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TRUE BREAKTHROUGHS = CRAZY IDEAS + PASSION.................................................................2
ADVICE FOR ENTREPRENEURS ..............................................................................................4
KEY HIRING LESSONS FROM AMAZON, UBER, GROUPON, ETC ...........................................6
LEARNING IN EXPONENTIAL TIMES .........................................................................................9
MY ADVICE EARLIER THIS WEEK ..........................................................................................12
PROBLEMS ARE GOLDMINES..............................................................................................14
SUCCESS = EXPERIMENTATION.........................................................................................17
SUCCESS = EXPERIMENTATION..........................................................................................21
TRUE BREAKTHROUGHS = CRAZY IDEAS + PASSION

“The day before something is a breakthrough, it’s a crazy idea.”

I first heard this phrase from Burt Rutan, the man who designed and built SpaceShipOne, the brilliant vehicle that won the $10 million Ansari XPRIZE.

As Rutan explained it to me, if the breakthrough idea wasn’t considered “crazy” just a few days ago, then it’s not a true breakthrough. A computer that is 10% or 20% faster is predictable and incremental. Going from vacuum tubes to silicon for computation, on the other hand, is a real breakthrough.

This mantra fueled me to push past the criticism for many of my own crazy ideas.

To ignore the many “experts” who said it couldn’t be done, and ultimately to bend reality toward the future I passionately desired.

If I had to name my superpower, it would be persistence (or grit) — i.e. not giving up, even when everyone is telling me that it isn’t going to work.

In reality, many of my successes have taken me 10 years or more to implement.

Here are a couple of stories:

Zero-G:

In 1993, I wanted to fly on NASA’s zero-g (KC-135) plane used to simulate weightlessness and train NASA’s astronauts.

As much as I tried, NASA turned me down.

My response was, “Okay, screw it. If I want to experience it that much, I bet others do as well... I’ll start a zero-g company myself.”

So I did. Along with my co-founders -- astronaut Byron Lichtenberg and NASA scientist Ray Cronise -- I became CEO of a company called Zero Gravity Corporation, or Zero-G.

Back in May 1993 we had our first meeting with the FAA. Their response? "YOU WANT TO DO WHAT?"

My answer: "Put 36 people in an airplane, take off their seat belts, put the plane into a parabolic maneuver, 50 degrees nose up, over the top, and then 50 degrees nose down, where they can float in the center of the cabin for 30 seconds."

This is where my passion hit a bureaucratic decade-long brick wall. It took us 11 years of constant pressure, hard work, and outlasting bureaucrats to become operational, which finally happened in September of 2004.
Since then, I’m proud to say that we’ve flown over 20,000 people ranging from age 7 to 93, including Professor Stephen Hawking and wheelchair-bound children, into weightlessness.

XPRIZE Foundation:


It was that leverage and efficiency of an incentive prize that led me to propose the idea of a $10 million purse for the first person to build and fly a reusable private spaceship carrying three people into space on two flights within two weeks.

In May of 1996, without the prize money in hand, I went onstage under the St. Louis Arch and announced the $10 million XPRIZE anyway.

I thought (mistakenly) that someone would quickly fund the $10 million prize purse. After all, you didn’t pay out the prize money until after a team had successfully completed both flights.

Between 1996 and 2001, I pitched 150+ sponsors, and received 150 “no’s”.

Finally (long story) in 2002, I met the Ansari family, who ultimately funded the $10 million purse (we named it the Ansari XPRIZE in their honor).

two years later on October 4, 2004, the XPRIZE was won.

It took 12 years, from concept to Prize Award... Once again, this was a tale about grit, persistence and making my own luck. Today, as the XPRIZE Foundation is hitting its stride, the Foundation is now 24 years old with over $300 million in awarded, funded and/or designed XPRIZEs.

Two Questions for You:

I have two questions for you...

1. **Where in your organization do you allow crazy ideas to be funded and attempted?** If that doesn’t exist, have you committed yourself to only pursuing incremental improvement? Or do you plan to buy your innovation from the outside world?

