



Stanford eCorner

Scaling Up Excellence [Entire Talk]

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Stanford Professor Bob Sutton shares principles and colorful examples from his most recent book, *Scaling Up Excellence*, co-authored by Huggy Rao. Touching on concepts around emotion, complexity, and connecting people, Sutton explains why scaling is about spreading and sustaining a mindset, not just a footprint.



Transcript

Thank you for the round of applause. It's great to see all of you. This is my fourth Thought Leaders Event and it just still warms my heart to see Tom, because I still remember about - was that about 20 years ago when you first started calling me with all those crazy ideas? So where Tom sort of - I don't know where he came from, but one day he started calling me and started saying we're going to build the greatest entrepreneurship center in the world and I thought he was just this crazy person from an industry who was looking for a place to hide. But I just actually think Tom with a whole bunch of other people Tina came aboard quickly, it's actually happened and I just wanted to stay out of the way because I don't like working as hard as they do or with all those other people. Tom is always around other people, I like being alone. So as a transition, as compared to people who do things more socially, well my basic mode of operation is that I spend years locked in my garage trying to type my way out of solitary confinement and every few years I emerge with a book and so this is the latest book. So that's what happened. So what I'm going to do is I'm going to talk about this book *Scaling Up Excellence* which my colleague Huggy Rao here he is, see isn't he cute; that Huggy Rao and I just had published about two weeks ago, actually less than that. Actually it was last week and it's called *Scaling Up Excellence* and this has been a pretty interesting adventure because in addition to my usual staying in my garage and trying to type my way out of solitary confinement one thing that Huggy and I realized, this was a seven year project, was that scaling was a complicated enough topic compared to say assholes, which really are not that complicated a topic to tell you the truth. It was a complicated enough topic that we actually had to talk to people who were knee-deep in the process of scaling.

So those of you from the design school will recognize customer focused design or human centered design. What we tried to do and it's your - you can judge was to both do case studies go to the academic literature, but to also keep presenting versions of our ideas to people who had been or were knee deep in the process of trying to spread excellence and to get their feedback. So it's a different sort of book compared to any book I have ever written in terms of the process. So this is when we say scaling, it's a word or term that is used in many ways. This is the way we define it for this book and really going back six or seven years ago we decided this is the puzzle we would try to make some progress on. If anybody ever tells you they have solved all your problems for scaling, they are lying to you, you should send them out the door immediately. This is just the best we can do right now. You've got an organization, it's got a centre or pocket of excellence. Essentially how can you spread it further to places it perhaps deserves to go without screwing it up. And that's sort of what the book is about.

Some of you - most of you are too young or perhaps from other places, but some of you will have heard of Pete Seeger, the famous folk singer he just died at the age of 94, a couple of weeks ago. When we were in the process of the book I saw him interviewed on TV and he was talking about situations where the only thing that's wrong with it is there isn't enough of it and that's sort of another way to think about the problem that we were trying to wrestle with. So to give you some examples, many of us will know about Pulse, which was a company founded in the Stanford d.school in about 2010 and they were

recently sold I think last year to LinkedIn for 90 million bucks. We talked to Ankit and Akshay occasionally in the course of them sort of growing their company and the process of growing from four, seven, eleven to 20 was actually quite painful and difficult. They sort of got through it but when you show people in big corporations those numbers they say huh? But if you're in a start-up those numbers really are difficult to manage. Little different sort of examples, McDonalds is right now sort of somewhere in between opening 1,500 stores in China. That's a different sort of scaling example, but they are trying to spread their goodness from, if you will, from the many many to a few more I guess in this case. One of the heroes of the book and somebody who I guess I have consulted to was involved in the d.school for years, still teaches in the d.school, one of our scaling heroes Claudia Kotchka about 14 years ago the first time A.G. Lafley was CEO of Procter & Gamble. She started a little innovation group.

