

URL: <https://ecorner.stanford.edu/video/make-the-right-thing-entire-talk/>

As Google's first engineering director, Alberto Savoia led the team that launched Google's revolutionary AdWords project. After founding two startups, he returned to Google in 2008 and he assumed the role of "Innovation Agitator," developing trainings and workshops to catalyze smart, impactful creation within the company. Drawing on his book *The Right It*, he begins with the premise that at least 80 percent of innovations fail, even if competently executed. He discusses how to reframe the central challenge of innovation as a question not of skill or technology, but of market demand: Will anyone actually care? Savoia shares strategies for winning the fight against failure, by using a rapid-prototyping technique he calls "pretotyping."



Transcript

(Techno music) - [Announcer] Who you are defines how you build.. (techno music) - [Alberto] This is my battle cry these days, failure bites, bite back.. I'm a serial entrepreneur, and I kind of got my butt kicked a few times and the last time I decided I don't want this to ever happen again to me, or anyone else.. My mission to help entrepreneurs, most of you here, to teach you how to fight failure and win consistently.. But first, let me tell you, I'm gonna structure it very simply, seven strategies in 35 minutes.. I don't have a lot of time, but fortunately, there is a book that you can buy out there that, you know, you can spend six hour in my company.. Also, give the advice you would give to your 20-year-old self, so lot of 20-year-old here, but regardless, this advice is timeless.. So that whether you're 20, 30, 40, 50, 60 this entrepreneurial advice is applicable.. Now, my entrepreneurial journey.. As you can tell from my accent, I was not born here..

I was born in Italy.. And like pizza, I decided to come from Italy to America, for bigger (audience laughing) and better things.. And, of course, what do you do? So, I landed in Silicon Valley.. I decided I want to join a startup, and joined in 1985 a little startup called Sun Microsystems, pre, pre, pre-IPO.. Some of you are too young you don't even know about this company, but it used to be kind of a bit like the Google of those days, and had a very good run there.. For about 13 years I was in engineering at first and then I ended up running a research group, and the stock went great.. And so, I thought, wow, this is so cool! You know, startups are great, this is awesome.. I wanna do my own startup.. So I left Sun and I started by first company.. We raised three million dollars in VC funding, and 18 months later we received an offer for acquisition for 100 million dollars..

You think we accepted that offer? How many think you would accept it? Nobody, are you fool! Yeah, of course, we accepted it! (audience laughing) We accepted it, you know, this was 2001, that's like a billion today, don't be an idiot, take it! (audience laughing) Right? Take it, so it worked out very well, and I thought, wow, you know, this is easy.. So I thought, well, I call my friends in Italy, hey, Mario, come to America, it's good, you know.. And so, I spent the year at the acquiring company and then, I joined another little startup pre-pre-IPO called Google, as the first Engineering Director.. And, you know, among other things, I led the ATS Team and we all know how well Google did, so I thought, you know, this is really easy, and I'm kind of good at picking startups.. So if I raised three million dollars and exited with 100 million dollar offer, for just 30 million dollars, I'm gonna exit at one billion.. You know, the math doesn't really work like that, but, you know, in my mind that sounded good.. So my second startup, which I funded with 25 million dollars from the best VCs in the valley, we developed this tool that people told us, if you can build the software development tools, everybody will flock to your doors.. Please, build it, and we will buy it.. So, we built the tools, spent two years to build a very sophisticated product.. We won every possible awards for technology, it was an amazing tool, so I thought, wow, I'm really good at this, you know, I might be the Italian Steve Jobs, Stephano, (audience laughing) Stephano Jobini..

You know, I thought that sounds good.. It has a ring to it.. Except that five years later, bang! You know, we had a fire sale.. All those people that told us, if you build it we will buy, somehow, disappeared even though we built exactly what they said we were going to build.. So this time my reaction was a little different, and I created this acronym that stands for why the failure, right? (audience laughing) So, I asked myself, why did we, we did we fail? And I decided, okay, I want to study failure.. So I went back to Google as Engineering Director, but also as Innovation Agitator to try to shake new ideas out of Google, and you innovate without failing.. So I became, from an Engineer, I became an Innovation Agitator, and I always wanted a PhD, and I

didn't get it, but I got an FD.. I'm a Doctor of Failosophy.. The only one in the world.. (audience laughs) I don't know if anyone on the planet that studied failure more than I did..

And I'm here to share with you some of these ideas.. So, I only have time to give you seven strategies.. I started with ten and then I timed it, and I couldn't do it.. So, I decided, Alberto, you're gonna talk fast and you're only gonna give them seven strategies.. First one, obey the law of market failure.. The law comes in two parts.. The first one is pretty depressing.. Most new ideas will fail in the market.. The second one gets even more depressing, even if competently executed.. Now, if you've been around the block, you know that's true..

