

All right.

Quick break to tell you about another podcast that we're interested in right now, HubSpot just launched a Shark Tank rewatch podcast called Another Bite.

Every week, the hosts relive the latest and greatest pitches from Shark Tank, from Squatty Potty to the Mench on a Bench to Ring Doorbell, and they break down why these pitches were winners or losers, and each company's go-to-market strategy, branding, pricing, valuation, everything.

Basically all the things you want to know about how to survive the tank and scale your company on your own.

If you want to give it a listen, you can find Another Bite on whatever podcast app you listen to, like Apple or Spotify or whatever you're using right now.

All right.

Back to the show.

You've built companies now that I think an aggregate are worth more than \$2.5 billion.

If I went and I told you when you were building Kandanga or you're in college and I said, hey, that's something that could happen, would you have been shocked that that's even possible? Or were you like, oh, it all worked.

My plan could have worked if I had told you that that's how it played out?

No, I don't think I would have thought about it in that framework.

Probably would have been disappointed if I think about it.

Dave, welcome to the pods.

How does it feel to be, you know, this is like a kind of like a Marvel superhero thing.

We got the second best podcast and the first best tech podcast.

I won't say which one's which, but we're finally clashing here.

Lex Freedman's on your pod.

Oh my God.

It's amazing.

Where is he?

I love that guy.

I tweeted this out actually today because Zuck went on Lex Freedman's podcast and he said something.

He was like, you know, he's like, I read this tweet about the metaverse, blah, blah, blah.

He was referencing my tweet, but instead of saying my name, he's like, someone wrote this and I was like, ah, the closest I'll ever get to Emperor Zuck saying my name.

There you go.

All right.

It's good to have you on.

You've got a new company coming out.

I kind of want to talk about that because it's, I don't know, it's frankly just like a very cool concept, but for people who don't know you, let me brag about you for a second because you're not a very, you're a very humble guy.

You're not a very brag worthy guy.

When I first started hearing you talk, which was not on the all in podcast, I went on YouTube and I heard you give a talk back when you were doing climate corporation.

And I remember thinking, this guy's pretty smart.

You're giving a talk at some school.

I don't know what it was.

And I started Googling you then and saw, wow, this guy's actually, he did that and then he did some impressive stuff since then.

So let me just brag on you for a second.

So you were at Google 2004, 2006, some, some range like that.

So fairly early at Google, like, I think that's like around the IPO time.

That's just post IPO.

Is that right?

Uh, I joined probably seven months before the IPO.

So yeah, we were, we were working on the IPO or just started working on the IPO when I joined.

And then, uh, then you do climate corporations sell that for like a billion dollars to Monsanto.

You do Metro mile, which is a pretty cool insurance company that's backed.

And then I think ultimately ended up selling for a little less than it's back for to lemonade.

And then, um, then you have this thing called TPB.

So the, the production board and in that you're basically, what do you call it, a studio or a, what do you call kind of?

Well, yeah, we're, we're technically a holding company and our, you know, and we're a foundry.

So we spend time kind of doing R and D and, and research and founding or building businesses.

So we kind of call it a foundry.

And I feel like people know you.

We do, we do some investing as well, but really our focus is on foundry work.

And, uh, and I kind of do the same.

I last, I spent about six years of my life, um, at a foundry, basically, and we called it a startup studio or a personal incubator, basically, uh, uh, uh, Michael Birch.

I don't know if you know him, but him and his wife, Zochi, they sort of very wealthy from tech and then they created their own, uh, you know, personal studio in San Francisco. Yeah.

Monkey Inferno, right?

Yeah.

So I ran Monkey Inferno for like, I don't know, five or six years.

So I have, uh, a taste of what it's like to run one of those.

I think that's a dream job.

You basically get to dream up ideas on, uh, what the next big thing is you already have the funding and you already have the team in place.

Uh, now I, I feel like, and it's a nightmare, but yeah, well, I was kind of a kid in a candy store.

Uh, I think I was 24 when he named me CEO of it.

So I didn't know what the hell I was doing.

So now when I look back, I'm sort of embarrassed at how, uh, how little value I was able to create out of that, uh, you know, just enough, but, but nothing compared to what was possible.

And I would say nothing compared to what, what you guys have done so far with TPB.

So, so, so good on you for that.

Um, I want to start with this.

You are known for, you know, being a sort of a scientist or a science guy, but I looked at your LinkedIn and your first job was investment banker.

So where did, how did you go from investment banker to, uh, as you're called on the all in part, the Sultan of science?

Well, I went to school at UC Berkeley.

My major was astrophysics.

I spent some time as an intern at the Lawrence Berkeley national lab, uh, which is a department of energy physics lab up the hill from, from UC Berkeley.

And I spent, um, you know, a lot of time doing mathematical modeling of stuff in a basement and generally found it to be kind of just pretty disparaging in the sense that like you could spend years working on a project that never sees the light of day.

At the same time that I was at school, the dot com bubble was kind of, you know, blowing up all around me.

I mean, there was even a kid in my dorm who started a company selling DVDs online and sold the business for a million bucks.

And that was such an amazing thing to happen.

You know, I was mostly making money by playing poker and working, you know, jobs around school and getting paid for my internship and stuff.

So you know, it was extraordinary kind of seeing just in the Bay Area, the world changing because of the internet.

And so I got really kind of inclined and interested in, um, not going to grad school and really going to go work in Silicon Valley.

So I, you know, I applied for a bunch of investment banking jobs.

That was kind of the hot job to get out of school where I could focus on the tech industry and learn about it.

And um, you know, I guess I had never taken a finance accounting business class.

And so I guess my poker experience paid off because that's how I put that on my resume.

I got a bunch of interviews and kind of ended up getting a job working in a technology investment bank.

So focused on the tech industry.

And so I got to work with lots of tech companies for a two year analyst program while I was there and learned about business and finance and so on.

So that was kind of my first foray, um, you know, into the world of business.

I tried to start a business when I was in college, um, never really talked about this publicly, raved some money from some family members, some friends of the family, but never really did anything with it.

Um, never really got off the ground.

It was, um, the idea was to let you buy all of your telecommunication services on a website.

So you're, you know, everything from your cell phone bill to your, you know, your long distance provider, which was kind of important at the time and so on.

Um, so, yeah,

What'd you get wrong with that?

Cause that's actually not a bad idea, especially during that time, uh, was, I don't think it was probably the idea.

You just, did you not know?

I still have, I still have the business plan.

I keep it in my office.

I printed it up like from 1999 or 2000.

As a, as a reminder or what?

Yeah.

As a reminder, it was, uh, originally called telebomb.com kind of bomb and then I renamed it in phone services and I registered it.

I set up a Wells Fargo account, um, there was a whole, uh, experience of starting a business.

Um, and yeah, I mean, ultimately I kind of got caught up in trying to get a job out of school and, um, and, you know, transition to, to focus on, on, you know, what's next in my life.

And then, you know, before I joined Google, I started another business, which was kind of like a research Q and A site online called Kadanga, K-A-D-A-N-G-A, Kadanga.com.

So I basically taught myself like, um, uh, PHP and JavaScript and HTML and CSS and I programmed the whole site myself and, um, and, uh, MySQL and I basically, uh, set up my own server and registered the domain and set up bank accounts and it actually made money.