She had one product she was working on and she just had a couple of folks and over the course of seven or eight years she sort of spread out - so she sort of essentially we call it connect and cascade created a bunch of innovators and sort of stuck them in P&G businesses. Now they're in about 30 different P&G businesses. So that's again from the few to the many and finally a case with all the bad news you hear about how bad our medical care is in the United States. It's good to have some good news. Between about 2004 and 2006 one of our favorite examples, there was something called the 100,000 Lives Campaign where a small non-profit hundred people in Boston the campaign team was about 12 or 13 people, what they did was they spread life-saving practices very simple things like getting physicians and nurses to wash their hands, they have incredibly filthy hands. It's amazing how dirty doctors hands are. It sounds obscene but it's true and things like if you have a relative on the respirator, on a respirator if the bed isn't tilted up at least 45 degrees the odds of pneumonia go way up. So they spread really simple practices and it looks like and my co-author Huggy Rao is one of the sharpest quantitative researchers around, it looks like this set of interventions which were spread across hospitals in the U.S saved about 123,000 lives, so sort of Huggy's best guess. So these are all different, but they are all similar in that, what the challenge is to spread something good even further. So to us that's what scaling is.

All right. So our core message is when we see something good, at least that seems good to us spread, the people who scale badly and this is classic in start-ups, they get so focused on running up the numbers that they don't realize that in the process what they really need to do is to slow down and spread behaviors and beliefs, we call this a mindset that sort of are in everybody's brain that propel scaling and we would argue that a hallmark of effective scaling is essentially as Huggy puts it, people know where to hit the brakes so they can accelerate faster later and Huggy has got this new line that the great thing about brakes is it means you can drive even faster and it's kind of the same with scaling. I was just with Huggy at Google yesterday doing a talk and Google is a really great place you can go back to even 2002, I remember interviewing Larry Page and he talked about how pissed everybody was at him - the venture capitalists, his fellow employees and also Stanford students because he wasn't hiring them fast enough, but it turns out that focusing on hiring the right people was very important to Google's growth. Another example Facebook with we've had intermittent contact with the folks at Facebook since the earliest days of the d.school when a woman named Kay Deermaner who was then head of product, she used to come and hire our students from the d.school. In fact the other day I sent an e-mail because she saw that our book came out and she gave me a list of four or five people she sort of just hired right out of our class, I sort of forgot about that. But we've been following them for a long time and the guy we talk to in particular is the guy named Chris Cox another famous Stanford dropout, he actually finished his undergraduate degree and dropped out of Symbolic Systems. Chris Cox has now had a product and in talking to Chris and other folks like Mike Schroepfer who is the CTO, they described to us and we also talked to a lot of the other engineers that at Facebook when they hire a new engineer because getting the mindset in people is so important, when you're hired before they assign you to a job what they have you do is they have you do 12 or 13 small projects and we have all heard probably most of us about the Move Fast and Break Things mindset. The idea here is you actually live it and when we had Mike Schroepfer and Chris Cox as guests in our class, I said to Chris Cox what's a good first week at Facebook and he said you've made a change in the code that you can show to your mother or father like a new pull down menu, maybe higher resolution on a picture and that's sort of this notion that we see over and over again that when firms scale effectively they think about the mindset not just the footprint as Huggy would put it. And let me sort of warn you here that the kind of mindset that you need to scale an organization is going to vary wildly from organization to organization depending on what the - what they are trying to do, what their strategic intent this, what's most financially viable for them and so around the time, its probably 2009, 2010 I was sort of in trance with the Move Fast and Break Things mindset of Facebook, there was a VMware executive - VMware is just sort of like up the street and I said do you Move Fast and Break Things and he said no, especially in our unit that builds software for nuclear submarines because it was not like the right software. And so this is one thing you got to kind of keep in mind is that the best organizations have mindsets, the right mindsets but they have the right ones that are for them.