Most new ideas, most new companies, most new products from existing companies will fail in the market, but the data, you cannot fight against it.. But what about the second part? What does it mean, they fail even if competently executed? It means that even if you are Google and you launch products that are squarely, what Google is good at, the law of market failure applies to you.. If you search for Google failure, one of the pages you'll come up with is called The Google Graveyard.. Apparently put together by a Microsoft project manager who was kinda upset at Google, at the time, but it illustrates that even large companies fail a lot.. Asked my students, take a piece of paper, write all the Google products you know of and then I showed them the list of the failures that I know of and the ratio is usually five or ten to one.. By the way, Google didn't like what Microsoft did to us, so we created the Microsoft morgue, which has even more failed products, right? So this is pretty much par for the course.. The law of failure applies to everybody.. But then I started to say law of failure is true.. I'm gonna obey, But why do most new ideas fail in the market? So, I did my research, look at thousands of failure and basically I put them into three major buckets, with a convenient acronym FLOP.. Failure due to launch, operation or premise..

Failure due to launch means that the market doesn't know about your idea or cannot reach your idea.. Essentially, kind of a failure of marketing, people don't know about it.. Failure due to operation means the product doesn't work, right? The app crashes or maybe it's a restaurant and the food sucks.. Failure due to premise means that even if you market it well, even if it works well people simply do not care about your new product idea.. Which one do you think is the most common source of failure? Well, I'll hold the suspense.. It's the last one.. Most people new idea fail because the market simply does not care.. And as we'll see, even if they tell you yes, yes build it we will buy it, that's not the case.. Most new ideas fail because they are not, what I call, The Right it, which happens to be the title of my new book.. What is the right it? Well, I'll explain to you in a second..

But first the second important strategy, make sure you are building the right it before you build it right.. Cause all of my research, and anybody that's been around will confirm it.. Companies do not fail cause they really cannot build what they set out to build.. I mean it happens, but it's rare.. Most of the time you fail because you build the wrong product.. So, the right it, I define it as follows; It's an idea, that if competently executed, will succeed in the market.. And it has an evil twin, the wrong it; and idea that, even if competently executed, will fail in the market.. That means if you're idea's bad, doesn't matter how much marketing, fireworks or engineering brilliance you put into it, it will fail in the market.. Let me give you some examples of the right it and the wrong it.. Big Mac for MacDonald, the right it..

Are their Arch Deluxe or the MacHula, a burger with a slice of pineapple in the middle, not the right it, right? Coca Cola, the right it.. New Coke, after millions of dollars in research, launch and advertising, failed.. Not the right it.. Everybody here has probably seen the movie Star Wars.. How many saw the movie Howard the Duck? (audience laughs) Not a lot.. Yeah, there's just a few.. And you know what those two movies have in common? Steven Spielberg.. Howard the Duck, believe it or not, is a movie that Steven Spielberg decided to do after Star Wars, and it got ten times the budget and, on top of it, it had ducks and everybody loves duck, right? Donald Duck, Daffy Duck, Duck a l'orange, ducks are cool, and yet he failed miserably.. Gmail, how many people here have Gmail accounts? Good.. How many people here had the Google Wave account? Just, fewer hands..

So how many Google Waves did you ride? - [Audience Member] None - None, right.. Actually you're better than, people said two.. Google Wave was supposed to be the follow up to email, a new paradigm, lots of marketing, developed by the people that did Google Maps, great team.. And yet, it failed.. And yet you see it has the same Google color, the same Google great engineer, the free messenger, the free launches, all the Google benefits and yet it failed.. Ford Mustang, success.. Ford Edsel, not so much.. So, all of these examples, what they have in common, these are companies that are successful with other products and they're launching products that are exactly what they do like cars, electronic things and movies, and yet they failed.. Cause you cannot fight the law of failure.. If you take competent execution plus an idea that is the wrong it, you're guaranteed failure, one hundred percent of the time..

The law of failure is blind.. So you don't wanna bring up an idea that is the wrong it and you ask yourself, how do I know if an idea is the right it? Well, do not ask.. And that I mean by that is that if all you have is an idea and you tell other people your idea, the most you can get back are questions, and this is a very dangerous thing to do.. Why? Because ideas live in a place that called Thoughtland.. So, in Thoughtland you have an idea, hey here's my brilliant idea, you tell it to other people and what do you get back? Just a bunch of opinions, a bunch of opinions.. And opinions are subjective, they're biased you know, you filter them through your own preferences and beliefs.. I, for example, I thought that Uber was a terrible idea.. Strangers picking up strangers from strange places and driving them to spend the night at the stranger's house on the couch.. That's another start up idea, Air B and B, which I thought was terrible, right? So you need to filter these ideas.. Two horrible things

happen in Thoughtland..