2. **What do you believe in strongly enough that you will dedicate a decade to its pursuit, and be able to withstand 150 ‘no’s’?**

At the end of the day, the formula for a true breakthrough is equal to “having a crazy idea” you believe in plus the passion to pursue that idea against all naysayers and obstacles.
ADVICE FOR ENTREPRENEURS

I’m often asked: “What advice do you wish someone gave you when you were just starting out?”

I have two pieces of advice to offer entrepreneurs who are just getting going.

1. Find a Mentor

First, find a mentor—someone you admire in the field you’re most excited about—and offer to work for them for free.

Think of it as a free graduate education.

Your mentor can offer you ‘a seat at the table,’ where you can learn from real-world experiences at the highest level.

Going back a few centuries, apprenticeship was critical to one’s success, and I believe the concept of apprenticeship is valid once more.

2. Follow Your Passion… And Don’t Settle for Anything Else

Second, be clear about your passion and don’t settle for anything else.

Don’t do something for the money, or to make your parents or your teachers happy.

Pursue a startup business because it’s your personal passion, your highest aspiration.

If you do something you are passionate about, you will work harder than ever before and outshine anyone.

Doing anything big and bold is difficult, and if you’re not totally in love with what you’re doing, you’ll give up before you succeed.

For me, my passion for space has motivated me since childhood.

Mistakes Young Entrepreneurs Make

I see two common mistakes young entrepreneurs make when getting started.

First, they tend to go with the crowd and chase startup ideas based largely on the past successes of other popular entrepreneurs, rather than pursuing their own personal passion.
There’s no need to add another photo sharing app (unless, of course, you are deeply passionate about doing so).

Second, I see many entrepreneurs focusing on making money rather than pursuing their passions or their dreams.

They’ll pursue a business concept that they think has great potential for making money, even though they don’t love the field they’re in.

What almost everyone finds at the end is that creating a massively successful business is hard, and, again, if you don’t love what you’re doing, you’ll give up before you succeed.

So where do you get your idea for a startup?

Don’t have an idea for a startup yet? Read more!

Historically, I’ve come up with my best ideas when reading a book.

I view reading a book as engaging in a conversation with the author.

For me, three books made the biggest impact: The Spirit of St. Louis by Charles Lindbergh gave me the idea to start the XPRIZE Foundation. The Singularity is Near by Ray Kurzweil gave me the idea to co-found Singularity University. And The Man Who Sold the Moon by Robert Heinlein gave me the idea for the Google Lunar XPRIZE and the work we’re doing with Planetary Resources to prospect and mine asteroids.

In addition to reading books, I’ve also come up with my best ideas when brainstorming with friends and colleagues who I respect, and who bring different perspectives (or areas of expertise) to the table.
If you want to create a successful, hyper-growth company you've got to get one thing right – hiring.

To kick off my series of blogs on "Hiring, Culture, and Experimentation", I had a chance to catch up with Jeff Holden, the current Chief Product Officer of Uber.

Jeff is a brilliant entrepreneur and executive who has held leadership roles at three hyper growth companies – Amazon, Groupon, and Uber.

We talked about many things, but in this blog, we'll focus on Jeff's advice for hiring -- these are critical lessons for every entrepreneur, so let's dive in.

Jeff Holden's Rocket Ride…

Jeff spent the first 5 years of his career at D. E. Shaw & Company, a hedge fund in New York.

With a background in computer science, Jeff soon linked up with another Jeff at D.E. Shaw….

Jeff Bezos, that is. Bezos was his first manager at D.E. Shaw, and when Bezos decided to leave the hedge fund to build an Internet company to "sell books," Jeff Holden joined him.

Holden then spent 1997-2006 on the ground floor of Amazon, which now has a market cap of $277 billion.

Holden left Amazon in 2011 to join Groupon, where he spent three years as the SVP of Product Development.

And in 2014, Travis Kalanick (CEO of Uber) tapped Jeff to come lead the product team at Uber.