But the constant that we see in effective mindsets whether it's people making software for nuclear submarines or at Facebook is there's always this relentless restlessness that's Brad Bird from Pixar, the Academy award-winning director of Ratatouille and The Incredibles and when Huggy and I interviewed him in 2008 he described how that was his attitude and how many times he got fired because when he got around people like at Disney in the very old days, The Simpsons he got fired because they didn't have the relentless restlessness to make things better all the time. So I think that's a hallmark of the ones that are effective. All right. So that's sort of the, if you will, the warm up or the beginning and what I'm going to do just to give you since I've been teaching so long I'm going to go to about 20 after maybe a little shorter and then we'll sort of get to

questions, but this is sort of our view about what it takes to scale well. The first one is that one thing that really struck us is in organizations where the workforce sort of propels the spreading of goodness, there is this real feeling of accountability. And by accountability it's the feeling that I own the place and the place owns me that everybody puts pressure on everybody else if you will to do the right thing and to switch the medical organizations we actually, both Huggy and I got fairly obsessed with healthcare, it's really interesting to look at the difference between most hospitals where when they've got - I'm not supposed to go that far, when they've got a - somebody who is near death usually with a head injury and they want to harvest the organs and has given permission and everything, most hospitals sort of get that right about 50% of the time. About 15% of U.S hospitals get it right about 75% of the time. And in those hospitals they have a set of norms where everybody is involved in making sure that everybody does the right things, the nurses, the doctors, the clergy, the receptionist, they pull in family members who have been in the same situation before and there is this notion where they all teach and they all learn and to us that is a hallmark of organizations that spread excellence, it's this feeling of accountability in organizations where there is not silence, where people feel compelled to tell other people when they're screwing up or to teach them or to help them. IDEO is a good example of that too. The second thing and something that Huggy and I have written a lot about is sometimes we call scaling the problem of more because when you're scaling like you got something good, you're spreading it to more places to more people you're trying to grow Pulse, you're trying to open more McDonald's or more In-N-Out Burger's, but the other thing that we emphasize is scaling is actually a problem of less as well because there are a whole bunch of things that well maybe used to work and don't work any more and you got rid of them and there also might be things you've always done that actually slow you down you don't realize it.

So to give you a few illustrations I did not think I would live long enough to see the President of the United States fire the CEO of General Motors, but I did live that long and when Obama fired the CEO of General Motors he brought in a guy named Ed Whitacre who was CEO of AT&T and this is the video is on, but it doesn't matter, as a tax payer, I've given enough money to General Motors I can say this. So there were a group of us in our department who worked with the General Motors R&D organization for about seven or eight years. At any time we came up with an idea of how to try to make things better. They had what we call the no we can't mindset and the reason was almost always because that's a good idea, but it's too difficult to do because and one of the reasons was they always had to write reports and I was pleased to see that Ed Whitacre, is he sort of made this little change going from 94 to 4 required reports. We actually - are going to have some General Motors senior executives here next week who Huggy and I are going to meet with and I'm going to be really curious to see what happens because my goal is to give them as much grief as possible and see if they're making any progress anyway, an organization I have a long standing both love and hate for. An organization I have only long-standing love for is IDEO and IDEO I have known for a long time in the mid-90s, one of my former doctoral students Andy Hargadon and I did a 15 month, 16 month ethnography there. We really hung out a long time and in those days they had about 60 people and the guy in the middle with the moustache that's David Kelly, that's what he used to look like. He has always been bald unlike me and in some of my earlier talks I am actually not bald in this seminar. But in those days there would be about 60 people in Palo Alto at the Monday morning meeting and David was absolutely masterful. He'd start out with a joke or a story, the thing that he usually started out in those days, he wasn't married, he'd usually talk about the bad date he had over the weekend, so that sort of warmed everybody up.

