Stanford eCorner

Fall 2009 Quarter Roundup: What Did We Learn? [Entire Talk]

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Stanford instructor and seasoned serial entrepreneur Steve Blank looks back at the commonalities and quirks of the quarter's previous speakers. Blank outlines a thorough checklist of questions and analysis helpful to any new enterprise leader, and offers insight and case studies from industry giants and new technology plays alike.

Transcript

Today I have a very special pleasure of introducing our guest, Steve Blank.. Now you've probably seen Steve Blank in here before because he is on our faculty, but he is going to be playing a very different role today.. He is going to be giving us a recap of all of the speakers who have been here this quarter.. And he is going to compare and contrast the different industries, the different entrepreneurs and give you some insights about all of these events and these topics that we've heard about this quarter.. Steve has a very unique perspective on being able to tell us about this.. Because he is a serial entrepreneur for the last 28 years, he has been involved with starting eight companies.. These companies include Epiphany, two semiconductor companies, a workstation company, a supercomputer company, a computer peripheral supplier, a military intelligence systems supplier and a video game company.. And I have to tell you his book, which is "Four Steps to the Epiphany", which captures the essence of everything he has learned through these experiences, is actually a very big bestseller on Amazon.. So, without further ado, I want to introduce Steve.. In fact, I told my colleague and I said, "Once he gives this talk, we're just going to shut the doors because everything you need to know is going to be in the next hour." That's what my parents used to tell me, too..

Pay attention; everything you need to know is in the next hour.. And it never actually worked that way.. What I'm going to do today is talk for a bit, give you my view of what the sum of these lectures meant for me and then open it up for questions you might have had about the other ETL speakers, their significance, disagree with what I said or questions about lean startup customer development, if you have that as well.. As you might remember, the ETL Lecture Series started with a bang with Robin Li, the founder and CEO of Baidu and then Eric Ries, the co-founder of IMVU, Steve Jurvetson from DFJ, Greg Papadopolous, CTO of Sun; Craig Barrett, the ex-chairman and CEO of Intel; Mark Pincus of Zynga along with Bing Gordon of Kleiner Perkins, which was certainly a relevant, if you've been watching the news, speaker.. Our kickoff last week for GIT, Global Innovation Tournament, was with Chamillionaire and QD3.. You have me this week.. Next week is the tournament showcase.. So, the question is, given all these speakers, how many of you sat through some or all of these lectures? So, given that it was all of you, I guess I should ask some of you to come up and summarize.. We could do that.. Somebody is going..

If they had been in my class, they know I might actually do that, but I'll save that for the end.. What my question is, so what did we learn? And I'm going to give you in the next 30 or 40 minutes my view of what the sum of what we could extract in the form of six big ideas from all these speakers.. And here is the first big idea.. Is that when you're doing a startup, there's almost a checklist of things that entrepreneurs mentally worry about for every company.. Some of these things, VCs will tell you to stick in your business plan.. Some of these things never get spoken but you'll end up doing anyway.. And some of these things you just forget to do.. So, I tend to list them as almost a checklist.. And they kind of work across startups, whether they are Web startups or biotech startups but they are different as you cross industries.. Let me just go through Steve's list of what a checklist is..

The first one is, what's the opportunity? Where did the idea come from? We can expand on this and we will a bit later in this talk, but basically is the idea a technology idea? Is it the fact that the industry has just changed? Is it that there's some government rules and regulations that just enabled this new business? Or is it an existing market and you've decided that you could build something either faster, better or cheaper? Next thing on my checklist is, where's the innovation? Is it coming out of a technology innovation or is it a market innovation? The customer.. Who is the customer? When I used to think about customers, I used to think, "The customer is the person who wrote you the check." But as we will see when we will take a look

at the different companies that spoke at this ETL, customers and payers may not be the same.. Baidu, who are the customers? Who are Baidu's customers, anybody know? Who are the people who use the site? Who are they? They are the users.. Who pays? Advertisers.. Who? All of a sudden, interesting business model.. The users have nothing to do with paying for the site.. When we look at different businesses, we'll find out that that's actually more true more often than not.. Competition.. Who are the competitors and who are the complementors? A complementor could be an adjacent market company that actually can add value to your company.. How many people want to be the first and only one in the marketplace? Come on..

Usually, it's a bad idea.. The rest of you know that.. I suckered the rest of you into saying yes.. Anybody know why it's a bad idea? Usually, why is it a bad idea? Because you can now become the benchmark.. You could be the benchmark so someone says, "We're going to beat them." Why else? Usually because there is no previous experience in the market, you're going to be the example of what not to do.. Could be, or you could be the example of what to do.. What else? If you're the only one, there may not be great opportunities.. Duh.. No one is here because we're jumping off a cliff; it's a very bad idea.. Might be..