Over the past 20 years, Holden has learned how to build amazing teams and create powerful cultures around experimentation and solving big problems.

As such, here are few of the key principles Jeff shared around attracting and hiring the best people in the world.

1. A-players Hire A-players and B-players Hire C-players – So Be Ruthless about Hiring A’s

In order to hire the best people, you have to be ruthless.

As Jeff Holden explained, "There's literally nothing more important than getting the right people on your rocket ship."

If you lower the bar on the quality of people you let in, they will have a lower bar for the quality of people they hire. The spiral will continue to cascades downward until you're left with, well… a mediocre company.
Jeff has a saying that "A's hire A's and B's hire C's" – I couldn't agree more.

You have to be ruthless about the bar you set.

If you're going to be ruthless, you have to have simple, easy-to-follow mechanisms to make the process work.

Jeff shared some of his experiences creating these mechanisms in very high-pressure, high-growth environments, where hiring managers were ordered to build their teams and not to "dilute themselves into mediocrity."

Here's the story he shared:

"We had to make sure that we kept the bar high, so we created a program called Bar Raisers. It was very powerful and the idea was pretty simple."

"First, we handpicked a small group of people who we knew were ruthless hirers with very high standards. We dubbed them 'Bar Raisers' and their role in the interview process was pretty simple: (i) There always had to be one Bar Raiser in every single interview; and (ii) the Bar Raiser has veto power and nobody can override their veto, including the CEO or the hiring manager."

"What ends up happening is that these Bar Raisers become cultural leaders for raising the bar. They become passionate advocates of "The Bar", almost evangelists."

"Then, the Bar Raisers actually run the hiring debriefs where they collect all of the feedback and data from all of the interviews and distribute this data to the decision makers."

"The first thing we did was to take a vote. We did this with our thumbs. You could vote by putting your thumb in one of four positions – Strong Hire, Inclined to Hire, Not Inclined to Hire, Strong No Hire."

You can't choose "Middle".

"Then, there's a discussion that ensued about what do based on the voting pattern that we observed."

Finally Jeff offered, "We made a decision in that room about whether or not we're going to proceed with an offer or not. This rigor is extremely important."

You'll likely make less offers than you would have without these processes, but the quality of people you do bring in and keep will drive extraordinary value into your business.

2. Always Gauge the Passion & Interest of a Candidate

It's critical that new hires are passionate about and mission-aligned with the company.

You need to screen for this in the hiring process to ensure that there will be cultural fit amongst new people you bring onto the team.

There is a simple way to do this, as Jeff explains, simply ask them "Why do you want to work for this company?"
"It's unbelievable how many people have a terrible answer to that question," Jeff said, "The generic answer is – 'Well, you guys are doing really well…'."

Find people whose answers fit with your culture and core values (a topic we'll discuss in future blogs) and…

3. Be an Owner, Not a Renter -- Hire Patriots, Not Mercenaries

Jeff has a quote that he referenced – "Wars are won by patriots, not mercenaries" -- This is a really important idea.

In the context of hiring, this means that you need to bring patriots onto your team who aren't in it for the money.

You're looking for team members who are passionate about the mission, folks who behave like owners (of your brand, product, vision, people, mission, etc.), rather than renters who always have one foot out the door.

If the candidate just wants to make a lot of money, and they aren't passionate about the mission, they are going to burn out when things get tough and it's going to cost you. These are mercenaries, and they are bad for sustainable growth.

Note**: Be careful – a lot of mercenaries are really good at "saying the right things" to make it seem like they are value-aligned. You have to run a series of culture fit experiments to see if their actions back up their words.

4. Make sure you're working with people that 'Make You Feel Dumb'

Finally, make sure you are working with bright, intelligent people who are constantly pushing you to learn.

The people you surround yourself with in these often stressful work environments (and especially as a startup entrepreneur) can make or break your experience, and more than that, they can make or break the company.

As mentioned, this was just the tip of the iceberg of my conversation with Jeff. We'll dive further into culture and experimentation next week.
LEARNING IN EXPONENTIAL TIMES

How to learn is changing, and it’s changing fast.