And then he'd go around the room and he'd get just about everybody to talk or he would say something about you. So we were the ethnographers and he would say they're watching you, they're writing down everything you say, we've got spies and which actually we were writing down everything they said to the extent we could and one of the things that we wrote down was that almost everybody would talk and participate, because we'd - record comments and count and stuff. Then IDEO grew to about 150 people and I remember going to this Monday morning meeting sort of towards the end, it was absolute hell. It just did not work, they reached the scale where what got them there won't get them the next level. Then there is stuff that everybody else does that's incredibly stupid and you do it too just because everybody else does it and our number one example and one we've gotten quite obsessed with are yearly performance evaluations. Is anybody here ever given a yearly performance evaluation? Anybody ever had one? We have them at Stanford. I have no idea how it works. I have no idea the relationship between what I do and how much I get paid, what happens is I go to the secretary, I'm going to get in trouble for this, and you get the envelope and the envelope has your pay in it. That's our whole performance evaluation process. I fill out this incredibly long form.

I'm always late, I forget what happens and I never can remember what I was paid the year before, so I have no idea how I did. So anyway, so just you literally get a number. So we have a terrible performance evaluation system, which I like - I think it's good because my interpretation is I can do whatever I want, since I don't understand the performance evaluation system. So for me it's good, but if you don't have tenure, it's probably not good. Anyway, so to look in an organization do not show this to my department chair please. So if you look at an organization that we have been following and it's in the book, Adobe actually got rid of yearly performance evaluation. This incredibly brave woman Donna Morris actually had the guts to do it. And she had a really logical reason which was every year at Adobe when they did their yearly sort of stack ranking performance evaluation sort of General Electric style. First of all, good employee satisfaction numbers they'd go down. They had good evidence that the best people would leave and it took 80,000 person hours to do.

In 80,000 person hours you could have a pretty big start-up going for example and so they got rid of them and I won't go into the details just in the name of time, but they came up with a sort of check in system where what you do is your boss is responsible for actually constantly giving you feedback throughout the year and my favorite - and then you evaluate your boss and how good the feedback is, so it's sort of turned upside down and my favorite part is what Donna said is we took all the forms and all the technology away from these engineers that we have at Adobe and we forced - and we are trying to force them to learn how to actually talk to their people. And I thought that was a pretty good solution. Okay and we will see what happens, early numbers look like it's working, but at least they had the guts to try it, okay. So those are the two big lessons and we are pretty cool on time. So now - so this is sort of interesting writing process. So the problem with having too much time to write a book as Huggy and I do since it's like the nearer I get to death, the more time I think I've to do stuff, it's completely irrational, but that's one reason I think we took seven years for this project and there was one point and somewhere in my office that may still be there, Huggy and I actually had sort of d.school style, post-it notes of every decision we could think of that where major decisions you'd make in the process of scaling an organization. About 50 of them and since we were too compulsive, we'd try to write every one up and in the end we'd always come back to the same dimension. And this comes from since some of us or many of us are from Stanford, how many of you've had Michael Doering in the class? Has anybody had Michael Doering in the class? A few people, teaches Launchpad, okay. So we're sitting around so about 2006, early days of the D.school and Michael says so when the D.school as we start expanding are we going to be Catholics or Buddhist. I would note that Michael has a very Catholic background.

In fact he likes to point out he was altar boy of the month many times. So he is a very strong Catholic. So he said are we going to be sort of like what happens in the Vatican is it going to be replicated everywhere, so is it going to be like what happens at the D.school in Palo Alto, it's just replicated in every class and everywhere throughout the world or are we going to be Buddhist where we have sort of like a vague mindset and we do sort of local standardization or customization whatever sort of strikes you that's within the sort of vague mindset. Well, this turned out to be quite a brilliant comment because once you start going to the scaling literature, the question of whether we're trying to do the same thing everywhere else in the exact same way or whether we allow local customization is a constant and never ending decision that never goes away at the strategic sort of Kathy Eisenhardt level or even at the most sort of focused individual level. And just to give you some examples you look at In-N-Out Burger incredibly Catholic organization, they're all nearly perfect replicants of one another, Intel much of their - especially they're changing this a little bit now. Their years of success was based on the copy exactly method in manufacturing firms. But there is this risk where if you start thinking that something is so great it will work everywhere, you suffer from what actually education researchers call the replication trap. And a good example of this is so Home Depot, it's about 2008, they decide that they're going to move to China and what they do is they take the Home Depot store so like we have in East Palo Alto. They open 12 of them in China and they try to sell the Chinese people on the do-it-yourself approach. It's a do-it-for-me sort of culture, and it's a - Tel Wang one of my former students now a Harvard MBA said to me, he's from China, he said if you have enough money to shop at the Home Depot in China, you have enough money to pay somebody to do it for you.