The first one is, if you have an idea, and people think it's the greatest thing ever, one of my favorite example is the segway transporter, you know, those little scooters that you used to see a few years ago.. When this was about to be launched, everybody talked about it, right? Everybody thought best idea ever.. It was on the cover of magazines, that some of the best VCs in the Valley.. Architects said cities will be redesigned so everybody's going around on a scooter, right? So, and the, they launched it and who do you see riding segways? Mall cops and lazy tourists, that's about it.. (audience laughs) Right? So, and clearly, it's not because a failure due to marketing, people knew about it.. In fact, it was talked all over.. It's not a failure due to operation, cause it worked well.. I don't know why things fail, right, I just know that most of them fail.. So this is called an example of a false positive.. People tell you best idea ever, you launch it and it fails..

How common are false positive? The most common thing that people launch.. So, everything in the Google graveyard, everything in the Microsoft morgue, in the Amazon ambulance, et cetera, et cetera.. All of these are ideas that, at some point, people thought best ideas ever and then they launch it and it failed.. Why? Because you know what doesn't fail? The law of market failure, right? Most new ideas will fail even in market if competently executed.. So, first bad thing that happens, people give you the thumbs up, you spend a lot of money, it fails miserably.. The opposite can happen.. You have an idea and people think it's the worse idea ever.. Honestly, I felt that way about Twitter the first time I heard about it.. What, 140 characters, people can follow, everyone can follow anyone, sounds terrible.. And yet, we're for better or worse, we know that Twitter has changed the way we converse as a species..

So this is an example of a false negative.. People tell you it's a terrible idea and then it succeeds.. So, here's your dilemma, right? If all you have is an idea, you cannot depend on people's opinion.. You cannot just ask them would you want it, would you buy, what would you do with it? So what can you depend on? Any ideas? Okay, well I'll tell you, I'll jump ahead cause we don't have a lot of time.. You depend on data.. And as you can see you trust, not opinion, trust data.. And not just any data, your own data.. Right, cause when I tell people, you know, you need, data beats opinion, and you need to collect your data people think, okay yeah, well this looks like data.. I mean, it's in a spreadsheet, so it must be data.. No, right? There's two types of data, OPD and YODA..

OPD stands for Other People's Data.. Can you guess what YODA stands for? - [Audience] Your own data.. - You guys are smart, okay, you are great.. Yes, your own data and these two are as different in my book, literally, as apples and oranges, in fact, rotten apples and fresh oranges.. OPD is the worst possible thing you can collect.. So, OPD is marketed and collected by other people, at other time, for other products, with other methods, with other filters, et cetera, et cetera.. It may or may not apply to you, and most of the time it does not apply to you.. It's dangerous, just because, other ideas similar to yours have failed doesn't mean that yours will fail.. Imagine if Elon Musk, thinking of Tesla, thought well let me see how other car companies did with electric cars.. Eh, you know zero of them succeeded, said well okay, forget this Tesla thing, I'm gonna go and do something else, right? So, just because other companies failed with an idea doesn't mean that you will fail..

The opposite it true.. Just because other have succeeded in the past with your idea, doesn't mean that yours will succeed.. Apple succeeded with the Iphone, Google succeeded with Android and Samsung.. Did Amazon succeed with the Fire phone? No, right? So, OPD is very dangerous.. So, I urge all my entrepreneurs to collect your own market data.. First hand, fresh, local, recent, recently collected and most importantly, your data needs to have skin in the game.. What do I mean by skin in the game? If I asked you what do you think of my idea? And you tell me, Alberto, it's good.. I say should I leave my job to pursue it, you say sure, go for it.. But you have nothing at risk.. Skin in the game means that as an entrepreneur, you're putting, you're risking, right? You're risking your time, your reputation, your money to go and start a new venture..

You're putting your own skin in the game, you wanna get skin in the game back from the market, right? And skin in the game can be the market's time, money, commitment, information, reputation.. Something of value in that risk.. Let me give you a very simple example.. Susie came up with a great idea, as smart hammer, so you hit the nail instead of hitting your fingers.. She goes and asks people, "Hey, you know, I'm thinking of this hammer.. "Would you buy it?" And some people said yes, good idea.. Other people say, bad idea.. Does this count as data? No, right? This is opinions.. Now, in another scenario, she says, "Well, I'm planning to build this hammer "and if you give me 50 dollar deposit, "I will make sure that you get one "of the first one." So, some people say it's a lame idea, they're dead to me, you know just like in Shark Tank, you're dead to me.. But the other people, instead of saying it's a good idea, if they actually open their wallet and give you some money, you have the first indication that the market really is interested in your idea, right? You fix an asymmetry..

Before you put in your skin in the game by quitting your job or getting VC funding, get some from the market.. So, that's what we call YODA.. You can quote me on this, it's much easier to get people to open their mouth than to open their wallet.. The hardest thing an entrepreneur can do is to get companies and people to open their wallet.. I been told so many times, Alberto it's a fantastic idea go build it.. Then when I went to sell it to them, well yeah not tonight we're having a bad quarter.. Forget about it.. It's very important.. You need to change the way you approach market research from this traditional model of doing market surveys or asking people this question, if we build it, will you buy it? Which is how most market research is done, by the way right? You ask these questionnaires.. You flip it around, completely 180 degrees..