Why else? You have to spend a lot of money on advertising into some market.. Why? For verification.. You bet.. Absolutely dead-on for all of these.. It doesn't mean you never want to be the first mover.. But the historic Stanford first mover advantage, I think over the last decade or two, has found out to be a divide by zero problem.. It's just wrong.. You don't always want to be the first mover.. In fact, you typically want to be the first fast follower.. And if we take a look at almost all of the companies here that presented this semester, you'll find out that most of them were incredibly great fast followers..

Was Amazon the first mover? How about eBay? How about Google? None of these guys were first movers.. They were first best executers in the marketplace, but they were definitely not first movers.. Anybody know by the way who could put you out of business in the first 18 months of a startup? What's the name of that company that could put you out of business? Collosi.. I'm sorry? Collosi.. Collosi.. Anybody else? You don't know the name? Microsoft? Who could put you out of business in the first 18 months of startup? Yourself.. Period.. You're too small in the first 18 months.. Again, this is general purpose heuristic.. Most startups spend enormous energy worrying about Microsoft..

During the old days, it used to be IBM; now it's Google or Facebook or whatever.. You should be so lucky to get to a size where you have a competitor thinking about putting you out of business.. You should truly be so lucky.. Usually, startup problems in the first 18 months are getting out of the way of their own two feet.. It's about execution.. It's not about somebody coming out to crush you.. In fact, if you're spending your time worrying about all these other competitors, you're truly failing at your own business, because your own business is typically about execution.. Again, we can make corner cases where that's not true, but I'd say over 98% of the time that is.. Sales.. What's the channel to reach the customer? That's just such a simple question, but as we'll see across this series of companies that visited this quarter, we'll find out that almost every one of them had a different sales channel..

And in some of them, their channels actually changed as the company matured and grew.. The same is true for marketing.. And for me, the number 1 question in marketing is, how do you create end-user demand and drive that demand right into your sales channel? How do you do that? What activities does one use? And we'll find across different sets of industries there are different activities to do that.. What does business development do? It's my favorite punching bag title for companies.. Business development was actually started as a term in Silicon Valley about 30 years ago by a VP marketing of Intel called Bill Davidow, who described the job of business development as the individual and organization responsible for building the whole product to assemble that surrounds the core product that your startup is offering.. And the reason that a company needed ancillary services and third-party relationships was that no mainstream customer would buy an unfinished solution from a startup.. Over the last 30 years bizdev has now spun into sales or something else.. I tend to still use the term business development as its original meaning, as a name for partnering and strategy that builds out the whole product for a company.. If you're in a company that actually confuses bizdev with sales, don't go near me.. I tend to be picky on the name..

But basically what's the business and revenue model? How did you organize your company to make money? I just had lunch with a great startup today working in the education arena.. They were going to use social networks to get better lessons to teachers.. The entrepreneur went on for about 45 minutes with their efforts for the last nine months.. I said, "This is great but we're missing one thing." They said, "What is it?" I said, "Are you a non-profit or are you a for-profit company?" "Well, I'm a for-profit." I said, "Well, nowhere in there did you actually tell me where money will change hands from anybody to you guys." In fact, that was one of his problems.. He simply lacked a predictable revenue model that has been proven by customers.. So, we're going to talk about that.. We're going to talk about, does your startup require IP patents or does it have regulatory issues? What's the time to market? What's the product development model? What's the manufacturing model? Where do you get financing for your original idea? Where does follow-on financing come? And eventually, how do you and your investors make money? This might seem like an incredibly long laundry list.. If you're a startup founder, these things need to be going on in the back of your head continually.. There are a couple that are core that you need to worry about on day 1.. What's the idea? What's the opportunity? Who is the customer? How do I organize my distribution channel and marketing? And what's my business and revenue model? Those are the core ones..

But ultimately you need to solve all these questions for you to have a successful company.. And so, big idea 1 was, here's the startup model checklist for entrepreneurs.. What's interesting is if you take a look at that checklist and then cross it

against Baidu, IMVU, Intel, Sun, Chamillionaire, you'll find that the answers to these questions differ by market.. That is, there are no average startups.. Specifically, startups differ sometimes dramatically by vertical market.. And taking advice or lessons from one could lead to disaster in another.. How many of you are doing a startup or thinking about doing a startup? How many? All right.. Anybody asked their friends for advice? Ignore it.. Not that they're wrong, but it might not be relevant advice for your particular situation.. By the way, I'm talking about vertical markets so let me give you a Steve definition of a vertical market..

