](https://adafru.it/cP7) (the point at which demand for your product just takes off) so the better you understand your customers, the better decisions you can make to get there.

Be Ready to To Sell Direct

You will need an e-commerce solution on your website so you can continue to take pre-orders from non backers. This keeps cash flowing into the businesses, enabling you to build more units. It also gives people an action to take when they do hear about your brand because coming to your website to read “we are sold out, sorry” is a very dead end experience.

One entrepreneur passionately shared two big warnings with me about this subject. First, is don't start fulfilling new customer orders until all of your backers have been delivered. Second, don't sell your product for less than your price on Kickstarter!

It's also a good idea to step back and figure out how much it really costs to make and ship your product. Most likely you didn't charge enough for your product, so taking a breath to adjust the price is important. Your backers don't want to see you go out of businesses because you ran out of money.

Constantly Be Marketing

Crowdfunding is an amazing platform to drive initial awareness, but once your campaign is over, the demand dries up like a tap.

Hopefully you received plenty of press coverage when you launched and sending those same editors small updates can turn into follow on posts. But most likely they

won't cover you again until version 2 of the product, which means you should be actively reaching out to new websites, magazines, and newspapers who have NOT yet heard of you. PR is one of the most affordable ways to tell your story.

Your existing customers are also an easy path to finding new customers. Unless people are searching Google for your exact solution, you will want to come up with every creative way that enables your customers to tell their friends. You can even borrow a page out of the e-commerce playbook and offer your customer money and/or credit for selling product to people they know. That's what Scott Wilson did with the [Lunatik Rewards App \(https://adafru.it/cP8\)](https://adafru.it/cP8). [\(https://adafru.it/cP8\)](https://adafru.it/cP8)

Create A Plan

Even more important than the tactical execution for growing your customer base, I heard a consistent message to step back and audit what happened and what you want to do going forward. Growing from a cool product to a real company is a big leap.

If you have co-founders, now is the time to have a tough conversation about what the group wants to do. Everyone needs to believe in the same vision and have the same desires for your post crowdfunding life. It's much easier to part ways now.

Create a simple six month plan, that includes the really big goals the team needs to get done. Ensuring everyone is on the same page is critical. You can't afford to waste the little money you have.

Lastly, figure out how much money you need. I highly recommend being profitable with every unit you sell, but that doesn't mean you won't need some outside capital to scale your production. As demand grows for your product, your suppliers will start needing more and more capital to fulfill your orders.

Especially if you want to go to retail, the days of cash up front are over. You will need enough capital to handle a 90-120 day float (from paying your supplier to getting paid by customers). Successful crowdfunded projects like Pebble (raised \$15M), Ooya (\$15M) and Lumoback (\$5M) have gone on to raise money from institutional partners in order to continue their dream.

Image Credit: [M.Taniguchi \(https://adafru.it/cP9\)](https://adafru.it/cP9) via Creative Commons

Building Retail Distribution

What do you do with all the retailers who want to sell your product?

The answer is to limit the distribution, opening up select new retailers.

First, make sure it is easy to buy and fast to ship from your own website. Focusing on english speaking only, you eventually want to make it convenient to buy your product from anywhere in the world.

Second, open up a handful of e-commerce partners who can help you reach customers, deliver a great experience, and provide data. You need online retailer partners who can use a variety of marketing tactics to help you reach different demographics, while providing you consistent data on what is and is not working.

Third and only when the two channels above are working really well, can you add select specialty retailers with a high touch experience. You are looking for partners that will experiment with you on point of purchase, training, packaging, local events, etc. You have a lot to learn in being successful at retail so assuming you can just open a national account without any understanding of what works, is a massive recipe for disaster. Remember, retail is expensive.

Keep in mind that if you hire an internal sales team they will blow this distribution strategy up. They will push you to open every door saying, "We have one shot with this retailer, we have to do it now!" You can always find consultants or independent reps that can help you open these initial doors until you are ready to grow distribution.