Think about this, if you buy it we will build it.. Now, this seems very counterintuitive, but I will give you example of how

exactly how to do it.. Because now you're asking don't I have to have a product built before I can see if people want to buy? And the answer is no.. You don't build it, you prototype it.. This is not a typo, this is a word I invented, prototype it because it had to be invented.. So, strategy number five is prototype it.. What is a prototype? Well, it's the simplest artifact or technique that can be used to collect Yoda very quickly and very inexpensively.. So, there is a big range between having an idea and the final product.. This could be years, months, you know millions of dollars and the way I see it, prototype come very, very early.. Prototype is something you can build in minutes, hours maybe a couple of days and it should cost anywhere from zero to a couple of hundred bucks if you really feel like splurging..

A prototype is something that actually works, can do something and can take couple of days, couple of weeks, couple of months.. I've worked on prototypes for software development tools that took a year and a half, just to prove that the thing would actually work.. And of course the products take a long time.. So, prototypes are things that you can build very, very quickly, literally in a couple of hours.. Let me give you an example of prototyping.. Something that actually got my thinking about this process, about 34 years ago IBM wanted everybody to have personal computers.. But you know 40 years ago, most people didn't know how to type, right? Those of us that were around then, this is how people typed, so they figured no way people can use computer if they have to learn how to type.. Who types? Programmers, writers and secretaries right? Nobody else knows how to type.. Nobody wants to take typing lessons.. But they wanted to know, well if we solve this problem of speech to text, right, so you can just speak to a computer, will people actually buy our product? So they did something very clever, an experiment..

They brought people in the room, they gave them a microphone, a monitor, no keyboard and told them look, speak into this computer where we have a prototype of speech to text.. And people spoke into it and magically, the computer did whatever people told it to do.. Of course this was not possible.. Those days, even the fastest computer, couldn't handle this.. So what was happening? Well, in a room nextdoor, one of the amazing people who can type as fast as you can talk was actually transcribing everything that was being heard through the computer.. And, I tell you, as an engineer, this example kinda really messed up with my mind.. Cause if you go and, how many engineers here? Yeah, that use soldering iron, et cetera.. So, if you come to an engineer and said, Alberto, we need to build a prototype.. I said wait, fire up the Cumpara or the soldering iron, right? I thought this is not a prototype.. They're just pretending that they have something to work, so in fact I created this first word, pretendotype..

'Cause I knew this is not a prototype.. It's not like IBM was planning to breed a race of small typists that they fit inside boxes and you feed them cheese and crackers through the floppy drive, right? So, it's not a prototype.. It's something completely different from the end product.. Then I shrunk the word to prototype because it's easier to pronounce.. But remember, prototype means before a prototype but also use your imagination to pretend.. So what IBM learned is that before the prototype test a lot of people thought, of course we want a speech to text computer.. Now, if you try to actually use a speech to text computer all day without a keyboard, your throat gets sore, the room gets very loud and you cannot dictate or work on confidential things like fire Bob.. Oh sorry, Bob, didn't know you were around here.. (audience laughs) So, in Thoughtland, speech to text was a true winner.. When people actually tried it, realize it was not..

So, this is an example where I call a mechanical turk prototype.. This is, everybody's talking about robotics and AI before you spend four year and 40 million dollars to create some automated pizza maker or something else you can use human beings to simulate that behavior.. It doesn't scale, but you can learn if people would actually use it.. A prototype, with an O, is something you typically build to figure out can we build it, how long will the battery last, how will it work, et cetera, et cetera? It basically asks the question, how do we build to try it? And here's the secret.. Most of the time, you can build it.. Now, if you tell me I have an idea for a time machine, you know I call the guys with the white coats and tell you, you probably cannot build it.. But most of the ideas people have are buildable.. A prototype asks different question.. It asks you should we build it? Will I use it? What will I use it for? In other words, prototype asks the idea, it asks is this idea the right it? Something, that if I build competently, will succeed in the market.. Now, there are several prototyping techniques..

This is a cheat sheet from my class that I had the honor of teaching with Tina.. Let me give you just a few more example.. The facade prototype, Cars Direct wanted to know at the beginning of the internet, would people buy used cars online? So what did they do? Did they buy cars? Did they have a big, complicated website? No, a very simple website with just a few cars.. No cars in inventory.. They advertise it and miraculously, the first two days they sold four cars.. So, immediately they shut down the website.. They bought four cars at retail, they sold them at retail, so they lost a few hundred dollars on each car but what did they gain? YODA, right? YODA Nothing's more valuable than a check.. A check tells you that people really want your product.. I'd rather have a one page business plan, an outline, with four checks stapled to it than a 30 page highly detailed business plan with all kinds of charts.. Another example of prototyping is this from Ikea..