Um, and so, you know, I advertised on AdWords and I got users to come to the website and ask questions and get answers and they'd pay for the, the answers.

Um, and so that actually helped me ultimately get my job at Google because I had all this experience.

You know, I was coding on my own till like five in the morning and then going to work at seven AM and so like building this service and building this whole site.

It actually, Google had a service at the time called like Google research or something.

I forgot what it was called, but it was very similar to this.

And so I got the job at Google, I think in part because of that experience.

So when you were doing that, you were, uh, like, okay, let's say today, I think you've built companies.

I'm just going to use round numbers.

Uh, you know, you can correct me if I'm way off, but you've built companies now that

I think an aggregate have are worth more than two and a half billion dollars.

Now, if, if I went and I told you when you were building Kandanga or you're, you know, you're in college and I said, you know, Hey, that could, that's something that could happen.

Would you have been surprised?

Like, was that even an ambition of yours?

Were you even, would you have been shocked that that's even possible?

Or were you like, Oh, it all worked.

My plan could have worked if I had told you that that's how it played out.

Um, no, I don't think I would have thought about it in that framework.

Probably would have been disappointed, uh, if I think about it, um, I still am generally

I feel, I guess, you know, maybe ambition, um, is, uh, you know, and expectations I set for myself probably greater than, um, than, than what I've experienced, but, um, I would say that, you know, my, my intention was to stay on that for a second.

So you're saying you're a college kid and you had expectations of yourself that grand.

Do you remember kind of what you were thinking back then?

Um, not specifically, I mean, I just feel like when you're young, you have kind of unbounded ambition.

I mean, you don't know the realities of, you know, when you build stuff and you face challenges and you face hiccups and, you know, everything from team to technology to markets and all the issues that arise, um, as you navigate your way through complexity and uncertainty, you're naive in the sense that like the whole world can and should be different.

So we should change the whole world and let's go fix it and make it different, make it better.

And you know, that blind optimism is where a lot of energy comes from that I think drives great entrepreneurial success stories.

Ultimately, you know, there's friction and rubber hits the road.

And, um, you know, uh, in retrospect, I think a lot of what's gone on in my life and my career is probably understandable, um, in hindsight, but you know, blind ambition gives you unlimited, um, vision.

And I think, uh, uh, you know, if, if you're not, um, if you're not challenged along the way, uh, you know, that, that, that can and should persist, um, you know, but I would say that my, my orientation was never about starting a bunch of companies or making a bunch of money.

It was, um, you know, much more about kind of impact and, um, and so, you know, and solving big problems and having great breakthroughs and seeing those breakthroughs really change the world.

And that's still, I think really core to my sense of, of energy and things that I do.

And when you were at Google at a time, Google was very ambitious and, uh, I think I've read or heard basically like Larry Page is kind of a fan of yours.

I think he's invested in TPB and it sounds like you were there and you were doing corp dev there.

So, so you were doing a kind of different role.

Um, what was, give me a Google story.

What was it like at that time?

What was it like around those founders?

Give me a sort of a story around ambition or your time at Google.

Well, um, so I joined Google, uh, there was, uh, just under a thousand people, I believe.

And, um, you know, we all kind of work pretty close together, there was like two buildings or three buildings, um, that were the main buildings at campus there at 1600 amphitheater.

And, um, you know, so when I joined, uh, there was three of us that started this corporate development group, which was really like, what's the strategy and things we can acquire and invest in and grow the business and had pretty kind of free reign to look at things.

And I really focused on kind of the advertiser or business side of Google.

So I wasn't interested in consumer products.

I was more interested in like, what's our business?

And so, you know, in that context, I worked on all sorts of, uh, ideas of like, how do we take what we offer advertisers, which at the time was really just AdWords and how do we think about other media we can make advertising available to those advertisers.

So, you know, can we do print ads?

Can we do radio ads?

Can we do TV ads?

And our advertisers use AdWords as an interface to access media across all these different uh, properties and channels.

So I did a few acquisitions and found a few companies.

One was called DMark that we turned into kind of this radio advertising business.

So you could go to AdWords and click on audio ads and create an audio ad and then publish it to actual radio stations.

Then it would play in stream and radio stations and you could see the impressions and all the stuff.

That's not a thing now, right?

That didn't, that didn't end up becoming part of that.

It stayed for a long time.

Um, there ended up being a really nasty lawsuit with the founders and a very difficult, um, set of circumstances that arose after the acquisition.

I mean, I'll tell you, uh, this story now, given how many years it's been.

I think that was 15, 16, 17 years ago.

Holy shit.

17 years ago at this point.

Um, but you know, I had real issues with negotiating with the founders and doing the transaction and you know, we thought it was such a great plug and play for Google.

These guys went out and all DJs and radio stations buy these servers that they put into the, um, the radio station and they, and they put the MP3 files of the ads on the servers at midnight every night.

And then when the DJ says, okay, time for ready for ads, they press the play button and it starts playing the ads off the server.

So what these guys did is they bought the company that has all those servers for like \$4 million and they connected it to the internet and they set it up so that advertisers could remotely create dynamic content and fill in the unsold ad spots on that server every night at midnight.

And so they were buying what's called remnant inventory and making money on it.

And so it was brilliant, but for the \$4 million acquisition and not a lot of technology development thereafter, you know, they were trying to sell the business to us for \$100 million.

So they thought it was worth a billion.

I mean, the whole thing was crazy how we negotiated the deal.

So it ended up being like effectively a \$50 million or \$72 million upfront cash payment, a \$50 million milestone payment if they hit a bunch of technical milestones and then up to \$1.2 billion in earnouts based on the advertising revenue generated from all these stations.

And so that earn out structure was the only way I could really bridge the gap on the deal.

I had to go talk to Google's board about it.

We eventually got them to sign off on it.  
And the whole thing ended up being like a really ugly negotiation and I didn't want to do the deal.  
And I told Eric Schmidt, I'm like, look, I don't think we should do this deal.  
I don't think these guys are going to work out for us.  
I think it's going to be ugly.  
And Eric said, we have to be in radio.  
It's a \$60 billion market, push the whole thing through despite my push against it.  
We did the deal.  
And sure enough, we ended up in this nasty lawsuit that lasted for years.  
I wasn't around for all that, but I think eventually it all went away and audio ads kind of died down.  
So that was the sort of stuff.  
I also worked on Google Analytics.  
So I pitched Larry and Sergey early on in the idea of like, look, our advertisers should be able to have analytics on their web pages to see how people are converting and why and why not.  
How to have a conversion tracker at the time or anything.  
So, you know, what that means, I pitched Larry and Sergey.  
So like, you know, Larry and Sergey are the founders of Google.  
So I work, I work with an amazing person named Megan Smith.  
She's really well known in Silicon Valley.  
She was Obama CTO.  
She's she's an incredible personality and a tour de force.  
And Megan was really my mentor at Google and kind of showed me how I can just walk into Larry and Sergey's office and walk into Eric's office like, let's go talk to them about this.  
And I'd be talking about it.  
Like, let's go see what Eric thinks.  
And she dragged me over to Eric's office and he'd be like sitting there on his computer doing emails and she'd like barge in and be like, David's got this idea.  
Let's talk about it.  
And then like sit down and, you know, like, and so she really kind of showed me that we can and should have this kind of dialogue with these execs because our job was to really help push and think about things that we can take Google, you know, what direction we can take Google.  
And so, you know, I really had, I think great mentorship there.  
And so I, you know, was in a meeting with Larry and Sergey saying, like, I think we should be in analytics and we should offer advertisers the ability to see stuff.  
And I met Wesley Chan, who was a product manager at the time.  
And so Wesley and I kind of started working together after that because the first thing Larry and Sergey said to me was that's evil.  
Third party cookies are evil.  
We don't want to track users across different web pages.  
And you know, because then they'll know that we're tracking them.