The Cost of Retail



The [death of brick and mortar retail \(https://adafru.it/cPa\)](https://adafru.it/cPa) has been pounded into our heads since web2.0. The failing of major retailers (Circuit City, Blockbuster, Kmart, etc.) with Amazon's continuous domination has the whole world assuming retail is in its dying days. I agree, online purchasing will continue to rise, forcing retail to change in significant ways. But it doesn't mean it's going away.

So if you are making a hardware product, what should you do about retail?

Retailers Are Not Marketing

Retailers are not marketing vehicles, they are order-takers for the demand you have already created. So before you enter the door, understand this...creating customer demand is entirely up to you.

Gaining distribution doesn't mean that more people know who you are, it just means your device is available for sale in more locations. Understanding your brand promise and hitting your marketing stride is critical BEFORE you think about retail.

When you are ready, every retailer will tell you they can help you create more awareness. Disguising programs such as email blasts, website placement, better store real-estate, training events, etc., all in an attempt to maximize their margin. But despite the marketing story they sell you, just recognize that the more consumer demand you have the easier their job is to sell your product.

Creating "national" awareness is not easy and nor can it be done with a few

advertising campaigns. True brand awareness takes years and costs money. Controlling your retail growth to match the awareness of your brand is super important because having product sitting on shelves that doesn't sell is the fastest way to bankruptcy. If it doesn't sell fast enough retailers will ask for more marketing dollars, discount the price, and if all else fails return the product.

Focus first on awareness, second on growing distribution. If not, you risk losing all the leverage in the relationship, turning retail partners into cash eating machines.

Retail Ready Product

Every time I pick up an Apple product, I am blown away by the packaging. The simplicity is amazing, but even more impressive is the level of detail they deliver on, which I can tell you is painstakingly difficult. Being retail ready doesn't mean just slapping your logo on a box, it comes with a full list of requirements and expectations. The bigger the retailer, the longer the list.

Before you can even start with the box you need to find both a designer and a vendor. If you are going to retail for the first time I highly recommend working with a design firm or a freelancer who has designed packaging for retail. No substitute for experience, a quality new box design will run you \$20-40K, including all the imagery, copy, and material selection. The right person or group will save you time and thousands of dollars in mistakes. They will also have a network of suppliers you can work with both in the US and Asia.

[Designing the box is hard \(https://adafru.it/cPb\)](https://adafru.it/cPb). You will spend hours debating what should and should not be on the box. Regardless of how much the box is expected to influence the purchase decision, I recommend going with something simple. Make sure the box stands out on the shelf, people can understand what the product is, and your logo is subtle. Also make sure you have plenty of room on the back to explain how it works and why they want it. When it comes to copy, less is better than more.

The out-of-box experience matters and the right designer will help you make it thoughtful as well as compact. The smaller the box the cheaper the product is to ship (very important) and the better it fits on the retail shelf. Just remember, the fancier the inside of the box is the more expensive it is, and don't be shocked when you get quoted the price for recyclable materials. Saving the earth is expensive.

The most painful part is nailing the user manual. Not everyone is part of the internet generation, which means they do expect a manual in the box, no matter how easy your product is to use. If you can get through v35 on the manual without killing each other, completing the legal jargon and sku information is a breeze.

And oh yeah, make sure your product is theft proof. You may think that is the retailer's problem, but when your product gets stolen and the retailer returns their inventory, you will be reminded whose problem it really is. Taping the box doesn't count. If it can be ripped off the peg, opened with keys, or anything in between you will have a big problem. Even Apple stores aren't safe from theft.

In Store Expectations

I like to think of retail as an extension of your team. The people in the store represent you, which means that if they don't use your product, understand its differences, or prefer it, you will have a hard time succeeding.

Seeing your product on the shelf at Best Buy is really cool, until you realize there are some 3,000 blue shirts you have to train. To make matters worse, employee turnover at retail is high, which means that training is an ongoing experience, not a once-a-year event. Growing retail at the speed you can train is important and if your staff can't cover this, you can hire firms that can help. At the end of the day you need them to successfully answer the question, "So what's the difference between these two?"