It's the customers who identify themselves in a narrow industry or group of companies.. They sell similar products or services.. They typically compete with each other.. And good for you, they typically buy or use similar products or services.. And this is in contrast to vertical market with horizontal markets that cut across a series of vertical markets.. So, for example, selling word processing software or database software goes across a set of industries and markets.. Selling tools to make semiconductor chips is a very specific sale to a very specific vertical market.. Does that make sense? OK.. Vertical markets.. Horizontal markets..

So, one of the interesting things is to think about what types of vertical markets are there.. Well, we could say Web infrastructure companies, enterprise software, enterprise hardware, communication hardware, communication software, consumer electronics, game software, entertainment, semiconductors, electronic design, automation, cleantech, medical device, healthcare, life science, biotech, personalized medicine.. There's nothing magic about these verticals.. I just happened to list these because I've been involved with these areas in my career either as a founder or a board member or an investor.. But what's interesting is now take this list and see which companies we have this semester.. And so, for Web infrastructure we had Baidu.. For enterprise hardware we had Sun.. For game software we had both Zynga and IMVU and for entertainment we had QD3 and Chamillionaire.. Semiconductors we had Intel.. So, if you take a look at these verticals we had some examples across a series of very separate industries and markets..

One of the things as an entrepreneur you want to do is when you come up with your idea I tend to say, how big can this opportunity get? If I'm selling into a specific vertical market, let's say I'm selling semiconductor process equipment, I clearly can't sell semiconductor process equipment to anybody outside the semiconductor industry.. So, one of the first things I might want to do is understand how big is the total amount of purchases in a semiconductor industry and then narrow it down to see what's the potential sales I could do.. If I was selling across a series of markets, I would do an analysis across multiple industries and markets.. For example, I tend to just like to draw pictures so I say, "What's the total available market?" And if I'm selling into a vertical, it's "How big is that vertical?" The next step might be asking how many people would want or need this.. How large is the market in dollars if every one of them raised their hand and said, "I want to buy from you"? And how many units would that be? And so, how do I find these out? Industry analysts, Wall Street analysts, Stanford library, etc.. Then the next step is, how big is the slice I could get to serve the available market? So, instead of just how many people are in the total market, how many actually can need or use this product? How many have the money to buy the product? And how large would the market be if everybody with money who needed it actually bought it from me? Now, why I put this up is I hear lots of students with great ideas, great ideas, but very few of them have run this back of the envelop calculation.. Just do this and you will find that your great idea really is a great billion-dollar idea or you have just developed a market for you and the three people in your dorm room.. The number of units should typically exceed the number of people in your dorm room for a total available market, or served available market.. And how you find out is you talk to potential customers.. One of the great things about being in a university is you have access to lots of people who answer questions..

That's the good news.. The bad news is they're all like you.. And so, when you exhaust the university market, the question to ask yourself is, "Is there a larger market than just your school or university?" And if you want to start a new university market, couldn't it expand larger? And then, what's the size of your target market? "Who exactly am I going to sell to in years 1, 2 and 3? How many customers is that? And if they all bought, how much sales in year 1 and 2? And how do I found out?" Again, you get out of the building and talk to customers and you identify and talk to your distribution channel partners.. Makes sense, so far? Then finally, what I like to do is take this target market and find out whether there is anything special about the geography, demographics, psychographics, etc.. so I could target this on day 1.. Now, let's jump into specifically the companies we've had here at ETL and take a look at their opportunities.. When we look at Baidu, what Robin really realized was that while Google and some of the original search engines were available, none of them understood China as well as a native Chinese.. Robin's unfair advantage was that he happened to be a great engineer in the search domain but he was also going back home to China.. And he understood what sinocentric search needed to be from the perspective of living in China and being there.. If there was ever a classic case of how a local company understanding specific customer and regional needs can beat multinationals, that has been the case..

And for the last five years, Google, Yahoo! and whatever have been chasing his domain knowledge.. Sun, in the early 1980s, Stanford engineer Andy Bechtolsheim decides to build himself a computer-aided design workstation.. For engineers who didn't want to use mainframes anymore and wanted to use the hot operating system of the day called Unix.. The opportunity was a replacement for mainframe computing.. Major breakthrough engineered right here at Stanford.. Intel, senior engineers, founders of Fairchild Semiconductor realized that there was a way to build in silicon a replacement for memory devices called core memories on mainframe computers.. And they decided that it was time to start a company just to focus on semiconductor memories.. Zynga.. Mark Pincus, who was here, recognized that social networks and virtual currency would allow a new class of casual gaming that didn't exist before.. In fact, if there was ever a test whether casual gaming was

a market, how many of you have ever played solitaire? Anybody? Yeah, right? Well, you are all examples of the fact that there is a need for casual gaming..