This team in San Francisco came up with a really simple product called the wall hub.. It's a piece of plastic where you put your keys and your mail.. They wanted to know would people buy them? Should we have ten thousand built? So then they had another thought, well where would people buy this? Ikea.. So they did something very clever.. They went on Ebay, they bought used Ikea employee shirts so they could pretend that they were an Ikea employee.. Then they created a fake label for their product.. Of course, they had to change it to an Ikea name like Val Houb.. And they put this label and then instead of shoplifting, they entered an Ikea store and placed their product on some free shelf space.. And then they watched to see if anybody would actually stop and buy it.. And lo and behold, you can watch the video, I put the link there, people actually took

it, put it in their cart and everything worked fine until they got to the cashier because things got a little confusing..

But would you agree that if I had two Val Houb's in my cart, is that opinion? No, is that other people's data? That's YODA.. That's the most valuable thing you can have.. Another example of prototyping coat impersonator.. You can take an existing product, put a wrapper around it and very quickly come up with a new idea and then you can use that to collect data.. My favorite example for this is what Elan Musk did with the original Tesla Roadster.. He took a Lotus Elise, ripped off the gasoline engine, put an electric engine and then built this one off model and then gave people rides in this car.. It's amazing, zero to sixty in three seconds.. So, let's assume I gave you four a ride.. Did you like it? Quickly, quickly.. Yes, pretty fast and sexy..

Okay, it's gonna cost \$120,000.. and you have to wait two years and you have to put a big charger in your garage.. Would you buy it? - [Audience Member] No.. Yes, no, yes.. - [Alberto] Okay, so two yes and two no.. So, the no's are dead to me.. Now, but the yes have not given me any skin in the game.. So, what Elan Musk did, which was brilliant, to say, remember if you buy it, I will build it.. So I'm gonna ask you, well you know, it's not that I don't trust you guys, but if you give me a check for \$5000., I'll put you in the list.. You're number 31 and you're number 32..

Now think, is it easier to say a yes or to write a check for \$5000.. to a guy who never built a car company before? And yet, a few hundred people did that and to this day, you cannot buy a Tesla without putting a deposit.. So if you think that my idea if you buy it, we will build it is crazy, Tesla is the perfect example of that in action.. You want to do this because you want to fail fast and cheap.. People talk a lot about failing fast, but as you can tell how fast I speak, that's not fast enough for me.. I tell them I want you to fail Ferrari fast and Fiat cheap.. Sorry, Fiat.. (audience laughs) So, because most new ideas will fail in the market, which means that you have to test a lot of ideas and if you take six months to test as ideas, good luck right? Unless your luck is going to take forever.. So, prototyping allows you to test very quickly, more importantly, you're not going to experience painful failure because you spent \$20.. to do a prototype test..

It's an experiment, right? It doesn't hurt.. Definitely doesn't hurt as much as spending three years and 25 million dollars to build a product that people do not want.. So strategy number six, say it with numbers.. Entrepreneurs and probably most of you, when you have an idea, you come to me and you express it very vaguely.. So, here's an idea from some of your fellow students from maybe five, six years ago, second day sushi.. Here's the idea.. Packaged sushi is kinda expensive, so they thought, you know what? If we buy sushi that's about to expire, right it's only good for an extra eight hours before it kills you, we can buy for 25 cents on the dollar and sell it at 50 cents on the dollar, and since students are young and have a strong stomach we can handle it.. So, I said okay, I'm not gonna give you my opinion on your idea, but ugh.. I'm asking them, so this is how they articulate it, right? People, lots of them, will buy not super fresh sushi if it's cheap enough.. That's pretty much how they expressed it..

I said, look who are these people, how many's lots and what is cheap enough? So, I was in a room outside there.. Just outside this auditorium and somebody left formulas, you know calculus class or electrical engineering class on the wall.. And I thought, okay, tell you what? Write it like this.. X percent of Y will Z I call this the XYZ hypothesis, right? So it forces you to write your idea in numbers.. So in this case, they translated into number, 20 percent of packaged sushi buyers will buy second day sushi if it's half the price of fresher sushi.. How do you know if those numbers are right? You don't, it's a hypothesis.. But at least it articulates and puts into number what your ideas are and what is the job of a hypothesis? A hypothesis exists to be tested, and prototyping our tool to test, hypothesis.. Last point, think global, test local.. Maybe the second day sushi team is planning to take over the market, right? Every supermarket is gonna have second day sushi.. But you need to start to test your ideas, very quickly..