Training can carry you a long way, even without Point of Purchase (aka POP) materials in the retailer. Flyers and crappy counter top stands are a waste of time, so if that's all you can afford then wait on producing POP. If you are really going after retail you will need to design POP that stands out, doesn't break, and requires minimal maintenance. Even more expensive than packaging, POP design can run you up to \$100K. It's not the messaging that costs so much, the right vendor will help you make POP that is light, cheapest to ship, updatable, easier to manufacture, and less likely to break.

Get the POP wrong and it is incredibly expensive to update, or worse they get thrown away because they don't work.

Big Box is Really Big

Getting your feet wet with smaller, specialized retailers is a great way to start. Because the larger the retailer, the more you need to make them succeed.

By the time you hit national retailers your marketing awareness and retail formula needs to be dialed. Learning with thousands of stores is a recipe for disaster. And generally when you get there you will need a designated person to manage the account, a strong channel marketing person who knows which programs to maximize,

POP that is working in smaller retailers, and capital to fund the growth. Net 90 payment terms are painful and if you can't keep their shelves full, you will get the boot, faster than you got in the door.

International Is a Multiplier

Being able to say your product is available worldwide is great for the ego and terrible on your bottom line. International partners will help your start-up cash flows by pre-paying for product, but the margin expectations as well as the retail demands are significantly higher. Succeeding in English is hard enough, multiplying that to Europe or Asia, is just that, a serious multiplication in costs, time, and expectations.

On top of what we already discussed, you will need even more to succeed internationally. Hiring a designated product manager is imperative because getting the product and packaging ready is a full-time job. Time from your engineers and designers will be necessary to make sure your experience doesn't suck in different languages. Translating the product, support documents, and website can cost you \$10-25K, even with grammar errors. Hiring a designated support person is preferred to spreading out your existing team, especially if you want to deliver a great customer experience. Lastly, traveling is important to understanding the market and ensuring that proper training is happening.

Going global can be a strategic advantage, just understand that it is a multiplier in costs, not simply an addition.

Financial Model

Retail is not a cheap game. Once it gets cranking, it provides thousands of points of distribution, while exploding the number of people talking to consumers on your behalf. Here is a cheat sheet to help you during the planning process.

COST ESTIMATES	
PACKAGING	
Design (firm or individual)	\$20-40K
Stuff (samples, shipping, etc)	\$3K
IN STORE	
Training (per store per year)	\$150
POP Design	\$50-100K
POP (per unit)	
with electronics	\$500-1,500
no electronics	\$200-500
shipping	\$100-500
BIG BOX	
National Account Manager	\$100-120K
Sr. Channel Marketing	\$80-100K
Working Capital (net 90 payment terms)	TBD
INTERNATIONAL	
International Sales Leader	\$90-120K
International Product Manager	\$70-90K
Translations	\$10-25K
Packaging Design	\$5-10K
Support Person	\$35-50K
Traveling per Year	\$10-15K

Conclusion

Brick and mortar retail is slowing, but it's not going away anytime soon. Smaller, high touch focused stores are working to educate consumers, which means you can build a successful retail channel. It can also provide powerful, category leading, real-estate. Reminding everyone which is "the" product to buy.

If retail is where you are heading, just be ready to play the game necessary to succeed.

Building Brand Awareness



Building brand awareness is where a lot of startups head the wrong direction. Focused on growing, they ask themselves the wrong question, “How do I sell more units?” A subtle difference, the right question is to ask, “How do I get more customers?”

When they prioritize more units, startups end up down the wrong path of growing distribution first, brand awareness later. They proceed to spend all of their energy, profits, and capital to reach the retail shelf only to realize the retailer then expects them to pour millions into marketing to sell the product off the very same shelf. A tough reality, they eventually figure out that retailers are simply order-takers for the demand already created.