And that's also how they think about it. So this didn't work; the last store closed in 2012. In contrast IKEA is just kicking ass in China and one of the reasons they are doing so well is they've done a bunch of local customization probably 80% of the stuff they sell is the same stuff they sell in East Palo Alto. But they've done stuff like they have really great delivery services because many Chinese people don't have cars and the ones that do don't have as bigger cars as Americans do and also they're not into that assembly thing. So it's assumed when you buy that stuff that somebody is going to come to your house and assemble it. Its - so there was some sort of local adaptation, so they kind of did a tilt toward Buddhism, we'd say. And the situation where Buddhism is probably especially valuable, are situations where you kind of know the mindset you need, but you don't know the best solution and you know there is going to be a lot of need for localization. A good example and yes another one of my medical examples is, in the medical literature it's very well known that when you're a nurse and it's usually a nurse who gives you drugs, when your nurse gets interrupted or distracted they screw up the medicine they are going to give us. So the whole goal in hospitals and this is by the way if you have a loved one who is getting drugs do - and there is a nurse giving that person drugs do not talk to them or interrupt them. It's good advice.

Anyways, so there was a program put on by University of California at San Francisco where what they did was they took a whole bunch of local groups of nurses and they said you figure out how to stop the interruptions in your nursing unit. So here is one, this is actually University of California at San Francisco, you can't see in the picture but she is actually in an enclosed room with drapes, so nobody can see here and she is sorting the medicine. But here is another one, she is using - she has got this do not interrupt thing on. This is actually to the back of her, it's in a neonatal intensive care unit. So I mean she wants to be able to see the babies and you can see sort of the different solutions and here it's always important to remember. So that's a Buddhist approach that worked. In general, you know the question of where to be on the Buddhism Catholicism sort of dimension here is a constantly changing in strategic and tactical choice to emphasize that. But one of the times when it's most dangerous to have too much Buddhism is when people have this delusion that they are so unique, they are so special that the rules don't apply to them and many of you Stanford students know this when you deal with tenured faculty like me, we think we're so special that the rules shouldn't apply to us. Doctors are just as bad and a great example of when this can be dumb

was this was an article in the New Yorker looked at a group, the hospital he was at in Boston that did knee replacements and there was this guy John Wright who was at war with his colleagues for seven or eight years to get them to do more standardization and they fought him with every turn and most of them still don't like him. But look at the numbers, cut costs by 50%, patients leave about a day earlier.

So sometimes ramming a little bit of standardization down peoples throat is maybe the best solution for all. But the Buddhism and Catholicism thing it's probably the most important decision points that we talked about in the book. Okay. I'm going to go about 25 more minutes. Here is some of the scaling principles, cut some of the big ones, let me start with the first one. So this comes from Huggy Rao's research on social movements. So it turns out that even though we're at a place like Stanford where we are all smart people who make logical arguments. It turns out to change human behavior especially collective human behavior that just making a rational argument won't work and the basic recipe is, as Huggy would put it: first you get the emotions cranked up. You get the hot cause cranked up. And then you link it to a tangible set of solutions.