Mark recognized that there was a platform that could make that casual gaming business pay off in an explosive way.. IMVU, their observation was something a little more esoteric.. There's a book for those of you into social networks and social games should dig out a read called "Bowling Alone".. And it talked about the dissolution of the social glue that helped together the American society in the 1950s and '60s that changed rapidly with the advent of dual family working parents, the advent of television, the advent of other social pressures that ended the way Americans used to be connected.. And IMVU was an attempt to allow people to connect in a way that they hadn't been enabled to do for a generation.. And they also use virtual currencies.. And Chamillionaire, just a great entrepreneur, understanding that he can make music and sell it in innovative ways besides the traditional record label and business model that existed.. Just as an aside, I want to use Intel as an example, the Intel engineers.. Anybody knew who are the founders of Intel? Robert Noyce.. Right..

Robert Noyce, Bob Moore and sometimes the third founder who is credited to be Andy Grove, who would love to tell you he was the third founder and gets to be included in that file as well, worked at a company called Fairchild Semiconductor.. Fairchild was the first successful semiconductor company in Silicon Valley starting in the late 1950s.. And after 10 years at Fairchild, Noyce and Moore decided that there was a major opportunity to leave Fairchild.. Noyce and Moore came from a company called Shockley Semiconductor.. They made transistors.. And Fairchild pioneered along with Texas Instruments the first integrated circuits.. And Noyce and Moore left to start Intel.. And Intel's business model was to replace core memory with two semiconductor processors, something called PMOS polysilicon in a Schottkey barrier diode for bipolar processors.. Their first products were a 64-bit, say it again, 64-bit memory chip.. Anybody knew how big memory chips are today? Right, four, eight gigabytes..

What is that? A factor of big.. A factor a big bigger in 40 years.. Why I point this out and why I mention Intel is a couple of reasons.. One is, what's Intel's business today? What's Intel's business today? Processors.. Yet, Intel had no notion of microprocessors when they started.. Intel, the tens-of-billions-of-dollar microprocessor company we know, was years away from even inventing the microprocessor.. They were a memory chip company.. And the reason why they were able to succeed and flourish was, it was the first silicon company called Shockley Semiconductor, Silicon Valley, Fairchild Semiconductor 1957.. And then, 10 years later a boom happens here, right here, within 25 miles of this building.. The semiconductor business around 1968 explodes for the set of companies..

The technology had advanced to the point that not only the Intel founders but a set of 65 other companies in the span of this decade understand that something is possible that wasn't possible before.. Intel happened because of a technology revolution in semiconductor processors and founders that were capable of understanding that change and realizing that there might be customers for those products.. By the way, in 1971 Intel does invent the microprocessor.. They also acquired a watch business which will tell you that they weren't quite sure about what they were doing.. And then, in 1972 they did their first 8-bit microprocessor and then '74 the 8080 microprocessor, which became the standard of the IBM PC.. But it was six years from the company's founding to when they had any appreciable microprocessor business at all.. So, they recognized an opportunity, they moved on it and then it was years later that they finally found the business that made the company they are today.. Big idea 3, and this was part of this.. Few models survived first contact with customers.. Startups are dynamic..

Most will change their business models.. Customers will educate you if you listen and entrepreneurs need to be agile.. You hear that term all the time, but what agile really means is listening to your customers as you're trying to sell your current product.. And if they ever keep telling you, "You know this is great.. We'll buy one of these, but too bad you don't have one of those because we buy a thousand of those," what business do you think you ought to be in? The one over here.. Believe it or not, most companies find it very, very hard to do.. Well, because you already printed out the data sheets.. The website is already done.. And gee, you told your mother you were in this business.. How could you abandon this business? And your investors invested over here..

So, how could you do something else? It turns out in the life of an average startup, you do about 2.3 iterations of business models, meaning radical shifts.. Some companies get it right on day 1.. Some companies never get it right.. But on average, a startup changes its model over time not slightly but radically.. Staying agile, listening to customers is a way you're able to do that.. At Intel, we're going to use it as an example here, in the mid 1980s Japanese started dumping memories on the US market.. You could argue about the technical definition of "dumping", but their memory chips were much higher quality.. Their prices were incredibly lower.. And American customers were abandoning Intel and other semiconductor memory companies in the US.. But at the same time, they observed their microprocessor business growing..

And Andy Grove to his everlasting credit fired essentially Intel's entire customer base.. In the 1980s he said, "We're burning the boats.. We're out of the memory business.. The business we started the company on, we're no longer in.. It's an unwinnable commodity, uncompetitive business.. We're now a microprocessor company." This is when they were still making tens of millions of dollars a year on memories.. It's a major strategic shift.. And the company was 16 years past being a startup, but they were still agile.. And the Intel we see today was able to do that.. Another company that managed to do this same reinvention, by the way, by being agile was Hewlett-Packard..