The right question, how do you get more customers, is much harder to answer. It requires you to spend a lot of time understanding your customer, why they bought the product, and what influences them to tell their friends. Never a single answer you spend a lot of time trying, measuring, retrying as you push towards the magic point of [Product Market Fit. \(https://adafru.it/BoV\)](https://adafru.it/BoV)

If you get this question wrong, you’ll end up where I did. The best product, with lots of distribution that no one knows anything about. But get this question right and you become a marketing powerhouse (i.e., Apple) that can profitably dictate the terms to its retailers.

So, if you are wondering how you get more customers, here are some things you can do.

Understand the Funnel

A simple framework to help you identify who to target, the marketing funnel helps you prioritize the most profitable path to paying customers who influence their friends.

The funnel has three parts:

1. Ready to Buy - closest to making the purchase decision they are by far the most familiar with your category and specifically with your product. Generally their friend has the product, they have touched it, and now they are researching it online.
2. Have Heard of You - their level of familiarity will vary, but they have heard of your product and remember your brand name. Perhaps they saw an advertisement, read about it in the media, saw a Facebook promotion about it, etc., A general rule of thumb is that people need to see the brand multiple times before being ready to buy.
3. Everyone Else - ignore this group for a very long time. They have no idea that your category exists and they aren't likely to buy until the price is affordable and everyone else around them has made the purchase decision.



Start With Existing Customers

Most startups skip right past this group of people and try targeting potential customers who have never heard of them. Having existing customers is fantastic, so facilitating them to tell their friends is critical.

The best way to enable existing customers is to understand when they talk to potential buyers. At Contour we realized this was happening on the chair lift when the person sitting next to them would ask, "What is that?" Unfortunately the conversation ended when they got off because we failed to enable the Contour customer to sell the product and/or send them a special offer. The fact that our customers already had

an existing Contour mobile app, should have helped to turn these conversations into sales.

Outside of direct word of mouth you can try any ideas that get your existing customers talking about you, reviewing the product, sharing photos, or receiving credit for bringing you new business. E-commerce companies have been rewarding their customers for a long time, even offering discounts, credit, and cash for bringing new buyers.

Regardless of which tactics you choose be sure to learn how your existing customers heard about the product and what influenced them to buy. It will help you prioritize which channels are most effective.

Online Search

These people are the most ready to buy, already searching online for your product. Strong SEO and SEM strategies are great ways to make sure people don't miss you because they couldn't find you. Or worse, they find a competing brand because you show up way too low in the search results.

If you don't have this experience in house you can hire a consultant who can set up your system, figure out the most important key words, and help you manage your campaign. Just keep in mind that the volume of interest is correlated to how well your other marketing tactics are working. Search captures the interest you created elsewhere, it doesn't create new demand.

One last point, search is a basic way to measure the impact of your overall marketing. If more people are searching for your brand name it means the rest of your marketing efforts are working.

PR

PR will continue to be one of the most rewarding channels, sworn by everyone who has successfully built a consumer brand. Not only because the press keep the brand relevant, but because they provide third party recommendations for the product. A double edged sword, negative press can bring you down as fast as positive press can bring you up.

A lot of startups try to outsource this from day one, which I think is a massive mistake. Even at Contour we didn't hire a PR firm until years down the road when we understood what stories the press liked and who was most likely to write about us.

Being great at PR takes time, patience, and willingness to understand which editors like you and what stories they find interesting.

If you can target a variety of publications you can begin to learn which verticals are most interested in your product and convert into sales. Thankfully most of the PR efforts are done online, providing you valuable data on which media sites bring the most traffic. Something you want to know before you start advertising.

Trial and Error

The rest of your marketing tactics are a continuous cycle of trial and error. A horrifying realization, you have no idea what is going to work until you try it. Even if you copy other successful brands, you have no understanding of how it will impact your own sales until you see the results. This is where the Lean Startup mentality of try, measure, and repeat is valuable as you learn to listen to customers and measure the results.

Tactics that have been successful....