So to give you a good example I already mentioned the IHI, the 100,000 Lives Campaign. When they kicked off that movement, they brought together at a large conference about 4,000 different folks from hospitals, from the insurance industry, from the American Medical Association and they had in two of the speeches they have: one, was from Sorrell King whose daughter Josie died from a series of preventable medical errors at Johns Hopkins Hospital and Sorrell said, please don't let this - what happened to my daughter happen at your hospital. So hot cause, cool solution and my favorite part. So and Huggy did this case. One of the other speakers was Sister Marry Jean Ryan, who ran a large Catholic hospital system in Florida. And she basically said it's a moral imperative or as I would translate it, if you don't join the 100,000 Lives Campaign you're going to go to hell. So that's a real hot cause. But then there was the cool solution, are you going to adopt some of these six practices. And just real quickly, I don't want to spend a lot of time in this, but Huggy and I about what we started - this is about two or three years ago. We taught a class to try to get Stanford undergraduates to wear helmets.

Let's do it quick. How many Stanford undergraduates we got here? Raise your hand. Keep your hand if you wear a Helmet? It didn't work very well, but anyways. So we are still trying though if you get in a serious accident and you've 85% more risk of injury, if you wear a helmet. So anyways so what happened was we sent out this group - our groups of students and we had them sort of basically deal with groups of undergrads to just try to get them to wear helmets. In one of the groups they did what they call the watermelon offensive. This was with the men's soccer team and they tried to convince them to wear helmets, they made a rational argument this did not work at all. So what they did was, they started smashing broken watermelons everywhere. And they put little things on their handlebars. I have one in my office that were basically a picture of somebody next to a smashed watermelon with a crashed bike sort of lying there without a helmet on.

And they kind of got them laughing and going and it's also you know sort of a light, but gruesome metaphor and then they got them to start wearing the helmets. So this was at least for about seven weeks. This was effective and as we can solve from the survey here, we're having no lasting impact at all. We can talk about when scaling sticks. The other thing is when it comes to creating a hot cause, people who are good at creating a hot cause are the masters of naming the problem or better or worse yet naming the enemy. And you know Jobs this is a like a long quote from Steve Jobs, I don't think I'm going to read, but the basic sort of upshot of this is he comes back to Apple after being gone and somebody - one of the first things he hears at an all hands meeting is that Michael Dell says you should shutdown the company and give it back - the money back to the shareholders, Jobs says fuck Michael Dell. Typical Jobsian sort of thing. This is from John Lilly, who has spoken in this and then everybody gets kind of worked up because they're getting emotional especially that sort of Apple pride you got sort of you know either do a great job or get out, but there is also a cool solution. He gives them a three-year vest for their stock rather than a one-year vest and John describes how effective this was. And throughout Jobs' career, he was a very complicated character and I'm not sure I would want to have worked with him.

But he - one of his hallmarks was just getting pissed at people, I mean sort of in his dying days he called up Larry Page and screamed at him and threatened him, because Google was allegedly stealing stuff that by the way Apple had probably stolen from somebody else. But that was sort of his mode of operation, okay. So when you do this, though the key hallmarks are you arouse collective pride and aggression. When you look at work by sociologists and psychologists they say a lot of what happens in this process of sort of social movement, is people get the emotions cranked up and they stop thinking about their self-interest and they start thinking more about the collective interest, okay. So that's the first one. I'm going to grab a quick thing of water here. The second one is live a mindset, don't just talk about it. So there is a large body of psychological research which essentially says that if you want to change people's beliefs, and you want to sort of cement a mindset, what they say or what you say to them, well that's just fine. But what really changes the deep seated beliefs we have is what our behavior is. So you go to Facebook, which I have already talked about, this is a quote from Chris Cox, we don't talk about our mindset much, they kind of get introductory lecture from Chris, who still does it from most people at Facebook.

Maybe they give them a computer and get them going. But the idea is to live the mindset not to talk about it and it turns out and there is good research to support this that even if people don't like the direction you want them to go and don't believe you,

your job is to keep them marching in the direction you want them to go. And there is a lot of evidence that their beliefs will change as a result as long as you keep them going. And by the way every major religion and every - and every major military uses this technique to brainwash people. But to give you an - so actually I lost Bonny Simi, but I'm going to tell this story anyway, so I took out one slide too many. So there is this amazing Stanford graduate Bonny Simi. Bonny is a three time Olympian in the luge and for you undergraduates you will love this, I sort of love this too. There was one point, Bonny is in her 50s now. She got a letter from the provost putting around academic probation in the same day she got a letter also from the provost congratulating her for making the U.S teams. So she had an interesting sort of career.