HP, as some of you might know, was started in 1939 to make test and instrumentation equipment.. Its first order was from a small, little company in Hollywood called Disney and they sold them audio oscillators to make the sound on a movie called "Fantasia." HP sold test and instrument equipment for 27 years before they shipped their first computer in 1966.. It was over one of the dead body of one of the founders.. "No, we're never getting in this computer business.. Never, never, never, never, never.. What's this?" "It's not a computer.. It's an instrumentation controller." "Well, that's OK." So, they shipped their first computer, the 2100 as an instrumentation controller to control their test instruments.. But it was actually a pretty good computer.. This computer business and this test and instrumentation business separated in 1999.. The original HP got spun out as a company called Agilent..

The computer business which they didn't want to be in became Hewlett-Packard, about $118 billion in sales.. And the test equipment business is now a $5.8 billion business.. HP was capable of being agile 27 years after they started.. And just to put that in context for those of you who follow customer development and lean startups.. Customer development, the activities you do outside the building to reduce market risks.. Agile development are the things you do inside to allow engineering to constantly iterate.. These two processes interact with each other daily, hourly, weekly, etc.. But I'll contend that's still a tactical process because every six months or every year, in HP's case every 27 years, you make an observation about what's going on here and you rev your business model.. And that's a strategic shift.. Business models aren't static..

So, just to shift one more time, business model checklist.. Who is the user and who's the payer? For Baidu, the users were end-users, customers.. But as some of you observed early on, the payers are actually the advertisers.. For Sun, the first users were universities and companies and they were also the payers.. For Intel, users and payers were computer companies.. Zynga, well, that's interesting.. Zynga revenue comes about a third from consumers, a third from advertising networks and a third from lead generation offers, which in the last couple of weeks have been the source of an interesting set of conversations.. IMVU, I'd say about 80 or 90 percent of the revenue is from consumers.. And Chamillionaire, consumers.. Asking this question "Who are the end users? Who are the payers? Who are the intermediaries?" is really, really important in fleshing out your business model..

For example, assume you were making an implantable medical device, an artificial hip.. Who's the user? The patient.. OK.. Who pays? Insurance.. OK.. Anybody else involved in the user-payer discussion? Doctor.. What does the doctor do? He recommends.. Well, who tells him what to recommend? Hospital, do they have anything to say about the device? Well, yeah.. They mentioned it.. Interesting..

Anybody else involved in the process? They issued certifications.. Could be.. Now, let's go back to that first conversation.. The user is somebody getting the hip.. Do they have any idea of the brand of the hip going in? You'd care about the brand of the car you're driving, but you do not care about the brand of the hip going inside your body for the next 30 years? Think about this.. I love to use implantable medical devices because there are so many people involved.. Do you know the only way you get paid for an implantable medical device? What do you need? Is there anybody in that business? What do you need from the insurance company and the government? Reimbursement code, right? Unless you have a reimbursement code, you're not getting paid regardless of how good the device is and how many people love you.. Understanding who is the user, payer and what the food chain is is really important because most startups wake up, if you've never done this before, and say, "I get it.. There's the customer.. Here's my company..

I'm just going to hire some direct salespeople and talk directly to those customers." Well, not all businesses work like that.. Makes sense? You need to understand who are the users and the payers and who is the distribution channel.. That is, how does that product get from me to the ultimate user and payer? In Baidu, their original distribution channel was through portals.. You didn't go to baidu.com.. You went to sino.com.. Remember who Google's original distribution channel was? Yahoo! You didn't go to google.com.. You went to Yahoo! They were Yahoo!'s search engine, believe it or not.. Now, isn't Yahoo! wishing they didn't do that? But Baidu did exactly the same thing.. The other thing they observed about China which was different than the US, to reach their advertisers, they needed to have feet on the street, direct sales reps actually selling ad works.. That's what made Baidu's distribution channel in China unique..

For Sun, it was direct sales force.. For Intel, it was a direct sales force and then very quickly a set of semiconductor contributors that sold other electronic components as well.. For Zynga, social networks.. Facebook, Myspace, Bebo, Friendster and also the iPhone.. For IMVU, direct sales on their website download their client.. Chamillionaire, their record label, primarily their distribution channel.. Notice these are not the same.. Big idea.. They all at one time or another were startups.. Sun getting getting advice from Bob Noyce and Gordon Moore might have gotten some great general advice on how to be an entrepreneur but could have gotten zero useful advice on what distribution channel to use and also zero useful advice to what kind of demand creation to use..