- Building Community. You had this when you launched on Kickstarter, so figuring out how to carry this forward to build a larger group of passionate people is super important.
- Product. Announcements for new versions and new features can be powerful to reaching more and more customers.
- Content. Whether it's content to entertain, educate, inspire, or inform content that people are willing to share is especially effective.
- Give Aways. Unfortunately free stuff does work and being consistent about it through social media does drive people to sign up.
- Email Blasts. Finding new email lists and partners who will help you target their users is a fast way to learn which demographics will buy your product
- Retargeting. Focusing on people who visited your website but didn't purchase is an awesome way to stay present, making them think your brand is everywhere!
- Events. High touch and high cost, they are great for talking to real people to learn what they think, what questions they have, and what ultimately influences them to buy.
- Creative Ideas. Anything out of the box that gets people talking about your brand, including the media.

Conclusion

Focusing on brand awareness first enables you to deeply understand your customers, while having real data about which tactics convert into sales. Only until you select

points of distribution sell through at increasing rates, for several months, should you think about growing your distribution.

Most startups severely underestimate the cost of opening and supporting retailers, including the missed opportunity to grow your brand awareness. Every dollar spent on a retailer is one less dollar spent on telling the world you exist.

I learned a very hard lesson at Contour. The best product doesn't always win, the product everyone knows about does.

Image Credit: [Moses \(https://adafru.it/cPd\)](https://adafru.it/cPd) via Creative Commons

Poor Quality Will Kill You



"Don't ship crappy product."

An obvious statement to the rest of the world, it's not that simple.

Shipping a quality device is by far the hardest part of building a hardware company. I'm not even talking about the extra work it takes to deliver an amazing customer experience. I'm just referring to a product that doesn't break, feels great when you use it, and delivers on the promise. Not just once either, but multiple times over, across thousands of units.

So as a hardware startup, how do you ensure you deliver a quality product?

Understand The Financial Impact

Assuming you retail your product at \$100 and it costs you \$50 to deliver the finished product to your customer, you have \$50 in profit.

Each time you deal with a defective unit it costs about \$15 in shipping (to and from the customer), requires you to replace the defective product with a new unit from your warehouse that you can no longer sell, and spend about \$5 to ship it back to the factory in bulk. Even though your factory says they will reimburse the costs, it will take 60-90 days from the time you send the product back to agreeing on the root cause and in turn the financial reimbursement. In the meantime you are wasting your limited inventory and cash reserves replacing defective units.

On top of that you drop to a 3 star product on amazon, which means you sell less units, lowering your overall profitability.

Here is what the math looks like...

SINGLE RETURN				
	PROFITABILITY		CASH	
MSRP	\$	100.00	Collected	\$ 100.00
Cost	\$	(50.00)	Paid	\$ (50.00)
Profit	\$	50.00	Cash	\$ 50.00
Shipping (customer)	\$	(15.00)	Shipping (customer)	\$ (15.00)
Shipping (factory)	\$	(5.00)	Shipping (factory)	\$ (5.00)
			Lost Sale	\$ (50.00)
Real Profit	\$	30.00	Actual Cash	\$ (20.00)
Loss in Profit		(\$20.00)	Loss in Cash	(\$70.00)
AT VOLUME				
1,000 units		-\$20,000	1,000 units	\$ (70,000)
5,000 units		-\$100,000	5,000 units	\$ (350,000)
10,000 units		-\$200,000	10,000 units	\$ (700,000)
100,000 units		-\$2,000,000	100,000 units	\$ (7,000,000)

Nail the Basic Experience

In a rush to build the next amazing product, a lot of startups develop right past the features they have to be great at. Always wanting to do “the new thing” it is incredibly hard to keep a team focused on delivering less features, at really really high quality. Because to do this, you have to work on the same few features over and over and over.

Nail the basic features and you will have a solid product. Miss them and customers will punish you.