In the past, we used to learn by doing – we called them apprenticeships.

Then the model shifted, and we learned by going to school.

Now, it’s going back to the apprenticeship again, but this time, you are both the apprentice and the master.

This blog is about how to learn during exponential times, when information is abundant and expertise is fleeting.

Passion, Utility, Research & Focus

First, choosing what you want to learn and becoming great at it is tough.

As I wrote in my last blog, doing anything hard and doing it well takes grit.

Here are a few tips I’ve learned over the years to help choose what you want to learn:

1. Start with your passions: Focus on something you love, or learn a new skill in service of your passion. If you want to learn how to code because it will land you a high-paying job, you’re not going to have the drive to spend countless, frustrating hours debugging your code. If you want to become a doctor because your parents want you to, you’re not going to make it through med school. Focus on the things YOU love and do it because it’s YOUR choice.

2. Make it useful: Time is the scarcest resource. While you can spend the time learning for the sake of learning, I think learning should be a means to an end. Without a target, you’ll miss every time. Figure out what you want to do, and then identify the skills you need to acquire to accomplish that goal.

3. Read, watch and analyze: Read everything. Read all the time. Start with the experts. Read the material they write or blog. Watch their videos, their interviews. Do you agree with them? Why?

4. Talk to people: Once you’re done reading, actually talk to real human beings that are doing what you want to do. Do whatever you can to reach them. Ask for their advice. You’ll be shocked by what you can learn this way.

5. Focus on your strengths: Again, time is precious. You can’t be a doctor, lawyer, coder, writer, rocket scientist, and rock star all at the same time… at least not right now. Focus on what you are good at and enjoy most and try to build on top of those skills. Many people, especially competitive people, tend to feel like they need to focus on improving the things they are worst at doing. This is a waste of time. Instead, focus on improving the things you are best at doing – you’ll find this to be a much more rewarding and lucrative path.

Learn by Doing

There is no better way to learn than by doing.

I’m a fan of the “apprentice” model. Study the people who have done it well and then go work for them.
If they can’t (or won’t) pay you, work for free until you are good enough that they’ll need to hire you.

Join a startup doing what you love – it’s much cheaper than paying an expensive tuition, and a hell of a lot more useful.

I don’t think school (or grad school) is necessarily the right answer anymore.

Here’s one reason why:

This week I visited the Hyperloop Technologies headquarters in Los Angeles (full disclosure: I am on the board of the company).

The interim CEO and CTO Brogan Bambrogan showed me around the office, and we stopped at one particularly impressive-looking, massive machine (details confidential).

As it turns out, the team of Hyperloop engineers who had designed, manufactured, tested, redesigned, remanufactured, and operated this piece of equipment did so in 11 weeks, for pennies on the dollar.

At MIT, Stanford or CalTech, building this machine would have been someone’s Ph.D. thesis…

Except that the Ph.D. candidate would have spent three years doing the same amount of work, and written a paper about it, rather than help to redesign the future of transportation.

Meanwhile, the Hyperloop engineers created this tech (and probably a half-dozen other devices) in a fraction of the time while creating value for a company that will one day be worth billions.

Full Immersion & First Principles

You have to be fully immersed if you want to really learn.

Connect the topic with everything you care about – teach your friends about it, only read things that are related to the topic, surround yourself with.

Make learning the most important thing you can possibly do and connect to it in a visceral fashion.

As part of your full immersion, dive into the very basic underlying principles governing the skill you want to acquire.

This is an idea Elon Musk (CEO of Tesla, SpaceX) constantly refers to: “The normal way we conduct our lives is we reason by analogy. We are doing this because it’s like what other people are doing. [With first principles] you boil things down to the most fundamental truths … and then reason up from there.”

You can’t skip the fundamentals – invest the time to learn the basics before you get to the advanced stuff.

Experiment, Experiment, Experiment

Experiment, fail, experiment, fail, and experiment.

One of Google’s Innovation principles and mantras is: “Never fail to fail.”
Don’t be afraid if you are really bad at the beginning: you learn most from your mistakes.