And by demand creation, I mean what activities did these companies use when they were startups to drive end-user demand into their sales channel? How do they get paying customers to actually know about them? Well, for Baidu to get end users, number 1, they offered their site in Chinese, obvious.. But number 2 is they offered some things that quite were not possible at the time in the US, having to do with music and other graphic images.. And to advertisers, they were able to offer a direct sales channel to explain and be able to market.. For Sun, anybody ever see a Sun workstation ad from the early 1980? It didn't exist, right? Sun was an engineering company.. There barely was any marketing for the first 5 or 10 years.. Not

because they were bad but because engineers knew who they were from their university contacts, from the direct sales force.. In Sun, the sales force was truly the marketing department for at least a good chunk of the early beginnings of the company.. And almost true at Intel, their direct sales force and presales and sales people did a lot of the connections.. But Intel actually did direct engineering advertising almost from the beginning of the company.. Zynga, you can't spend much time on Facebook or any of the other social media sites without seeing Zynga's presence..

IMVU, they do marketing both on the Web.. And Chamillionaire does both record label marketing and Web marketing as well.. Big idea 4, is your startup at risk for market risk, technology risk or both? Let me just give you some simple definitions.. Market risk is simply will customers adopt and buy within my lifetime or funding? And is getting the product to market and engineering execution problem or is it a customer problem? If it's technical risk, the question is, can the product be built and do I know the answer as of yet? Are there still technology unknown to solve? What's an extreme example of technology risk? Anybody knew? For a startup, what's the most technology risk startups that get funded here in the United States? Any idea? I'm sorry, NASA? Anything else? Biotech.. Biotech.. How long does it take to find out the answer? Ten to fifteen years.. Ten to fifteen years.. Those of you thinking of doing a Web startup and upset that you haven't gone public in nine months, be in one of these things.. And how do you find out? What do you go through? FDA approval.. FDA approval..

How many steps? Four? Four steps.. Four steps of spending ever increasing money - yes, give the man an A - to find out your product may not work.. And by ever increasing money, we're talking about hundreds of millions of dollars in an FDA trial.. That's an example of a company with technology risks.. Yet, if you have a drug that cures cancer and the FDA says, "Why, yes, it really does," do you think you have a customer or market adoption risk? Probably not.. In fact, what you have is, "Where do I file the money risk?" That's the only problem you're going to have in that startup.. Yet if you're a Web startup, with all due respect to those of you who think Python is harder, whatever it is this week, do you have a technical risk? Not really.. I mean, yeah, OK.. You're going to convince your co-founders, "I'm really necessary because this is hard." Excuse me, not really.. Your risk is all the way at the other extreme..

What your risk about is about customer market adoption.. Did we actually spec something that could be a viable business? I'm not going to have people in my dorm or my university use it, but will there be enough business to make it a profitable and sustainable business model? I tend to ask those questions in aggregate.. Is this a technology-risk company or is this a market risk? It turns out that some startups actually have both risks.. And when they do, that's when you got to go, "Are we sure we want to do this?" Well, let me give you some examples.. Baidu, huge market risk, some technology risk.. Technology risk is Robin was building a search engine.. Why the technology risk was low was he was a domain expert in that area and, B, there was an existence proof of somebody building an equivalent search engine.. But China was a big unknown for a search engine marketing and actually generating revenue.. Sun was built a technology risk no one had built production class engineering workstations in the early 1980s.. And so, it was a technology risk and it wasn't quite clear that there was enough users past the set of engineers and the universities that might buy one..

So, I'd say heavy technical risk with a substantial market risk component.. Intel, clearly technology risk, but gee, would there be enough people who wanted to throw out these core memories and computers? And even if they did, would that market be large enough? Zynga, completely market risk.. With all due respect to Farmville and Mafia Wars, that is not rocket science.. Rocket science was, are there enough people who want to use this and buy virtual currency? IMVU, market risk mostly.. Small technology risk is, can you get simultaneously hundreds of thousands of people on your website talking to each other and keep the sites up long enough to actually get them to buy something? Chamillionaire, not only is it a market risk, it's a hit space business.. And I put Chamillionaire on here, I almost wanted to have a double-solid red line.. Both Zynga and Chamillionaire have a characteristic that they are hits-based businesses.. They are not product businesses.. A hits-based business is something that has a cultural component and a timing component.. Anybody ever listen to music? Good..

Anybody ever listen to music from 1973 and dance to it all night? All right, you're not supposed to put up your hands.. You're supposed to hide.. Why is it we don't listen to music from 1973? They were hits.. What's different? Any idea? Why don't we do that? Why don't we all go watch "Gone With The Wind" again or "Lawrence of Arabia"? Why don't the movies that appealed to our parents and grandparents appeal to us? Well, it turns out that there are a set of cultural, psychological and time-based things about entertainment that are not true for products.. And someone was talking about, why don't you play the same video games you did when you were 8? Some of you might.. But most of you were moving on to new things.. The genre changed, the culture changed, etc.. I don't want to beat it to death, but I just want to point out both music, entertainment and I would put games in here are cultural phenomenas.. And the same things that make technology products succeed are not the same criteria for these.. Just keep that in mind, for those of you who think, "All I have to do is code up another Mafia Wars and I will win." Not really..