At Contour we realized we had to be really great at capturing action video, which meant it had to be rugged, easy to use, produce amazing video, and be mountable on a variety of locations. Often trying to push the envelope, our customers made it clear when they felt we missed these basic features or half delivered on what we promised. Blinded by the technology arms race, it was hard to just focus on the basics when we wanted the product to do so much more.

Although your scaled back features won't impress the media, your customers will reward you with much higher reviews. A result that Amazon can prove drives higher sales.

I wish I had done this more.

Work With Production Engineers Early

The moment you begin to design your product, you should be working with a production engineer. An under appreciated expert, their years of producing high volume product, can save you thousands of dollars down the road.

If not, you will get to the end, hand the factory your beautiful design and realize it can't be made. It's not that it's impossible, it just means that with a yield rate of 80% they are not willing to make your product. The 20% loss is not something you or the factory can afford to cover.

So what happens if you design a product that can't be reliably produced?

They start changing your beautiful design, turning your elegant product into a frankenstein pile of plastic. Or even worse, you have to start over because you forgot to ask someone if what you are designing can even be built.

The first VholdR camera was a beautiful design. So beautiful it couldn't really be produced.

Constantly Be Checking Quality

Quality isn't a job title or a single department in a startup. No doubt you should absolutely have people who are 100% focused on testing, but as a startup it takes the whole organization to help deliver a quality product. Always understaffed you need all the help you can get to test the product, document the issues, and fix them. Although you hope a 'quality process' will help you find a lot of bugs, most of them are found by accident, using the product in random ways.

Shifting the company's mentality from expecting the product to be flawless to expecting to find mistake, is a small step you can make to keep everyone focused on constantly checking for issues. Assuming someone else on the team will find the bug is a fast way to a massive defective rate.

Even without the expertise in house, you can hire great third party companies who will work with your supplier on their quality process, evaluate their test fixtures, and sample units as they come off the production line. Most frustrating of all, is just because a bug didn't exist before, doesn't mean it won't magically appear down the road. A slight change in production process or parts ordered can turn into a massive problem that isn't caught until you have thousands of units sitting in your warehouse.

Have Amazing Customer Service

Every company should have fantastic customer service. But if you don't, it will become very apparent when your product sucks. Read any Amazon review and you can see the customer process goes like this.

- The customer buys the product, uses it, and breaks it.
- The customer calls the retailer who tells them to call the company.
- The customer calls the company and unloads on the first person who answers the phone. Or if no one answers the phone they unload on every voicemail they can reach and every email address provided on your website. Continuing to rant on every forum and in the comments on every article about your company, until you address their issue.
- After a few exchanges the company sends a replacement unit.
- This process repeats until either the product works or the customer gets so fed up they return the fifth replacement to the retailer.
- The customer then gives you a 1 star review online and tells the world how broken your product and customer service are.

You will produce poor quality product along the way. Regardless of the process, you will have customers who unfortunately get their hands on a defective unit. An angering experience, how you handle the issue will speak louder about your company than the broken device in their hand.

Faulty product is understandable, crappy customer service is not.

Conclusion

It's easy to critique a hardware startup from the sideline. Expecting every device to be Applesque in quality, most people don't understand how a massive number of defective units could have ever made it into customer's hands.

Unfortunately the ticking clock and draining bank account force these startups to make decisions they would never want to admit. Ship or go bankrupt, every hardware startup finds itself at a quality crossroads.

A crossroads that can be mitigated with advanced planning, you eventually realize that producing quality product is the heartbeat of your company. And just because you make it to billions in sales and millions in capital raised, doesn't mean you are immune from this constant battle. The bigger you get, the more expensive the mistakes become.

Hardware Startup Metrics



The hardware revolution is not only challenging the existence of billion dollar brands, but altering the very metrics we use to define their success.

Previously held hostage by retail, consumer hardware companies used to measure their business by the number of units sold, growth in revenue, points of distribution, and gross margins. Mainly because the hardware experience ended when the product was shipped to retail, hardware companies used the only metric they could track: Sales.