And so it was fairly prescient at the time that Larry and Sergey saw that this might be kind of an evil or viewed evil by kind of consumers down the road.

And they were absolutely right.

I mean, that's what's going on in the EU and with Apple and Facebook and all the cookie tracking and so on that's being kind of taken apart right now.

But we showed them that like, look, if an advertiser can get analytics, they can see an incredible improvement in conversion efficiency, which means that the user is having a better experience on the web page.

So rather than the user getting frustrated and leaving the website and wasting their time, if the user is happy, the user will buy more, they will convert better and the internet is a better place.

One of our guiding principles at AdWords was like, our advertisements should be so good and the advertiser's website should be so good that 100% of the time when people are looking at search results, they click on the first ad and then 100% of the time they don't come back.

So the bounce back rate is zero and that shows you that you've shown the perfect ad that's even better than the organic search results.

And it's such a good result that the consumer stays there all the way and never comes back and searches again.

So that's kind of the guiding principle.

So everything is all about how do you improve the quality of the ads?

How do you improve the user's experience when they go to the advertiser's site?

And how do you get the advertiser to pay for that value?

And so analytics ultimately turned into, you know, we found a company called Urchin.

I took Wesley to SES, Search Engine Strategies.

We walked around.

We met a bunch of analytics companies.

We met, had four of them come in and talk to us and we picked Urchin and convinced them to join, convinced Larry and Sergey to do the deal.

Within a year, I think we had shown, through Hal Varian, who was our chief economist, we demonstrated that Google Analytics increased AdWords revenue by half a billion dollars because so many advertisers were using it to improve their websites and make the conversions better, that they were spending more on AdWords and so you could kind of economically show the benefit of analytics.

And that was like a \$25 million acquisition.

So it turned into a great product.

I mean, I don't know any web pages that don't have, you know, Google Analytics on them.

You're like, where's my bonus?

It was all good.

Yeah.

I mean, if you can show that, all right, I'm buying a visitor, it costs me a dollar to get the click, but now that I can improve my funnel so that that customer is worth more to me.

I can convert more of those customers and I'll spend more, right?

Exactly.

That makes a lot of sense.

And the customer is happier because people are going to a web page that gets them what they want as opposed to going to a web page and getting lost in the content and not clicking through and buying.

Dead end.

So, and my last Google question, you know, when we got acquired, I got acquired by Twitch, which is like a kind of part of Amazon.

And I remember like the first or second meeting where it was like, you know, all the kind of execs in a room.

And as a startup founder, I remember always feeling a little bit, not like imposter syndrome, but sort of always curious, like, this is how I lead the company.

I have no idea how anyone else does it, right?

Even my founder friends, I don't actually get to see them in meetings.

So I really had no idea what they were doing.

In my first meeting at Twitch, I remember looking at Emmett, who's somebody I really respect, who was kind of my boss, the original founder, and he was sitting there and like there's whatever, 20 people in the room and somebody presents like this six page paper.

And I remember he was like done reading it in like half the time of anybody else.

And then he had like scribbled down some questions on it.

And then the first question he asked, like cut straight to the heart of a thing.

And I remember just thinking, oh, this, this is what it would be like if my brain was twice the size, like, oh, I could read twice as fast, I could get to the heart of the issue, you know, twice as fast.

And I was just so impressed by him.

You know, I think like great, great leaders in some ways, almost feel like aliens.

They sort of can, they have some superpowers that others don't.

And what was it like with the Google founders?

Do you like, were they just normal people to you or did you notice any special traits or sort of abilities that impressed you at the time or made an impression on you?

No, I mean, look, you know, the culture is set at the top and the team that Larry and Sergey built around them, you know, remain some of the most important and impactful people in Silicon Valley.

You know, Susan Wichiki, Salar Kamangar, Urz is still SVP of engineering there.

He built all of the data center infrastructure, which by the way, I don't think a lot of people realize is probably the core advantage of Google or was originally like.

Tell me about this.

My co-founder who's super technical of my past company, he used to say that he goes, I don't ever talk about this, but it was Google's server architecture or their choices that like allowed them to win.

What did that mean?

I never got an answer.

Yeah.

So if you go back to 1999, 1998, right, in order to search the web, you had to have what

are called web crawlers.

So these are servers that are going out and scanning all the web pages on the internet and then indexing servers and then your web servers, which are, you know, your indexing servers take all that data and classify and organize it and figure out what, you know, what's the search term that each web page can represent.

And then what's the ranking that would show up?

And then finally is these web servers, which is the website, you know, serving servers.

So when you go to Google.com and do a search.

And so, you know, in order to search the web extensively and to have a high refresh rate, so how much of the web can you search, you have to have more servers.

In order to search it more frequently, you have to have more servers.

So at the time, everyone was using kind of Oracle servers that cost like 3,000 bucks and they had a pretty case and they had purple on them and they used a lot of power and they looked really nice and they would last forever, you know, all those kind of nonsense claims.

And so Google set out to basically build a really cheap web server or really cheap web crawling server and indexing servers.

They built their own servers by taking commodity hardware and basically breadboarding this thing. So taking super cheap RAM, super cheap hard drives, jamming them all on, not even putting a case or a cover on them using super cheap power supplies.

And then they said, they said, look, if no purple, no casing and they made them redundant and they're like, look, we'll make lots of these, we'll be able to search more of the web.

We'll be able to have a higher refresh rate and we'll be able to index stuff better and have a bigger index than anyone else because we're making it so cheap to do this.

And so their cost was like \$150, \$200 instead of \$3,000.

Their servers broke every couple of months.

But guess what?

It was so cheap to make it when it broke, they threw the thing away.

And so it didn't matter.

They didn't need to have a five year server.

They didn't need to have a high performance server.

They didn't need to have the fastest CPU.

And in fact, when I joined Google, they had a team that was working on a 10,000 port switch.

And they were making their own ASICs to do that, their own chips.

And so the depth that the hardware engineering team went into and the data center and infrastructure

engineering team went into at Google to create a full stack of technology that was advantaged from the ground up meant that they would always be able to search more of the internet, always be able to do it better, always be able to do it faster, always be able to have a higher refresh rate and that advantage.

And then they made their website super simple and they didn't have to sell ads against it because it cost so little to run the website.

And so you add all that up and they create this huge advantage, this huge structural moat.

More people come, the network effect, more people show up.

They've now got more people that they can sell ads to.

They can now reinvest in building more servers, search more of the web and so on and so forth.

And then, you know, the AdWords architecture was just perfect.

It was an auction.

And so advertisers would bid for search terms.

They wouldn't do paid insertion or paid inclusion, which was big at the time.

They said that's evil.