You want to minimize these metrics that I explain in my book called time to data, dollars to data, distance to data.. If people say I have this great idea and I need six months, two million dollars and I need to fly to Hawaii to do my research.. I said, well no, you're gonna do it here, you're gonna do it for twenty dollars and I want the results by tomorrow, right? And a technique for doing that is called hypozooming.. So you take this big hypothesis, 20 percent of packages sushi buyers and you zoom in.. You know those documentaries where you see the Earth from space and then it zooms into a town and then to a particular place and then to a building? I want you to do that in your mind.. So you take the big XYZ hypothesis, and hypozoom to something you can test here and now, and when I say here and now, I mean it literally, here and now.. So where are we now? North America.. We're in North America, Silicon Valley.. We're in Silicon Valley, Stanford University.. Where is Stanford University, building Y2E2? Then I ask you, is there a place in this building or nearby that sells sushi? Yes, there is upstairs, right? Coupa Cafe'..

So, I said great.. So, you're gonna hypozoom.. Your market, a small sample of your market, is there so you can go from the big XYZ hypothesis to the small XYZ hypothesis.. 20 percent of students buying sushi at Coupa Cafe' today at dinner will buy second day sushi, right? And do you believe this is actually testable? Can I do this test? Absolutely.. In fact, we did it.. We even did a little video with some of my friends there.. Where are you guys? Yes.. We did it here, we filmed it, we created little labels that said second day sushi, half off and we slapped them on fresh sushi, right it's an impersonator prototype and then we tried to sell them.. In fact if you're there outside the STPV offices.. Now, how many people do you think bought our second day sushi? Zero..

Right, 'cause the typical thing is well, you know I don't wanna get sick.. So, doesn't mean that second day sushi has no chance it just means that you need to do some more tests, but frankly, your YODA doesn't look very good.. So these are just seven strategies.. There is a lot more, but I cannot possibly talk any faster and our time is limited.. So there is more, yes, a lot more.. There is a book.. I see some of you already bought it, thank you so much.. If you haven't bought it go to Amazon and buy it.. (Audience claps) No, I'm not done, not done, yes.. Yes, it's a great book, thank you..

But there is more, because the question you have to ask is, Hey, Alberto, do you practice what you teach? Say, you better do! Not because I don't wanna be a hypocrite, because what I teach works.. All the techniques are, I'm an engineer.. I'm not in marketing, I'm not in sales.. I'm an engineer.. If it doesn't work I wouldn't talk about it.. So prototyping techniques cannot not work any more than the quadratic formula cannot work.. Right, you plug in the numbers, unless you screw up, it does work.. So I thought, most books fail in the market, they don't even find a publisher, so before doing that I spent a few days, less than a week, writing a prototype book called Prototype It.. I printed it in PDF, I made it available, I stapled some copies myself, soon thousands of people started to download it, translate it into a dozen languages.. So, I thought I was able to find a publisher..

They said okay, this looks promising.. So, I actually went from the prototype to the prototype, which in the case of a book is the first draft and then it finally became the product.. So, one of the many examples of me practicing what I preach.. So, this kind of a presentation, I wanted to leave some time for questions.. Fifteen minutes and guess what? We have exactly fifteen minutes.. Do I have my timing right? Yes, I do.. So, now, let's go and ask some question.. Please raise your hand, and I will pick you out, semi-random.. (audience laughs) Alright.. Nobody raises their hand..

But Tina.. - [Tina] What is the biggest problem people have with creating? - [Alberto] The biggest problem people have, entrepreneurs have is they fall in love, not with a problem but with their idea, with the solution to the problem.. So and I see this happening all the time.. And you know with prototyping, cause if you believe the law of market failure, chances are, 80 percent that your idea, your initial idea, is not going to work.. And you know what? Prototyping is gonna expose that.. You should have seen the face of the second day sushi guy when nobody bought it.. He thought, I thought at least somebody would try it.. So, I would say that is the number one problem.. The techniques work, but it takes a little bit of courage to take your baby, your idea and put it in the market.. Yes..

- [Male Number 1] This makes a lot of sense when you have like a physical product, right? But what if it's like an app? - [Alberto] Oh, app, well in the book, I use app, the question is, it works well for a physical product but what if it's an app? Well, first of all, you know what happens to most apps? They die a very slow death, you know, in the app store.. So, most apps are the wrong, people don't care.. And yet, it's the number one thing that people want to do.. So, with an app, it's exactly the same idea.. And I go through a full example of an app in my book called Feebird.. You know there are bird watchers and in this app you can use it if you spot a bird, you can say I know where this bird is and if you pay me five dollars I will disclose the location.. So, it doesn't matter what the idea is.. So, I go through an example of exactly how you would prototype that.. Lemme tell you what, it doesn't involve writing a single line of code.. Are you a programmer, computer scientist? - [Male Number 1] Yeah - [Alberto] Yes, okay..