Big idea 5, once you understand that there are technology risks and market risks, I can't tell you how to make a biotech company succeed quicker, better or even easier.. But we do have now some known methodologies that are released out there to reduce market risks, especially for startups where both the customer problem and the engineering solutions are both unknown.. And those risk reduction methodologies have been discussed in the last year or two, include doing startups, agile development, customer development.. And they're all summarized by, "Get the heck out of the building and talk to customers." In fact, the methodology looks something like this.. Use customer development outside the building together, hypotheses, experiments and insights, and you pair it with an agile development and process going on inside the building with

engineering, and cycle the products with data feedback to customers rapidly.. Rapidly.. This works great when both the customer problem and the engineering solutions are known.. And you might want to take a look if you're unfamiliar with this area, take a look at Eric Ries' "Lessons Learned" or my material on steveblank.com/customerdevelopment.. Next to last thing, IP.. Intellectual property regulatory risk..

If you take a look at these startups, we've seen this year they had radically different risks.. Everyone from Baidu, their intellectual property risk was low but the regulatory issue is extremely off-the-scale high.. You want to understand how high? Try searching for Tiananmen Square in Baidu and Google in China, OK? Then you'll understand the regulatory environment that Baidu faces.. Sun, almost no IP.. Regulatory issues with the standard hardware issues, UL/CSA, hardware certifications.. Intel, high IP content, lots of patents.. Almost no regulation at the time.. As you know, Intel's regulatory environment today, I'm sure they're wishing for the regulatory environment of the '60s.. Zynga, interestingly enough, until the Senate hearings next week no regulatory issues.. That might change..

IMVU, a little IP though some patent profiled.. But regulatory issues were all about the MCA Act and more importantly child safety issues for mixing children and adult on the same website.. Chamillionaire, IP issues are high, copyright, pirated distribution of songs, regulatory issues at least for them, almost none.. So, I think up until now, I just wanted to show you that what looked like a set of entrepreneurs and a set of startups all had different issues that had to do with the industries they were in.. And they were different.. But there was one common big idea, and that is, entrepreneurs themselves as individuals are the same across markets.. And the test is for an entrepreneur, are you comfortable with chaos and uncertainty? Are you resilient? Are you agile? Are you passionate? Are you driven? Are you articulate and are you tenacious? My contention is the people who started all of these companies, everyone we saw, every startups that succeeds have these common characteristics.. This is what makes a great entrepreneur.. They're focused on the goal.. And they know their job is not checking a list but making their company successful by staying agile, passionate, driven and tenacious..

So, with that, I'll take some questions and I'm happy to answer anything you might have.. Thomas, you were going to ask --? Yeah, I am a TA for Steve in our class MSE 278 here on entrepreneurship.. So, we have the benefit of having Steve talk about all these lectures afterward each week.. And we also have the privilege of having the first few questions and now we get to ask Steve questions.. I promise you these aren't questions from Steve directed towards Steve.. These are from the class members.. The first is the concern of many of the class members.. What would your advice be for unconnected Stanford students who are trying to start their first company? By unconnected, you mean unconnected to Stanford? I feel that they're not connected to maybe current or entrepreneurial opportunities and big names? So, at least at Stanford, and I would say at most universities, that should be an oxymoron, with the emphasis on the second syllable.. And I mean politely, you are at the center of the universe of entrepreneurship.. There are tons of meet-ups..

There are tons of entrepreneurial organizations at Stanford here in the engineering school if you're in the business school.. You should be networking like there's no tomorrow with both your classmates, people inside Stanford, people in the Palo Alto area, people in the Bay area.. They are dying to have Stanford students involved in their startups.. So, everyone of you who feel unconnected, talk to me or Tina or the BASES people and we'll be happy to network you to any place and every place we know.. But that requires, at least for me, you being signed up with the class.. But I am happy to connect you to the incredible network.. And truly, this is the time to do it, the fact that you're at Stanford.. You might hear a million times John Hennessy come in and tell you that this is where Yahoo! started and this is where Google started, but this should not be some third party removed story that happened to someone else.. This could be you.. All you need to do is realize that you could make it happen..