So we'll show ads really clearly and cleanly on the side and if users want to click on an ad, they know they're clicking on an ad and otherwise they're searching the internet.

And it just created this unparalleled moat.

And so the hardware advantage that Google built from the beginning, I think, was really core to their point of success.

And so sorry, going back to your question, look, Larry's page is one of the most impressive individuals you'll ever meet.

It's really sad he's not more public because I think Larry could offer a lot to the world in the way he thinks and the way he talks about things.

He always takes a bigger point of view and a bigger picture perspective on things.

You know, when people would suggest products or ideas, he wouldn't get into the technical details and the near term roadmaps.

He would always zoom out 100X and be like, why can't we do X?

So you know, why don't we search all the world's books was one of the things they proposed doing in 2003, which was a crazy concept, but they actually went and then did it, right?

And no one would have done that if not for that suggestion, that audacity of perspective.

And so they always pushed and challenged every team to think bigger, to think more grand, to think more aggressively.

And I think that's a common trait with great leaders in technology businesses is, you know, and same with coaches on sports teams, you know, your team is only as good as you challenge them to be.

And so they'll, you know, if you're not challenging your team and you're asking them what do you think you can do, they're, they're only going to achieve a fraction of what's possible.

Great coaches and great leaders need to kind of, and technology leaders in particular have this unique ability to, I think, understand the technology and leap several iterations forward to speak to the team about where we're headed and then bring the timelines in.

And that makes for, you know, an incredible sense of urgency and outcome.

All right.

A quick message from our sponsor.

You know, I was thinking about the shortest day of the year earlier.

And while we technically have the same amount of time as every other day of the year, the lack of daylight makes it feel so much shorter, which is exactly the same kind of feeling as working with disconnected tools.

Our work days, the same length as always.

But before you know it, we spent three hours just fixing something that was supposed to be automated.

Thankfully, HubSpot's all-in-one CRM platform can serve as a single source of truth for managing your customer relationships across marketing, sales, service operations with multiple hubs and over a thousand integrations and an easy to use interface.

HubSpot lets you spend less time managing your software and more time connecting with your customers.

Learn how HubSpot can help you grow your business at [HubSpot.com](https://HubSpot.com).

Why do you think most people don't do that?

So thinking big, that sounds easy enough to understand, sounds fun to do.

You know, I could hear that advice.

Why do you think that's hard advice to follow in practice?

It's a really important question.

So one of our principles at TPB is dare to dream.

So it's all about creating that audacious perspective, you know, how big can this be?

How big should we be?

And what happens when you set a big goal, like let's say I have to go climb to the top of a mountain and I can't see the path from here to the top of the mountain.

There's a hundred permutations or a thousand permutations on how you might get up that mountain and you don't know which path is going to work.

Most people that are smart have been successful and most people that have been successful are not used to not succeeding.

And so the orientation at that point is that success is all about doing something and getting an action that you expect out of what you just did.

And so you want, you are inclined naturally as a smart person, as a successful person to only do things that you know what you're going to get as an outcome.

And guess what that does?

That limits your horizon.

So then you end up saying, I'm not going to take the more circuitous, challenging route or path that might get me to the top of the mountain, but I can see that this particular path gets me, you know, a quarter of the way up the mountain.

And that may not mess, and you might know, however, that that means you're giving up going to the top of the mountain.

But at least you know for sure that if you do X, you're going to get Y.

And I see this all the time.

I see this all the time at businesses where the teams end up compromising on their big vision and they compromise on the moonshot because they're more likely to succeed and they feel more comfortable taking a shorter range, narrower horizon and minimizing the opportunity set significantly and saying, I'm just going to go do this because I know if I do X, I'm going to get Y.

And that feels comfortable.

And I know it's going to happen.

And so they minimize the dare to dream circumstance.

And then they always say, well, you know what, we'll come back and dream big later.

But guess what happens?

Let's say you're thinking about, I'll give you a very specific example, because this

relates to the business we're announcing this week, canna.com, which is our molecular beverage printer.

But early on there was a hard push to say, look, we know restaurant owners will buy this device.

I don't know if every consumer is going to buy this device.

It might be too expensive.

It might not taste good enough.

Restaurants are so, you know, fickle.

If we make a device for restaurants, we know that there's an economic advantage.

There's an ROI enterprise based sale.

Let's go sell in restaurants and we'll make a bigger device so it can hold more and we don't have to worry about shrinking and getting all the technology into a tiny form factor that fits on a kitchen countertop.

The problem is if you do that and you start selling to restaurants, you've now significantly minimized the opportunity to go into the consumer channel because you now have a customer and the customer is the restaurant and the restaurant's going to say, I want this feature and I want this feature and I want you to do this for me.

And all of a sudden your whole team is going to be inundated with product and feature requests that focus on that much smaller, much narrower market and you're going to end up going deeper and deeper into that market and you're going to lose out on the opportunity to go build for the big market, to go build for the 100X market that can actually change the world and improve the problems that we're trying to address with this business.

And so, you know, I've seen this at many different businesses where taking on a lot of technical risk, taking on a moonshot project is often foregone and you end up, you know, trading into a much smaller pie and a much smaller opportunity.

And then you often miss out on that bigger opportunity.

And so, I think it's really important for entrepreneurs to continue to dream big and find a line capital and align shareholders to let you dream big and shoot for those bigger, higher risk opportunities because if they work, they're a hundred expect.

I couldn't agree more.

I can think of two examples in my own career where I'm guilty of that, where we did that.

And I was just talking to a company I invested that they pitched me this amazing self-driving car, you know, single passenger vehicles that were electric and self-driving.

And it was this really fantastic vision of what the future might look like.

And I feel like, you know, in many ways, they've made a lot of progress, but also they did the restaurant thing.

Basically, they found a customer who showed them a near path to like some validation.

And in doing that, they sort of beat down the vision and sort of tried to cram the vision into it.

Okay, some of the vision doesn't fit here.

All right.

It's just going to get sort of left behind.

And we'll just do this one thing that might actually net net be a much smaller overall opportunity and smaller impact of this really hard technical thing.

If you're going to spend your whole life doing this, well, you know, why not go for the one that actually might work?

This also isn't limited to technical.

Have you heard the, the Airbnb, Brian Chesky's thing, like the 12 star experience?

Have you heard this?

No, maybe, but you'll like this.

So basically he sat down his team and he's like, okay, you know, we're in the hospitality business.

We want to give our guests a great experience, a five star experience.

He's like, so first let's just define it, right?

Like what's a, you know, just humor me.

What's a one star experience?

It's like, ah, you get to the house.

It's locked, you know, there's cockroaches outside, you know, you can't get in, you're out in the cold, blah, blah, blah.

He's like, be vivid about it.

So he made them sort of explain really what that one star experience would feel like.

Then he's like, all right, give me a three star experience, give me a five star experience.

And then the team gets, gets excited.

They say, oh, five star experience is, you know, you get there, it's easy to get in.

The place is nice.

It looks just like the photos and you have a great stay.

Everything works.

Nothing breaks.

And, you know, on the way out, you know, the, the host leaves you a nice little gift basket.

So, so you enjoy yourself.

He's like, awesome.

So what's a seven star experience?

And now the team sort of like, you know, you see everyone tighten ups, like they didn't expect that they already had, they thought five was the max number of stars that you can have.