Resist the temptation.. If you are a double E major resist the temptation to fire up your soldering iron.. 'Cause do you have any doubt that this app you have in mind, that you can build it? No, right, so there is no risk.. There is no uncertainty.. So the uncertainty is that you're gonna spend six months building an app that nobody wants.. So, one technique you could do that, without writing any code, I know it's hard to resist, you can fire up power point and you can have a simulation and create a little bit about what your app is supposed to do and then maybe you post it on Youtube or you show to colleagues and you say, look if you are interested in this app then give me some skin in the game.. Which could be the smallest unit of skin in the game is a valid email address.. So, Stamford.edu email address, not the one that you throw away like, you know, hotbob@hotmail.com.. (audience laughs) So, try to actually collect data.. So yes definitely, app can introduce prototyping and, in fact, it's one of the most common users..

More questions? Yes.. - [Male Number Two] How much time do I have between the...I took a deposit - [Alberto] I'm sorry, I don't understand the question.. - [Male Number Two] So, I took a deposit of 50 dollars - [Alberto] Oh the deposit guys.. So how much time do I actually have to deliver it to them? Well there are many techniques, by the way, prototyping, everything I teach is absolutely ethical, right? You're not out there to trick people.. You know what, not prototyping is not ethical.. You know why? Because what is one of our most valuable resources in the world? Well time, or actually entrepreneurs, you know? The special kind, these young entrepreneurs, most of whom, if they don't follow this advice, are gonna build, you're gonna spend six months building an app nobody wants.. So the biggest, the worst thing you can do, is not test the market, right? So, one of the things you can do, say you pretend that you have this.. Let's say Elon Musk decided not to build a car.. He gives the money back and say, he gives an extra bonus.. You know, he pays the interest in that..

That is, by the way, that happens a lot with other tools like kick starter.. Kick starter is very useful at the right stage.. Before you kickstart, prototype it.. Because once you kick start, you have the following problem, one everyone in the world knows about your idea, right? It takes quite a bit of work to have a nice kick starter page and three, if ten thousand people or 100 thousand people sign up and they want your pebble watch, and you don't deliver it then you're gonna look like a fool and you're gonna have a lot of people upset.. So in prototyping, everything is really, really scaled down.. Thank you.. Questions

from here? Yes, okay.. Hi, speak loud 'cause you're way back there.. - [Female Number One] Sure, I can see how you define prototyping between B to C, but how 'bout B to B to C or worse than that, B to D? - [Alberto] So the question is, clearly it works well in B to C, how 'bout B to B, which means business to business? It works just the same.. It's just as necessary, because think about it, most B to B ideas at some point, as you hint, they have other C, consumer, or users..

So, even if it's the world's most boring B to B application, some I don't know, accounting data base, at some point you will actually have the users.. So, you get into the room with your potential customers and and you work out a prototyping to see if what you build for them will actually be sold.. By the way, the second start up that did not work for me, the 25 million dollars, was a B to B and our B to B research is pretty much the same.. Yes, please build it, we will buy it and we will give it to all of our developers.. And maybe some of those developers didn't want it so B to C and B to B, same idea.. Most ideas fail, whether they're B to B or B to C.. Thank you.. Yes? - [Male Number Three] So, I'm a patient student and I've had many failed ideas and for each idea I worked like three months on that paper, and it just didn't work out, so I wonder if prototype works for things like research? - [Alberto] Well, so give me an example.. What would be the end result of a successful research? - [Man Number Three] So let's say I wanna build a chip that's like thirty percent faster, for a specific operation and I can only see the effect after I build the chip.. If I can't deliver the thirty percent, then it's a failed project..

- [Alberto] So, that's different.. You are your own market, right? So to me this becomes more of a can I build it question, in which case, you have to do prototyping.. Not all ideas have to be prototyped.. Let's assume that I come up with a little thing that I put in a gasoline car and it triples the mileage and it costs a dollar a gallon.. You think, do I really need to prototype that? No.. If I find a cure for a disease do I really need to prototype? No, so some ideas don't need to be prototyped.. What about pizza? Do I need to prototype pizza? I wonder if I would put cheese and peperoni on some flat bread and I bake it people would want it? Not all ideas need to be prototyped.. But, if it's new and different enough, it has to.. How are we doing with time? We still have a few more minutes.. Yes? (male asking question) Oh good, great, so if I can repeat..

What if people steal your ideas when you prototype it? That's precisely why prototyping is so beautiful, because you contain the market.. Those of you who still remember your statistics, if you have a sample of 100 people from your actual target market, so it's a very careful sample, that's all you need to test.. As opposed, as I was talking say with a kick starter, where you let the whole world know about it.. So, you can really contain the number of people that are exposed to your idea.. And let me also give you this other explanation.. What is the risk that your idea will fail in the market? 80 to 90 percent.. What is the risk that another entrepreneur hears your idea and decides to steal your ideas? It's negligible, right? In fact, it's very hard to even get other entrepreneur to listen to your idea or to bring them on as partner.. Most entrepreneur wanna build, you wanna build your idea.. You wanna build your app or his app? You want to build your app, right? You know when people steal ideas? After they know it's the right it.. So after it's the right it, of course..