Yahoo! and Google didn't take an entire network.. It took two individuals who realized that they had an idea they wanted to bring to fruition.. Next question.. One more question.. I think this is based on the fact that you realize all the speakers for ETL this semester shared a characteristic, and so, we had some of our female entrepreneurs ask, essentially from the women's perspective, what advice do you have for balancing the demands of a family life with the boundaryless life of an entrepreneur? OK.. So, that's a great question.. And I think, again, parsing the question, it assumes that your life should be boundaryless, and I guess I disagree.. I'll give you a couple of Steve's heuristics but they are personal ones from me and I am not suggesting them for you.. I will just observe how I live my life.. One is, if you're single and you want to do startups, stay single..

Seriously, stay single for a while because startups can be all-consuming 24/7, just suck you dry.. But if you do get married and have relationships, particularly if you have kids, we actually set some rules in our family that were quite helpful.. And I think our kids appreciated it and I think made a better family.. We would always have dinner at 7:00 p.m.. What I didn't realize is my wife was feeding my kids earlier.. And what they didn't realize is after I put them to bed, which was another big deal, I went back to work.. Electronically, I worked for another five hours.. We spent weekends with our kids.. Though half a day on Saturday they went to work with me, but the other parts of the weekends were theirs.. And I have a whole list of what I did to preserve my family on steveblank.com site under "Epitaph for an Entrepreneur", which actually truly meant that..

But just to summarize, Thomas, you got to make rules or the startups will take over your life.. And you're going to be maybe successful but quite lonely.. So, you can balance these things whether you're a male or a female.. Question? I think that's it.. All right.. Open questions.. Anybody got any? Yes? This is a question from someone who's an entrepreneur.. Are there meet-up groups that are using customer development model? Sure.. There is what's called a lean startup group on

Google.. There's something like 1,500 members now that Eric Ries and company started..

If you Twitter and follow Eric Ries, just one word or sgblank, you'll be connected to a lot of this activity.. I think if you also follow Twitter or lean startup, you'll find a lot of this activities.. Other questions? Yes? Over the course of all the ETL speakers, this is controversial but I noticed that most of them in some form stole in order to succeed.. PERL You don't have to answer this, but I was wondering if you had any moral regrets as an entrepreneur? I thought we were talking about them.. So, let me just observe that there's a famous line called the "The best artists".. I think a pretty solid line between stealing somebody's intellectual property like patented stuff or research papers or whatever versus looking at someone else's company or someone else's product publicly and going, "Man, they got it but they're missing the last 20 percent," or going, "Hey, their biggest product is their press releases, but they're executing horribly.. I know exactly what we need to do." To me, there's a clear distinction between legally stealing versus doing a much better job of someone who might have had a vision but was incapable of execution, or you might have noticed that their execution was just off the mark.. Does that make sense? I think everybody from Facebook to Baidu to Google to Zynga all have that characteristic of, I didn't think there was any IP re-purpose, at least not that I could understand, but a much more student entrepreneur who said, "No, no, no.. This is the opportunity and I'm going to execute and run with it a million miles an hour." In fact, it's more of a lesson.. If the lesson you take away is, "Somebody stole my idea," and it truly was an idea and not IP or research stuff, shame on you because that tells me you were sitting on your duff when someone else figured out, "I'm going to run with this a million miles an hour," and they executed better than you and you're sitting here complaining..

I don't mean you but I mean that's my takeaway as an entrepreneur.. If you've got a great idea, it's 3,000 miles an hour in execution, not 30 miles an hour.. And maybe I'll think about it and get to it but complain when someone else does a better job.. I hope that's at least one answer, but that's distinct from, "I took your source code." Question in the back? Somebody have a question? Yes? Over the course of the ETL, it has been all about premier tech companies.. Yes? But what about, let's say, a service provider or some kind of service company? The lean startup model, could that still work for a service company? Sure, but the problem with a service provider is, the biggest problem is not getting one service contract but figuring out whether your business could scale, that is, are you going to build the next KPMG or something in a scale of unrepeatable model.. And that's just tougher to do.. Product companies scale on technology and software and hardware.. Service companies typically scale on people and billable hours.. And that's obviously not impossible because there are large service companies in the US.. It just makes the process harder..

Does that answer your question? Yes.. But as far as going back to the customer development and the development of the product itself, do you have any recommendations as to how that cycle would work? Well, with the service business, it's the same as building a franchise restaurant business, to be honest.. My problem is never that you couldn't build and open the first restaurant or you couldn't get the first consulting contract.. Show me you could do it in another town and another city.. And that's all about laying in the processes to replicate the business in a low-cost way that proves it's a viable business model.. I think that's the part you want to test.. Yes, you got to test the first part, whether you can make the sale.. I want to see whether you could test the scale.. Not that I need to see 100 contracts, but show me you could test something else like 10.. Okay, I think we're about done...