And he's like, totally.

So, so give me more.

And they're like, well, I guess you could get there and there's somebody at the airport to pick you up.

And they got your name on it.

He's like, yes, yes, give me more.

And so they started to define a seven star and he kept pushing it, nine star, 10 star, 12 star.

And they get to this ridiculous extreme of like, you know, you get there, not only do you have the stay, they say, hey, you're going to be up at nine am tomorrow.

I got something special for you.

Somebody picks you up.

You want to venture surfing outside because they're an expert and blah, blah, blah.

And then that type of thinking is what gets you to do Airbnb experiences, which is like the local kind of like activities to go do, which wouldn't have really otherwise been in a, you know, go book a place to stay, a place to sleep, like type of website necessarily. And so you can do that on user experience and customer experience, just as much as you can do on the technical side.

I think that pairs pretty well with your framework there.

So let's talk about Canada.

This is cool.

So I heard this, this is actually when I, I think I reached out to somebody on your team and I said, I want to, I actually didn't want you on the pod.

I said, I want to make a drink.

And so let's, can I explain it in simple terms of what I think it is and then you correct me?

Go for it.

All right.

So you basically made a printer, like a home printer, but instead of printing out, you know, sheets of paper with ink on it, you could print out a drink, any drink.

So like, for example, my wife is vegan.

She doesn't drink alcohol and never has drinking, you know, a drop in her life, but she loves, you know, certain types of teas and coffees and things like that.

And so she could take her favorite tea and have it like exactly the way she wants it.

So, you know, like one of the reasons she loves Starbucks is cause she can go in and say, I want to light ice, oat milk, you know, decaf with no sugar, blah, blah, blah.

She can customize her whole drink.

So similarly, we're going to have a device and, you know, five fast forward 10, 15 years.

I don't know.

But we're going to have a device in our house that we can just push a button and it'll dispense the drink we want.

It'll print a drink for you that is exactly the drink you want.

And that same machine that she's going to use for her teas, I can go use for a, you know, lime, you know, Gatorade-like drink that I could print out, or I might even be able to print a drink that, you know, somebody creates, somebody on the, on the internet just creates a recipe and then my printer can just print that recipe out and I can try that drink at home.

So instead of shipping, you know, cans of beverages or going to a store where there's beverages on a shelf and then I drive it home and I put it on my shelf.

Instead of that whole process, we just combine the water that we already have in our homes with a like, kind of like a printer cartridge of flavors and you can print whatever drink you want.

So all right, tell me, tell me if I butchered it.

You did great.

I love the use cases.

Those are, those are perfect and awesome.

So that was great.

And I mean, I think that's exactly right.

I mean, you know, the, the big discovery, the big kind of aha with this business is based on the idea that 99% of beverages are water or maybe water plus sugar or maybe water plus alcohol.

And one, only 1% of all beverages is the chemistry that makes the flavor, the smell, the color and the texture of, of the beverage.

And that 1% is all that we really need to turn water into all these different beverages.

So the chemical.

I can literally water into wine.

Water into wine.

Canna, by the way, is the town in Galilee where Jesus turned water into wine.

That's the name.

A little known fact now, now, now becoming a better known fact.

But friends that went to Sunday school, by the way, tend to know that.

But basically, you know, if you take a wine, wine has about 500 of those flavor compounds.

That's all the stuff that comes from the grape and the skin and the, you know, the, the branch and the, the leaves and the oak and all the stuff.

And it turns out that of those 500 compounds, chemically speaking, only about 30 to 40 really matter to your sensory palate.

So your nose and mouth can only really pick up and really cares about the 30 to 40 compounds.

The same is true in coffee, in tea, in juice, in soda, in liquor, in beer.

So all of these beverages are 99% water or water and sugar and alcohol.

And 1% are compounds where you might have hundreds of compounds in the organic state.

But you really only need a few dozen of them.

And when you look at the chemical composition, it turns out that that few dozen compounds can be very overlapping from one beverage to the other.

Only a few tweaks of a few chemicals can change a white one into a red one or, you know, chardonnay

into a soft block.

And so the idea is like, let's get those compounds, those ingredients into a cartridge, just like an inkjet printer where you might have CMYK, right, four colors.

And we could have 80 compounds and we think that with 80 compounds, we can recreate all the beverage flavors that make up, you know, everything from an OJ to a Gatorade to a beer to an iced tea to an iced coffee to a Margarita.

And so that's the idea with the business.

And so, you know, we're, Canada comms just launched, right?

So it's, we're going to be, we spent about three years on this project.

First was all the chemical work.

So, you know, does the chemistry make sense?

Can we actually decompose all the beverages?

So we've at this point used though, what's called a GCMS or a gas chromatography mass spectrometer to analyze what are the molecular components of literally thousands of beverages.

It's like a 23 and B for drinks.

Yeah.

And it's unlike this is, this is really scanning the world's or digitizing the world's beverages. And so we've got all the sodas, all the bottles of wine, all the liquor, all the tequila, everything you can come up with has gone through this device. And then based on that chemical composition, we've built software that uses heuristics or master combinations to try and reduce the number of compounds down and create a common overlapping set that we can recreate all the beverages. So give me the origin story. So were you just sitting around one day and you're like, you know what? All these drinks are 99% water and then just 1% is the differentiation. Why don't I do like, how does an idea like this even come into your brain? What do you see? What are you reading? What, what happened? Where did the epiphany happen? Well, a couple of things. One is I had a good sense for that for a while. I was at dinner with a professor from UC Davis back in late 2019 or so. And, and so, or 2018, 2019. And so he was telling me about this research paper published by the scientist in Germany at the Technical University of Munich. And this, the scientist runs a flavor science lab and he was, he basically took a glass of wine and he reduced it from 500 compounds down to like 37 or 40 or something and gave it to a consumer, a sensory panel, and they couldn't tell the difference between that wine and the original wine. And then he did it with another wine, another wine, and he's kind of made these declarative statements that he thinks we could recreate all beverages with just a few dozen compounds. And so that was kind of, I said to the guy at dinner, I'm like, why don't we just make the Star Trek replicator for beverages? Like we could just print any beverage if we could just get those few dozen compounds to people's homes. And so there's a guy working with us as a scientist in residence at TPB, which is a foundry. We run kind of R&D programs internally and if we feel confident that the R&D yields an opportunity, we'll build a business around it. So in this particular case, we said, hey Lance, why don't we read these papers, try and recreate these experiments and see if we can come up with a good orientation around, is it really feasible that we can create thousands of beverages using just a few dozen compounds that they make economic sense and that we could put them in a flavor cartridge and turn this into a machine. And so after about a year, year and a half, we actually convinced ourselves that this is going to work. We separately ran a chemistry program, analytical chemistry program as well as a hardware program. And we had spreadsheet models that showed that the math could work and that we could

actually make this device.

And we had a bunch of different technical challenges on how do you actually dispense microliter and submicroliter volumes of these flavoring compounds into the water stream.

You got to make sure you can do the whole thing in 15 seconds or 20 seconds because otherwise consumers are going to get annoyed.

It's got to taste incredible.

You got to have high precision.

It's got to be cheap.

You got to make it really cold.

I mean, all the product that we had, all these PRDs we were trying to iterate on and then we yield our kind of estimated cost model and then we had to prove the tech work.