When Elon hires people, he asks them to describe a time they struggled with a hard problem. “When you struggle with a problem, that’s when you understand it,” he says, “Anyone who’s struggled hard with a problem never forgets it.”

Digital Tools

We used to have to go to school to read textbooks and gain access to expert teachers and professors. Nowadays, literally all of these resources are available online for free.

There are hundreds of free education sites like Khan Academy, Udemy, or Udacity.

There are thousands of MOOCs (massive online open courses) from the brightest experts from top universities on almost every topic imaginable.

Want to learn a language? Download an app like Duolingo (or even better, pack up your things and move to that country).

Want to learn how to code? Sign up for a course on CodeAcademy or MIT Open Courseware.

The resources are there and available – you just have to have the focus and drive to find them and use them.

Finally… The Next Big Shift in Learning

In the future, the next big shift in learning will happen as we adopt virtual worlds and augmented reality.

It will be the next best thing to “doing” – we’ll be able to simulate reality and experiment (perhaps beyond what we can experiment with now) in virtual and augmented environments.

Add that to the fact that we’ll have an artificial intelligence tutor by our side, showing us the ropes and automatically customizing our learning experience.
I often consult for Fortune 500 companies, who are looking for ways to innovate (quickly).

Perhaps they’ve heard the stat that 40 percent of today’s Fortune 500 companies will no longer exist in 10 years.

Earlier this week I met with one such (large) company for a 90 min consultation.

In this blog, I thought I’d share the top-line summary of the advice I gave them…

How can companies innovate?

In my mind, here are three counter-intuitive approaches that companies, small and large, need to take to disrupt themselves and surf above the tsunami of change, rather than get crushed by it.

Three strategies:

1. **Your biggest problems are your biggest opportunities**

   I often teach entrepreneurs that the world’s biggest problems are also the world’s biggest business opportunities. This also holds true for your company.

   **Take stock of your challenges.**

   **My advice:** Hire a team of ‘20-something year-old’ entrepreneurs and have them spend a week interviewing your customers, suppliers, employees, and managers.

   Have them ask the questions: What are your biggest problems? What breakthrough would 10x our revenue? What problems, if solved, would completely revolutionize our business, product, organization, etc.?

   Then, take a list of these problems and use them as targeting data for the creation of new business opportunities. Fund numerous teams of young entrepreneurs to take their shot at solving those problems.

   Worst case you learn some valuable data. Best case you solve your problems, improve your business and create a whole set of new startups useful to everyone else in your industry (who likely have the same problems).

2. **You need to be creating “unholy alliances”**

   Most companies feel most comfortable working with the traditional companies and suppliers in their industry.

   Pharmaceutical companies work with other biomedical companies. Software companies partner with electronics companies. Aerospace companies work with aerospace companies. Etc.
My Advice: Create "unholy alliances." Find and partner with companies completely outside your field, non-traditional players who force you to think orthogonally to your existing strategy and value chain.

Here are a few of my favorite "unholy alliances".

- **Apple and Music** – Today this makes perfect sense, but when Steve Jobs took Apple into the music industry, people thought it was crazy
- **Microsoft and Gaming** – XBOX was a massive departure for Microsoft, now it's a major profit center
- **3D Systems and Hershey's** – partner to create a chocolate 3D-printer
- **NASA and LEGO** – partner to explore using lego as a STEM education platform
- **Facebook and Oculus / Google and Magic Leap** – FB's purchase of Oculus VR and Google investment into Magic Leap makes little sense until (at first) but in a year or two, we'll see this blossom.
- **Uber and Everybody!** – Uber is capitalizing massively on unholy alliances, partnering with everyone from Capital One to provide subscription discounts to local restaurants with Uber Eats, to insurance companies, universities, and even animal shelters, offering promotional services like #UberKittens – on demand kitten visits

For more examples, Co-Society did a great report on unique business collaborations [here](https://co-society.com).