Then you have to build it right.. You have to compete like crazy.. At the beginning, nobody cares about your idea.. Maybe you're really unlucky and somebody just think you're building exactly the same app but play the statistics.. 80 percent chance of failure versus 0.035 percent chance somebody steals your ideas, I would try to avoid failure.. Don't worry about people stealing the ideas, honestly.. Okay, how 'bout this side? This side has been pretty quiet.. Except for Tina.. Yes? - [Female Number Two] So, I have a question.. I know that teaching with you, one of the most important things about this is that in very complicated products or services there are often some very specific things that can be tested that might be just a hypothesis about just one part as opposed to doing the whole thing..

Can you talk about that? - [Alberto] Yeah, so you don't need to test.. Do you have any specific example in mind? - [Female Number Two] Google Glass.. - [Alberto] Okay yes, perfect example, Google Glass, by the way in my book, it's not a failure because it has been prototyped.. At no point, did Google go out and order one million Google Glass, right? If you remember you actually have to sign up and pay \$1500.. To participate in the Google Glass Explorer Program.. So, don't think that Google thought from the beginning this is going to be huge.. They would have like to, but they knew it wasn't guaranteed because they never built a million of them.. So, in the case of Google Glass, great example.. The way they prototype it, first they created a video which showed you in Youtube just like for your app.. It shows you what the world would look like through Google Glass..

Cause at the time, the technology, you still needed a backpack.. And then you were able to buy, only in very small amounts and you had to jump through a bunch of hoops and pay \$1500.. And then they gave a handful to these people and they started to collect YODA, your own data, and one of the things they learned, even if everything worked great in the technology one of the things they could not predict is that if people knew that you were being recorded by Google Glass, they didn't like it at all, so they came up with a rather derogatory term.. Can I use it in this forum? - [Tina] Yes.. - [Alberto] Yeah, so they were being called Glassholes.. So the people that bought the Google Glass, and they were going around and trying to video stuff, they said just take them off.. They were banned in a lot of places.. The interesting thing, you could have simulated that.. In fact, there were some people pretending to have Google Glass to see what the reaction would be without anything actually functioning.. So, a lot of unexpected results come up..

Any more questions? Yes? (male asks question) Excellent question, how are we doing on time? Four more minutes.. Some products need scale to be successful.. Some AI products, right? You need a lot of learning before they become useful, beautiful.. I have an example actually in the book where I tell you how you can simulate and test an AI product without scale..

In fact, I knew that Amazon Alexa was gonna be successful about a couple of years before it did because I built my own prototype.. The prototype was a can of beans, which are wrapped in some black plastic.. I didn't know what it was supposed to look like.. And then, it's called a Pinocchio prototype, so it doesn't do anything, just like Pinocchio, it's a puppet.. But then I put it in strategic places around the house trying to think, you know, if this company actually build the speakers, would they work? So, my first iteration of my version of Alex, I didn't know the name, was I would ask, I called it Hal.. Hal, what time is it? Hal, play me some Led Zeppelin..

So, without actually building, first I realized, I would actually use it.. I would love this, so I predicted I would need three of them, bedroom, kitchen and my study and that's exactly what I bought.. The next iteration which actually did an example with one of my friends there, I took this can of beans and we hid a smart phone behind it and then we had other people in another room listening to the smart phone and actually googling the answer and playing it back.. Right, so there are many of the streaks that you could do before you go and spend the million of dollars to develop the AI and you can do the test in a very limited base basis using these techniques.. How are we doing? - [Tina] One more question.. - [Alberto] One more question.. Okay, there, hi.. - [Male Number Five] Hi, so if you're doing a pretendotype, and you go with some official customers and say, hey (inaudible) they start assuming you have the technology to do that, right? And when they ask for stuff and you can't deliver on that because you're just pretendotyping, would that get you into trouble? - [Alberto] So, remember the thing.. This assume that you're confident that you can build the product.. So when you prototype, this is not a matter of deceiving the market..

This is a matter of resolving the asymmetry between you giving a lot of your skin in the game to the market and the market giving nothing to you.. So, if you came and told me, Alberto, I'm building a time machine, you know, and would you like to invest? I would say no.. But if he's going to build an app, I'm pretty confident that he can build the app.. So, I'm sorry.. I cannot go into all the techniques, but in the book I actually talk about the ethics and how you make sure not only that prototyping is hundred percent ethical, it's much more ethical than not prototyping, which I think is a disgrace because 80 percent of failure means a lot of stuff goes into landfill, a lot of people spend time building products that nobody wants and this will save you.. So, with that, I think we're just right, good on time and thank you so much.. (audience claps) (techno music)..