So very iterative cycle for the last three years to get to this point.

So we now have fully working prototypes of the Gen 1 of the device.

We're going to production on the Gen 1 of the device and hope to ship early next year.

And so we're starting pre-orders today for \$99 you can reserve a fully refundable \$99 reservation fee and the first \$10,000 orders are \$4.99 for the device and \$7.99 after the first \$10,000.

So that's the setup.

So let me just, let me do two things.

I want to first ask about the kind of like, what kind of drinks am I going to be able to get out of this?

Just what the average person wants to know.

And then secondly, I want to talk about the impact of that because my sense is that if you're making the device, if you're making what you eat and drink in your own home, like literally you're producing it in your own home, you cut out a bunch of trucking, storage, packaging, stuff that doesn't need to happen.

That might actually help the environment.

So I want to talk with the environment in a second, but let's first do the fun stuff.

So the drinks.

Okay, so I got water in my house and you can, your drinks are going to be, you have a way to basically cool down the water or, and can you like carbonate it or what are the limitations here?

Yep.

It's chilled and carbonated, optional obviously in the device.

You don't need to worry about any of that.

Or you can go hot.

Um, uh, we don't do heating.

So we don't do a hot, hot beverages in gen one.

So just to be clear, you're not going to have hot coffee or hot tea, uh, but there is cold brew.

There is ice teas, flavored ice teas, all that.

There's a whole variety of stuff there.

Um, but the idea is, uh, there are three cartridges.

So there's the master flavor cartridge.

You put it in, it should last anywhere from one to three months.  
Um, before you need to kind of replace it.  
Uh, there's a sugar cartridge because a lot of beverages, people want to have sugar.  
And so there's a separate cartridge for sugar.  
Should last about a month and a separate cartridge for alcohol should last about a month.  
Um, and you don't have to buy cartridges.  
They're free.  
They auto-ship to your home and you just put them in when they arrive.  
The device senses when you're running low and we send you a new cartridge.  
We charge per drink.  
So, um, the price per drink is going to be 25 to 50% on average, cheaper than what you would pay in retail for that same beverage.  
Um, so, uh, you know, at the end of each month, your card or your account is charged for the beverages you consume, but you don't need to go to the store.  
You don't need to buy cartridges.  
You don't need to deal with all the nonsense.  
We take care of all that.  
It's really supposed to be hassle free.  
And then the idea is there's beverages that range from morning till night.  
So ice coffee, iced tea, um, sparkling, you know, soda, uh, juice, um, uh, hydration or energy drinks.  
There's, um, uh, hard seltzers, cocktails, wine.  
And so there's a range of kind of add-ons and features like there's caffeination.  
There's a nutrient boost.  
So you can actually vitamin boosts, there's electrolyte boosts.  
And so you could have low alcohol, hard seltzer.  
You could have low sugar juice for your kids.  
You could have, um, you know, add caffeine, have an extra boost of caffeine or low caffeine, uh, iced tea.  
So there's, there's all this variation around what you can do ultimately from a personalization perspective.  
And as a user, what you're going to experience is literally hundreds or thousands of brands available to you on this device.  
And they're all going to be new brands.  
So we're, we're not yet revealing who the brands are.  
Uh, I think we're, a few of them will start to announce this week.  
Um, but if you think about where this goes as a consumer today, you really have a very limited number of choices when it comes to brands, because there's only about 150 slots in a retail store for wine, beer, coffee, tea, juice, soda.  
And so, you know, MinuteMade, Coca-Cola, Pepsi, 7up, these are nameless, faceless corporate brands.  
In the future, you're going to have your own brand, right?  
So you and your podcast can make a branded beverage, put it on canna and your followers can buy your beverage.

And it can be your favorite blueberry hard seltzer or your wife's favorite tea.

And she's kind of, you know, and so you guys can build your own brands at a cost of nothing to you.

Um, and so I think that the future is a lot like what we saw on media where people are consuming Tik Tok and YouTube and Netflix and, you know, there, there's a long tail of content.

There's a long tail of things that are associated with individuals now and influencers.

I think the same will happen in brands.

Um, so it's basically just to kind of explain that again, because I think it's an important point.

So you're saying, you know, the same way that if you wanted to, you know, watch TV or listen to the radio, there was just a fixed number of slots.

And so they, you know, when there was three channels, well, they would show the most general thing that would appeal to like kind of the common denominator type of audience.

And then when we got cable, we got more channels.

So now you got a fishing channel and a golf channel.

That's, you know, those are still pretty broad actually when you compare it to YouTube where it's like, I can watch somebody who just likes to binge eat food and like, that's just what I want to watch right now.

I can watch a guy who, you know, some crossfit thing that may not have made it onto ESPN, ESPN 2, ESPN 3, or ESPN, you know, like it would have never made it on those channels.

You can't binge watch chess matches on ESPN, but you can on YouTube, right?

So you're now watching way more, more media than you would have otherwise because you love chess matches.

So this podcast is a good example.

Not only does it give the consumer more choice, it gives the creator a way to just push a button and try their hand at it.

And if we're good, like, okay, we kind of sucked at the beginning and now we're good.

Now we get a few million downloads a month.

Well, that's great because we, it was permissionless.

Nobody had, we didn't have to go audition anywhere and, and get selected in order to be on stage.

So what you're saying is the same thing is going to happen in drinks.

So the consumer is going to have this infinite selection of like flavors that fit their needs.

So the low sugar, orange juice, you know, whatever, the sparkling, whatever that's going to be appealing to that person, they're going to be able to print that beverage, even though it may not be sold on this, on the shelves, because it's not the, not like kind of mass popular drink choice.

And the other thing is me and Sam have already started brainstorming, Sam also do a root beer.

I'm interested in more of like a sparkling water sort of thing, a non-alcoholic refreshing thing.

So we're, you know, let's do it.

You guys want to do it?

No, I'm serious.

Yeah, we want to do it.

We want to come to Redwood City, try the device and we'll get you guys set up and you make your own brand.

Well, that's the question.

Right.

We were, we were, and people got started DMing us because they were like, yeah, dude, we were totally, because we were, we, we like to make up fake name brands on the, on the show.

We were like, oh, Southern Sam's root beer.

And then, you know, Sean's, you know, whatever motivation.

I like to, I said this idea.

I said, somebody should make a brand of water that's just called Lucky Water.

And just, it's just a little, you might have good luck if you drink with water.

That's awesome.

Lucky Water, right?

It's placebo water.

No, this is a total placebo, but hey, it never hurts.

And so.

You can put a hint of something in there.

Just a hint.

It's going to have some flavor, but the, you know, the luck is why, so anyways, that's my drink.

And so, but the question was, is it going to taste the same, right?

So for example, I lived in China for a bunch of years and you would get these sodas and there's this phrase for expats living in China called NQR, not quite right, where it's like, it almost tastes like KFC, but like it doesn't taste like KFC.

That was a common problem when they tried to export these kind of flavors to another country.

So I know you're kind of biased, but give me the, you seem like a, you're a pretty honest guy.

I don't think you're trying to sell stuff.

No, I mean, we're pretty technical about, so, so, so here's an important point.

And I made this point earlier today.

So it's fresh on my mind.