3. **10x your thinking – You need to be taking moonshots**

Most companies are really focused on how to create 10% improvements in their businesses – They ask: How do we reduce costs 10%? Increase profits 10%?

Astro Teller, Google’s “Captain of Moonshots”, often talks about how when you try to do 10% better, you are putting yourself in a smartness competition with everyone else in your industry (and everyone else in the world) and it's a competition you’re unlikely to win.

Instead, Astro proposes what Google call’s "Moonshot Thinking" where you try to go 10x bigger (10x cheaper, 10x faster, 10x cooler) etc.

Why try for 10x versus 10%?

- When you shoot for 10x improvement you approach the problem in a radically different fashion.
- When you attack a problem as though it were solvable, even if you don’t know how to solve it, you'll be shocked with what you come up with.
- 10X vs 10% improvement is 100 times more worth it… but, it’s never 100 times harder.
- Finally, having a moonshot, focuses and motivates your team, attracts the best talent in the world, and critically allows you to solve interim problems and create interim products/services along the way.

Whatever the size of the company you run, I hope these three ideas will help you create a sense of urgency around innovation and add new capabilities to spur innovation.

In the world today, the only constant is change and the rate of change is increasing.

You either disrupt yourself, or someone else will.
PROBLEMS ARE GOLDMINES

The world's biggest problems are the world's biggest business opportunities.

This also holds true for you.

This blog is a fun formula for fixing your problems while at the same time creating incredibly powerful startups.

Advice to CEO's and Entrepreneurs…

I recently keynoted for a group of hospital CEOs.

For good reason, they are really concerned about their future. Their industry is ripe for disruption by a variety of exponential technologies.

Today's hospitals tend to be overly bureaucratic, inefficient, slow moving, expensive, confusing, and old-school in their processes and procedures.

Not surprisingly, they asked me what to do.

The conversation went something like, "We understand we need to change… but what problems do we solve first?"

My answer: Find a group of smart and curious 20-somethings, and give them the mission of interviewing your patients, employees and suppliers. Then have them catalogue and rate all of your problems.

Let me explain…

Hire 20-Somethings to Do Some Digging

I talk a lot about millennial entrepreneurs.

They are smart, hard working, and naïve – exactly the qualities you want in someone who is trying to reinvent a system.

They have no preconceived notions about the way the world (or a hospital, in this example) is supposed to work.

This gives them the ability to question everything – remember that "the day before something is a breakthrough, it's a crazy idea."

I have a team of 20-somethings that I call my "Strike Force" – you'll see why below – and I've been amazed by the brilliant ideas they come up with.

So where do you find your strike force? They may already work for you, or they might be grad students, or a group of local entrepreneurs.
What you’re looking for is passion and curiosity. Ideally one or multiple teams of three to five individuals with a background in science, engineering, and an understanding of where technology is going.

**Question Everything & Everyone**

With your Strike Force in place, give them the following instructions.

I want you to interview our company’s employees, suppliers and customers and document the major challenges we’re having:

- What is unduly hard to accomplish?
- Where are we missing quality?
- Where are we behind the competition?
- What are our customers’ biggest complaints?
- Etc., etc…

Give them 4-6 weeks to literally walk around your company and examine everything. Tell them to talk to all of your employees, patients, servicemen, visitors, volunteers, staff, and so on. Everybody. Let them sit in different venues and observe how your business operates. Challenge them to think about how each and every process could be done better or differently. Make sure to emphasize that they have NO LIMITATIONS as to the ideas they can come up with – this is critical.

In summary, their goal is to document your company’s biggest problems… question everything.

**Catalogue, Prioritize and Select**

Next, ask them to come together, compile their findings, and write up their top 10 - 20 recommendations.

For each recommendation, rate them with regard to:

- Financial impact to your company
- Competitive impact for your company
- Value of the solution as an entrepreneurial endeavor
- Ease of implementation (time and money)

**Fund the Best Ideas and Best Team(s)**

Based on my experience doing this, you’ll be pleasantly surprised with their innovative attitude (perhaps naïveté and outsider perspective) and ability to put their finger on the biggest gold mines in your company.