At Contour I got stuck in this same trap, and because of it, I build the company in the wrong order. We often prioritized our retail channels over our customers, and so we focused on channel growth without really understanding our customers, how often they used the product, and how to profitably reach more of them.

The good news for hardware startups is that these metrics are now irrelevant. The new expectation is that hardware ships with amazing software, and that means you can track your customers after they buy the product. This is new for hardware and opens up fantastic opportunities to measure lifetime customer relationships, metrics that were previously impossible.

The bad news is that this will expose hardware's dirty little secret: Customers buy and then stop using your product.

If you are building a consumer hardware startup you should be thinking about the following metrics.

Cash Is King

Hardware is a cash-flow business. It takes cash to build your product and when ready, cash to build your brand. It's why I'm a big believer that your hardware [MVP is about the fastest path to cash. \(https://adafru.it/cPe\)](https://adafru.it/cPe)

When getting to market all you care about is how much cash it takes to start shipping your MVP. Whether you raise capital or pre-sell your product through Kickstarter, most hardware products should get to market for under \$500K. If you have been around the block you can raise additional capital upfront to make a more robust MVP, but otherwise you want to get your MVP selling as soon as possible to start driving positive cash flows.

Once your product is shipping, and for the entire life cycle of your company, you care deeply about the cash float between when you get paid and when you pay your supplier. If your supplier provides 60-90 days of credit and on average you collect payment in less time (known as your average days outstanding), you are in good shape. But if not, this float gets very expensive to fund. Banks will only provide cents on the dollar against existing assets, while equity requires you to give up big chunks of your company just to fund customer demand.

Running out of cash is a very expensive problem to fix.

Reaching Market Fit

This is an incredibly important milestone for hardware startups. Not only is it the point people can't stop buying your product, but it's also the point you understand how to replicate a profitable business model.

Not everyone will agree, but growth is not the most important metric in reaching market fit. Although growth is great for getting investors excited, it doesn't help you fully understand what is and is not working in your business. In trying to reach market fit you should care about deeply understanding your customers, why they buy the product, and what works to grow your customer base.

In addition to cash you will want to track three more metrics:

1. Customer Love

I'm a big believer in [Net Promoter Score \(NPS\)](https://adafru.it/cPf) (<https://adafru.it/cPf>). It is the single metric you should use to measure your customer even when you only have a few hundred of them.

2. Customer Engagement

You want customers who can't stop using your product because it will help you learn even faster about why they bought the product, how they use it, and which features you should be prioritizing. You can track this metric in a variety of ways, but make sure you pick a single metric that tells you how often they are/aren't using your product.

3. Customer Acquisition Cost

One of the most expensive parts in building a hardware company is reaching new customers. You want to understand what is and isn't working in reaching new customers, especially early on when you are experimenting with every kind of marketing channel you can think of. Don't make the mistake in ignoring how much it costs you to reach a customer through retail. Your true customer acquisition cost is what you spend in sales/marketing and the margin you give up in selling through retail.

Growing Your Company

Once you reach market fit you are ready to build a company. It's a point that most hardware startups never reach and a point most entrepreneurs will find less exciting because once you get here, you spend most of your time repeating the same 18-month cycle: Introduce a new product, advertise it, repeat.

On top of the cash, customer love, customer engagement, and cost to reach a new customer you should care about four more metrics:

1. Market Share

You have to be the brand of choice or you risk losing your very existence. Investors don't fund number two without a clear path to how you become number one in the market.

2. Number of Customers

You care about customers, not units. Reaching 100K annual customers with a single product is important, reaching 2M puts you in a small class, and passing tens of millions makes you one of the largest hardware players in the world.

3. Lifetime Value

People get it wrong when they ask how much of your revenue is from hardware vs. software. The real question is how much is your customer spending with you over time? Whether it's from buying another unit, accessories, or paying for your software doesn't matter. What matters is that you can continue to drive more revenue (and profits) from existing customers. Apple and Amazon both demonstrate how important this metric is. The larger the number, the stronger the business.