There's a difference between taste and flavor.

Flavor is the sensory experience that you have, you know, a biochemically and biologically as you experience a bunch of chemistry in your mouth.

Taste is how you psychologically or how your brain interprets and finds that appealing.

So we've all heard stories about taking expensive wine and cheap wine and blind folding people and giving it to them.

I can't tell the difference.

I can give you really cheap two buck chuck in a two Michelin star restaurant you taste and you're like, oh my gosh, this is amazing, you know, fantastic.

I can give you really expensive wine in a McDonald's and you kind of chug it down, right?

So taste is a function of the overall kind of sensory experience when you have a product, when you engage in a product.

And so, you know, a big part of what we're trying to get right is that experience being more than just the flavor we have to get right, right?

Like, but you have to make sure that there's something to substitute for the affinity you have with a brand.

So you have an affinity with KFC or Coca Cola.

And so there's some benefit of that being ingrained in your mind.

You taste something.

It's good enough.

And so what we do from a flavor, so that's number one is there's a whole digital experience on the device that we think is really important.

Brands no longer are static.

It's not just a logo.

Brands are visual, right?

So there's a video or some audio that comes through as you're exploring, as you're trying stuff through the device.

And then flavor, it's really straightforward.

Our chemistry team prints beverages.

We take the best in the market for that category, so we'll take Sprite lemon lime soda, we'll print one of our lemon lime sodas, and we have a sensory panel where we bring in consumers, they blind taste and we score stuff.

And then we get iterative feedback on what's working, what's not, and that allows us to craft formulae.

So, you know, that is a big part of our analytical chemistry process is the sensory feedback that we do blind.

And so we don't graduate formulae.

We don't say that these ingredients work until and unless we hit and exceed best in market comparables.

By the way, really interesting statistic, you'll see that things like cold brew coffee, which is a really interesting one, because it's so complex and can be so different just like dark chocolate.

You can take like Starbucks and blue bottle and one group of people will passionately love Starbucks.

One group of people will passionately love blue bottle.

And so, you know, you'll see that we will score really well with one group with one of our formulae and really well with the other group with another one of our formulae.

And so this goes to the point earlier, if you take a Coca-Cola, it's got 44 grams of sugar or whatever in it.

That's what Coca-Cola decided was going to be the lowest common denominator.

That's how they get the biggest audience to buy Coca-Cola.

But it turns out some people would buy more Coca-Cola if it was 20 grams of sugar and

some people would buy more Coca-Cola if it was 60 grams of sugar.

So if Coca-Cola had a 20 gram, 30 gram, 40 gram, 50 gram and 60 gram version of Coca-Cola, they would sell a lot more in aggregate of all those versions than if they sold just the 144 gram sugar.

And so sugar is a terrible example because it's evil and awful, but we all love it.

But you know, like my point is that-

Malcolm Gladwell has a talk on this.

You've seen that one, but Malcolm Gladwell has his TED talk about the perfect pasta sauce.

It's got, I guess, millions of views.

Yeah, yeah, you got to listen to this thing.

So Malcolm Gladwell goes on and like in his style, he goes and he tells this great story about this guy that gets hired by Pepsi, by Coke, and then gets hired by Prego, I think it is.

He's like, you want the perfect pasta sauce.

What is the perfect flavor for consumers?

He discovers there is no perfect pasta sauce.

There are only perfect pasta sauces.

He's like, some people want the chunky one and there is a perfect version of the chunky that will appeal to the most people there.

And then some people want the one that's this and that's why you see the aisle today and there's like the one that's super garlicky and then there's the one that's super chunky and then there's one that's not chunky because those people feel very passionately that chunky is better than non-chunky.

It's not close for them.

And then, you know, another group of people will feel the exact opposite.

And so, but they're limited in some ways because they're, those are still, well, they're only going to bottle five of these or seven of these or 12 of these and put them on shelves, which can only hold whatever seven variations, whereas you're not limited by that in the same way that YouTube's not limited by the number of channels on your TV.

That's right.

Exactly right.

And I think that's where it's not about are we better than Coca-Cola.

It's that can everyone find a product on Canada that they like more than Coca-Cola?

And you can't use their name, right?

So what are you going to do?

Are you going to go to Coca-Cola?

Like, how are you going to license your brand?

No, we're not using any of those brands.

It's all new brands.

So your lucky water is going to be a brand.

Okay.

We're going to get that done.

And so you'll find hundreds of new brands available on Canada that you don't find on the store shelves and you're going to have like your house brands basically of the popular

things yourselves to see.

We may.

Yeah.

I'm not interested.

Like, I'm more interested in finding partners that are going to be passionate promoters and want to, you know, be creators on this platform.

So I think that's where I'm most interested.

I think we're going to have to see a bunch of stuff ourselves, but, you know, I think it's likely going to be the case that folks that want to be creators are going to be bringing brands to market through the device.

Well, you know, this has happened with alcohol, right?

So like the rock, I think is, I think he's sold, I don't know how many hundreds of thousands of cases of his tequila.

Like he's, the rock is going to be a billionaire, not from wrestling, not from movies, but from 50 cents.

Same with George Clooney.

Right.

I mean, all these guys.

They've all got beverage brands.

And by the way, they all, you have to be huge.

And that's the thing.

So, um, only 3% of beverage brands that launch, um, and get retail space actually make it to 10 million in sales.

And so, you know, if you're someone with less than a hundred million followers, you've only got three million followers.

You're a great YouTube creator.

People know you.

They love you.

They're passionate about you.

You're never going to go make a beverage brand.

It's going to cost \$5 million to do that.

You got to go make, formulate it.

You got to make packaging.

You got to make a logo.

You got to box it.

Then you got to go convince retail stores to carry it.

Right.

And the process is like an insurmountable process.

Generally speaking, you have to be huge, like the rock to get that.

And you know, there's probably 90,000 times more people in that middle that are really influential, have a lot of followers, aren't as big as George Clooney in the rock.

And so they could make a brand that doesn't require any investment that doesn't require any capital.

They don't have to take any risk.

And look, if it, it's digital, it's permissionless, right?

So if it works, great.

Like they've got, um, a nice revenue stream and you give a share.

So let's say, uh, I don't know.

What do you think the average drink is going to sell for like a dollar or less than a dollar?

So it ranges from, you know, to 29 cents for like a sparkling water, like a flavored water, like a LaCroix competitor, um, up to, um, \$2.99 for kind of like a really nice cocktail.

Um, you know, you'll find that like a mojito or mimosa will be like \$1.99.

Um, generally the price will be about 25 to 50% less than the store.

Right.

So let's say I'm selling my, my 30 cent, uh, lucky water.

What is the, is there a standard out of the box?

Like an app store, like 30% cut type of thing or what is the, what is the business model?

Cause, cause this will let more people do the rock thing.

This will let people like me do the rock thing where we can just formulate a drink, sell it virtually, digitally into everybody who has a printer is now available.

And then we get a small income stream, royalty stream coming through this.

Yeah.

By the way, the royalty stream for like someone like 50 cent or something is going to was like two to 6% you know, so they're participating on net, right?

And so there's a very, um, different kind of model there.

We offer a much higher share of revenue, obviously, you know, this is a, a very difficult business to operate.

So we've got to get cartridges made.

We got to get them to people's homes.