Your goal is next to mine these gold mines.

Pick the brightest members of the Strike Force and fund them to develop the solution either internal to your business, or as outside entrepreneurial endeavors. Either way, you win.

**Strike Force Guiding Principles**

Here are three guiding principles to help guide your efforts:
1. **Listen to your customers, and the data they generate:** The most successful, agile and sustainable companies are customer-centric at their core. They vehemently care about their customers’ experience and are constantly trying to improve it. Start collecting more data from them on your own – what did they like, what did they not like, how could you improve your service? You’ll be surprised to find how bright your own customers are when it comes to discovering problems in your business and ways to solve them.

2. **Start from a blank slate, then rebuild from first principles:** If you were going to start your business tomorrow, how would you do it? Which services would you cancel, which would you maintain? Which would you reinvent? Really try to understand at its core what your business is and what it could be. Reason from first principles about what is possible and craft a vision that you can execute.

3. **Experiment, fail, then experiment again:** Once you have a vision, you have to get comfortable experimenting with it, and probably failing a few times. Run 30- or 60-day experiments to test new ideas. You’ll be surprised to see that this is actually motivating and exciting to your employees.

**Prioritizing Innovation**

Disrupting yourself isn't just a thought exercise. It's not a rebranding. And it is certainly not something that is easy or simple to do.

It's going to take some time, so the key is that you have to really commit to innovation.

You have to be open-minded and strong-willed at the same time. You have to be able to motivate your employees when experiments fail, and rein them in if they are going too far off the entrepreneurial cliff.

Your Strike Force will mine your problems for gold nuggets, but it's YOU who will ultimately greenlight the effort to reinvent your business.

It's a challenging task – but disrupting and reinventing your business is the only way to survive during these exponential times.
SUCCESS = EXPERIMENTATION

Today’s most successful companies, the ones that are “crushing it,” started as a series of crazy ideas, followed by experiments to test just how viable those ideas might be.

Experimentation is a crucial mechanism for driving breakthroughs in any organization.

If you want to create a successful, hyper-growth company, you've got to focus on empowering your teams to rapidly experiment.

Over the years I have had the pleasure of sitting down with wizards of experimentation, including Jeff Holden, Uber’s Chief Product Officer; Astro Teller, CEO of X; and Jake Knapp, Design Partner at Google Ventures.

Through my conversations I have compiled a suite of best practices for running great experiments and building a culture of experimentation at your company.

In this blog we will discuss:

Building a culture of experimentation

1. Running effective experiments
2. Google Ventures design sprints
3. Building a Culture of Experimentation

The only constant is change, and the rate of change is increasing.

Ultimately, standing still equals death, and the only way to succeed is to be constantly experimenting and innovating (think of it as Darwinian evolution in hyperspeed).

Hyper-growth and experimentation are very closely linked.

Jeff Bezos likes to say, “Our success at Amazon is a function of how many experiments we do per year, per month, per week, per day…"

Jeff Holden, who has built experimental engines at Amazon, Groupon, and Uber, agrees: "The philosophy is you have to build your company to be a big experimental engine and it has to start right at the beginning."

It's not easy to just "retrofit" your company with that engine later – it's a cultural shift. You have to be in the mindset of constantly testing crazy ideas, new business models, new products and new processes.

At Amazon, in the early days, they created a standard experimental platform that was available to almost everyone – meaning, if somebody wanted to test a new button or new feature on the website, they could.

The problem was that many of these experiments were useless.

Jeff Holden continues, “They had no chance of yielding any value. There wasn't any point to them. We were just kind of curious. We were just running a lot of experiments -- which have a cost, by the way --
and were taking up experimental slots [so others couldn't experiment], and things started colliding with each other."

Their solution was to create an 'Experiments Group' – if you wanted to do an experiment, you had to run it through this group.

The first question the group would ask was: What's your hypothesis?

The second question: What's the value proposition to our company?