4. Profits

In hardware profits ultimately drive everything. Not only are they important for raising working capital, but they allow you to properly re-invest in the business. A handful of investors will fund losses as you build a massive empire, but most will demand you are profitable as you scale your business.

Conclusion

Picking the right metrics for your hardware startup matters. What you track will shape the decisions you make. Getting these metrics wrong, will leave you with a company you can't fund.

No longer held hostage by retail, hardware startups can begin measuring their business by the only metric that really matters: their customers.

Image Credit: [Louise Docker \(https://adafru.it/cPg\)](https://adafru.it/cPg) via Creative Commons

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Once your product is shipping, and for the entire life cycle of your company, you care deeply about the cash float between when you get paid and when you pay your supplier. If your supplier provides 60-90 days of credit and on average you collect payment in less time (known as your average days outstanding), you are in good shape. But if not, this float gets very expensive to fund. Banks will only provide cents on the dollar against existing assets, while equity requires you to give up big chunks

of your company just to fund customer demand.

Running out of cash is a very expensive problem to fix.

Reaching Market Fit

This is an incredibly important milestone for hardware startups. Not only is it the point people can't stop buying your product, but it's also the point you understand how to replicate a profitable business model.

Not everyone will agree, but growth is not the most important metric in reaching market fit. Although growth is great for getting investors excited, it doesn't help you fully understand what is and is not working in your business. In trying to reach market fit you should care about deeply understanding your customers, why they buy the product, and what works to grow your customer base.

In addition to cash you will want to track three more metrics:

1. Customer Love

I'm a big believer in [Net Promoter Score \(NPS\)](https://adafru.it/cPf) (<https://adafru.it/cPf>). It is the single metric you should use to measure your customer even when you only have a few hundred of them.

2. Customer Engagement

You want customers who can't stop using your product because it will help you learn even faster about why they bought the product, how they use it, and which features you should be prioritizing. You can track this metric in a variety of ways, but make sure you pick a single metric that tells you how often they are/aren't using your product.

3. Customer Acquisition Cost

One of the most expensive parts in building a hardware company is reaching new customers. You want to understand what is and isn't working in reaching new customers, especially early on when you are experimenting with every kind of marketing channel you can think of. Don't make the mistake in ignoring how much it costs you to reach a customer through retail. Your true customer acquisition cost is what you spend in sales/marketing and the margin you give up in selling through retail.

Growing Your Company

Once you reach market fit you are ready to build a company. It's a point that most hardware startups never reach and a point most entrepreneurs will find less exciting because once you get here, you spend most of your time repeating the same 18-month cycle: Introduce a new product, advertise it, repeat.

On top of the cash, customer love, customer engagement, and cost to reach a new customer you should care about four more metrics:

1. Market Share

You have to be the brand of choice or you risk losing your very existence. Investors don't fund number two without a clear path to how you become number one in the market.

2. Number of Customers

You care about customers, not units. Reaching 100K annual customers with a single product is important, reaching 2M puts you in a small class, and passing tens of millions makes you one of the largest hardware players in the world.

3. Lifetime Value

People get it wrong when they ask how much of your revenue is from hardware vs. software. The real question is how much is your customer spending with you over time? Whether it's from buying another unit, accessories, or paying for your software doesn't matter. What matters is that you can continue to drive more revenue (and profits) from existing customers. Apple and Amazon both demonstrate how important this metric is. The larger the number, the stronger the business.

4. Profits

In hardware profits ultimately drive everything. Not only are they important for raising working capital, but they allow you to properly re-invest in the business. A handful of investors will fund losses as you build a massive empire, but most will demand you are profitable as you scale your business.

Conclusion

Picking the right metrics for your hardware startup matters. What you track will shape the decisions you make. Getting these metrics wrong, will leave you with a company you can't fund.

No longer held hostage by retail, hardware startups can begin measuring their

business by the only metric that really matters: their customers.

Image Credit: [Louise Docker](https://adafru.it/cPg) (<https://adafru.it/cPg>) via Creative Commons