We auto renew.

So there's a whole services component.

So you know, we've got a pretty good pitch today for brand partners.

Um, you know, we haven't launched, um, commercially, so I'm not going to kind of commit to what the number is going to be, but I think it's a really, really compelling opportunity.

Um, and they're all going to be, you know, real, they're going to own their brand.

So if they want to take that brand and use it elsewhere, it doesn't have to be exclusive.

We don't own the brand.

It's your brand.

Right.

So you could take your brand and lucky water and if it takes off and you've got 10 million people that want to buy it in stores, go launch it in stores.

You know, it's your brand.

Um, so yeah, I think it's a platform for letting people kind of create an ideate and, um, and you know, see if they can develop value there.

And it's almost like, it's like merch, right?

Like, I mean, just, you know, monetize yourself.

The device cost, he said 499 or it's going to cost 499.

That's the pre-order kind of for the first 10,000 orders.

So once we hit 10,000, the price is going up to 799.

And then is this the like kind of Tesla Roadster model where you think that, you know, where do you want to drive this down to?

What do you think is the thing you need where this actually is not just my, you know, cool thing in my house when people come over and I can do a magic trick?

Like when does this become standard where it's not a magic trick?

Everyone's got one.

So it's a, it's a great question.

Um, you know, there's about 35 million, uh, curries installed in the world.

There's like three and a half, four and a half million soda streams.

Um, these devices have prices that range from like 70 bucks up to 299 for like a nice Nespresso.

And then this, you know, so, so 299 maybe gets you kind of a 10% market, you know, 199 gets you 30%.

I don't know the number because part of what we're doing is we're not just a single product and a single day parts and espresso, correct, soda stream, one product, one day part.

So will people pay more for more day parts?

Will people pay more for more variety for lower, hopefully our prices are going to be lower than what you'd pay for some other alternative products.

So the value we can provide to consumers, I think will ultimately dictate how the market expands as a function of price, um, and, uh, and then form factor.

So, so, you know, can we get it smaller and then, uh, heating, can we add heating to it?

And so, you know, there's a bunch of features on the roadmap and then the trade-offs on price.

Uh, so, you know, if we add heating, it costs a lot more, it's going to get bigger.

Can we make a technology leap where we can actually get everything to be smaller and add heat and drop the price?

And you know, as we go from gen one, we're calling this our gen one device, the can of one to gen three, we really think gen three ends up being kind of like it's got everything for everyone and it's an accessible price point for the mass market.

And I don't know if you're fully out of time, uh, but I did want to give you a chance to do talk environment for a second.

If you, if you have it, uh, I think that's probably pretty major or like, at least one of the big drivers for you here.

Pretty much all the work we do at TPB is oriented around how do we change systems of production on planet earth so that, um, we can make things using less energy, less land, less natural resources.

Um, I'm a big believer that sustainability in the 21st century does not arise from convincing consumers to consume less.

I think sustainability arises from building technology based solutions that let consumers consume more and dropping the price and dropping the environmental impact.

And that's what technology allows us to do.

So if you go back to the industrial revolutions, you know, of the 19th and 20th century, we built factories, right?

We put all this technology in a big machine and a big facility and we used it to make

stuff over and over again and that dropped the price for consumers because we automated in a big factory.

Turns out that the technology of that factory as all technology does shrinks, gets faster, gets cheaper, gets better.

And so theoretically technology like what exists in a factory, a technology that's better than what exists in a factory to make beverages can be put in your home.

And so, you know, the idea is how do you decentralize manufacturing?

Because it takes about 600 liters of water to make a single liter of wine.

It takes about 40 liters of water to make a liter of orange juice.

And we take all of this water.

And by the way, orange juice is 93% water, 7% sugar, only 1% is the flavor compounds, right?

Wine is 88% water, 11% alcohol, less than 1% flavor compounds.

So, you know, how do we, so we've taken all this water, grown all these crops that basically turn into water, put them into glass and plastic and cans that we use carbon dioxide to make.

Then we put them on trucks which use carbon dioxide to go to warehouses that then go into stores, they then go into your home and then you store them in your home and you're basically drinking water and every industrialized home has water.

It's about half a billion tons of CO2 that are put into the atmosphere every year to make bottled cans and beverages.

It is about, bottled and canned beverages.

It is about 400 trillion liters of water that are used in the whole production cycle of bottled beverages.

And consumers are spending \$2.3 trillion a year on this archaic insane system of centralized manufacturing to use a ton of energy and a ton of carbon and a ton of land to just move water into your home when you already have water in your home.

120 million acres of farmland that could be reduced and returned back to the natural ecosystems that we would stop using to grow all this stuff.

So that's our long-term incentive, right?

The incentive is can we take that carbon out of the atmosphere, can we reduce the waste on water, can we return the land to natural ecosystems and at the same time make a cheaper and better experience for consumers by decentralizing manufacturing and putting these devices in homes and giving people better options.

And so that's why we're so excited about this.

I think we have an opportunity to do something that has an impact, but also hopefully gives consumers something that's better than what they have today.

Yeah.

I don't know if you're hiring, but this is one of those companies where I would look at and I'd say, wow, that'd be a cool place to work.

If I was out there in the job market because you have hard tech problem, you have a device that if it works is going to be like a household name.

Everybody's going to know it.

It's going to be like a Netflix or an iPod or something.

It's going to be something that everybody knows if this actually pulls it off.

I mean, you're on some Willy Wonka shit.

You're basically creating this magical device that lets you create whatever you want, your own little candy, your own little beverage in your home.

I think that's, it's pretty inspiring and to do that while also having a big impact on the environment.

Like most people would look at that environmental supply chain you talked about and say, how do we make this 20% more efficient at this step?

How do we make the trucks emit a little less carbon dioxide?

How do we, how do we just reduce this by 15% and what you've done is said, why are we doing this in the first place?

Why don't we eliminate the whole chain?

So why are we using all this water and all this plastic and all this fuel just to move water from here to there and add a little bit of flavor to it?

Right?

The water and even, even worse when there's already water piped into people's homes.

So we already built the core infrastructure, the pipe into the home with water.

All we got to do is sort of like at the last, last mile, not even last mile, sort of like the last two feet of counter space, just converted into the product that people want.

So I think it's pretty awesome.

Yeah.

And like all the refrigerator space and energy to run the refrigerator to store all that stuff and like the stuff in your, in your cabinets.

Yeah.

So that's exactly right.

I mean, you nailed it.

Like that's why it's so awesome.

So yeah, we are hiring and we got great offices.

So and people go to work in the office and so that's a perk nowadays.

You can see humans if you work with us.

Yeah.

I'm gonna go out and come and meet people, IRL.

I think, you know, Climate Corp is cool.

The insurance company is all, it's not that cool, but you know, I guess it's money.

This is cool.

This is going to be your, your biggest thing.

Hopefully this will be the thing that, you know, college version of you would be like, all right, that was, that was sweet, not, not underwhelmed by that one.

As long as my, as long as my kids are proud down the road, I'll be happy.

So that's all good.

All right.

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Thanks for coming on, man.

I really appreciate this.

I'm a fan of yours.

It's been awesome to chat.

Yeah.

It's been a great chat.

I think you really, really nailed it and I appreciate you listening.

So that's been great.

Thank you.