"If you couldn't articulate your hypothesis crisply, or your hypothesis didn't matter for Amazon or Uber or Groupon, then they must not do that experiment. Oftentimes you'll send folks back to the drawing board or ask them to recast the experiment. The company learned, and we got much better."

Finally, "You have to be able to interpret the experimental results really well. It's statistics. Know the difference between statistically significant and insignificant results."

Uber, for example, runs thousands of experiments per month to test different features. They A/B test key features that are core to the business and choose the one that performs best.

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Seems simple enough, right?

You must ask the kind of questions to which you don't currently know the answer, but if you did, you'd change the way you operate.

If you already know the answer, or if you are testing an insignificant detail that doesn't matter, you'll just be wasting time and money.

To get good questions/experiments, you must create a culture that incentivizes asking good questions and designing good experiments.
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“At X, we set up a ‘Get Weirder Award.’ The whole point of the Get Weirder Award was to focus the team on experiments and to drive home they needed to think in terms of experiments.”

Teams would be challenged to ask “weird” questions – to put forth crazy ideas around framing problems differently and to design experiments that really push the limits.

Critically, Astro only gives out the Get Weirder Award after the experiments are run.

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Doing so constantly (and viscerally) reinforced the behavior of asking good questions – accordingly, at X, they’ve built a culture around celebrating the questions themselves.

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I have leveraged the Sprint process across all of my companies.

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Sprints are useful starting points when kicking off a new feature, workflow, product, business or solving problems with an existing product.

Here are the five phases of a Sprint, typically done sequentially over the course of five days, that you can try with your team:

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Happy experimenting!
SUCCESS = EXPERIMENTATION

Today’s most successful companies, the ones that are “crushing it,” started as a series of crazy ideas, followed by experiments to test just how viable those ideas might be.

Experimentation is a crucial mechanism for driving breakthroughs in any organization.

If you want to create a successful, hyper-growth company, you’ve got to focus on empowering your teams to rapidly experiment.

Over the years I have had the pleasure of sitting down with wizards of experimentation, including Jeff Holden, Uber’s Chief Product Officer; Astro Teller, CEO of X; and Jake Knapp, Design Partner at Google Ventures.

Through my conversations I have compiled a suite of best practices for running great experiments and building a culture of experimentation at your company.

In this blog we will discuss:

Building a culture of experimentation

1. Running effective experiments
2. Google Ventures design sprints
3. Building a Culture of Experimentation

The only constant is change, and the rate of change is increasing.

Ultimately, standing still equals death, and the only way to succeed is to be constantly experimenting and innovating (think of it as Darwinian evolution in hyperspeed).

Hyper-growth and experimentation are very closely linked.

Jeff Bezos likes to say, “Our success at Amazon is a function of how many experiments we do per year, per month, per week, per day…”

Jeff Holden, who has built experimental engines at Amazon, Groupon, and Uber, agrees: “The philosophy is you have to build your company to be a big experimental engine and it has to start right at the beginning.”

It's not easy to just "retrofit" your company with that engine later – it's a cultural shift. You have to be in the mindset of constantly testing crazy ideas, new business models, new products and new processes.

At Amazon, in the early days, they created a standard experimental platform that was available to almost everyone – meaning, if somebody wanted to test a new button or new feature on the website, they could.

The problem was that many of these experiments were useless.

Jeff Holden continues, “They had no chance of yielding any value. There wasn't any point to them. We were just kind of curious. We were just running a lot of experiments -- which have a cost, by the way --
and were taking up experimental slots [so others couldn't experiment], and things started colliding with each other."

Their solution was to create an 'Experiments Group' – if you wanted to do an experiment, you had to run it through this group.

The first question the group would ask was: What's your hypothesis?

The second question: What's the value proposition to our company?

"If you couldn't articulate your hypothesis crisply, or your hypothesis didn't matter for Amazon or Uber or Groupon, then they must not do that experiment. Oftentimes you'll send folks back to the drawing board or ask them to recast the experiment. The company learned, and we got much better."

Finally, "You have to be able to interpret the experimental results really well. It's statistics. Know the difference between statistically significant and insignificant results."

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