Well Bonny in addition to doing all these Olympic efforts, she became a pilot and eventually became a pilot at Jet Blue and Bonny has since done all sorts of stuff at the D.school along the way she got an MBA and a degree from Management Science and Engineer just in the last five or six years, because she loves school so much. And one of the reasons she got a degree from MS&E is she wanted to learn about operations because some of us will remember in 2007 there was a terrible incident where there were 1000s of people stuck on planes at Kennedy and Bonny believed that that was a completely preventable problem caused by the fact that Jet Blue had outgrown its culture, its process and its IT system as it had gotten too big. It needed to go to a more systemic approach and after several top down attempts to stop it, to fix it they were so desperate they let Bonny sort of try her trick which was initially to bring 40 and then in groups of as much as 80 people together and what they would do is out of the D.school since she was very influenced by the D.school is so imagine a storm hits Kennedy, I flew to Kennedy last week and all the planes - 4,000 flights cancelled. A storm hits Kennedy what's the process of closing it and then reopening it and doing it effectively as possible and they'd map that with post-it notes and wherever there was a pink post-it note that meant that there was a problem they have to fix. Very inter-disciplinary teams and so she did this, she describes and she talked about this in my class MS&E280 at one point and she has all these folks doing this for her and its like the first day she's got almost no budget and she says to them, it was about 40 of them how many of you think this is going to be effective? Not a single one of them raised their hands but they liked Bonny so they kept sort of moving forward and if you fast forward a few years, this process actually seems to have largely fixed their operations during difficult weather. And the message here is no matter what people are saying, keep them moving forward, okay. We're pretty cool on time. The next one, so when you think about the problem of more, a lot of what you're doing is you are doing things that add cognitive load to people. You're adding more procedures, you're adding more process, you are adding more people, we'll talk about that more and so there is a lot of rhetoric and it's probably correct that if you're doing that you should follow A.G. Lafley's model and keep things Sesame Street simple and there is a great set of studies by a guy named Bob Shriff who now actually teaches at the Stanford Business School, he did it early in his career I think he was at Duke and he did a pretty simple experiment where basically had two groups of people and one group typical undergraduates he randomly assigned them to conditions, memorized a 16 - a six I'm getting this wrong, a two digit number, I'm sorry, and so just like 16 that's why I said that like 16 and the other ones did a seven digit number like 3242257 and then what they did was they walked to like the end of a hall so about where the guy in the back is standing and they reported the number, but in between was cake and fruit.

So the question is what's the effect of the cognitive load because trying to remember that seven digit number is much more difficult than remembering the two digit number and the ones who did the seven digit number ate 50% more cake. So what happens is when you give people cognitive load that they sort of lose the will and concentration on what's important. So you've got to be careful of the cognitive load and one of my favorite examples, another Stanford graduate this is an attempt to - and no you can't read this, you're not supposed to be able to read this. To bring essentially design thinking into it. This is - they call it the D for D or design for delight movement. And again at one of these early sort of kick-off things what they did was this was presented by Karen Hanson, who has a Ph.D. in psychology from Stanford and Scott Cook who is the largest shareholder and co-founder of Intuit. And even the title was convoluted, evoking positive emotion by going beyond customer expectations at ease and benefit delivery throughout the customer journey. So when we talked to Karen and Karen let us talk about this in the book, she'll let me say this here, she says to her classes, she comes in and gives lectures. She said people had two reactions to this.

One they couldn't understand what the hell we were talking about and number two they had this reaction that this too shall pass and so we sort of had a problem and pretty quickly they went to this. This is what they still use. This is their model, this is the only picture in the book, it's really simple and this is a case I think of sort of learning that making things is simple as possible, but no simpler is the way that you do scaling and here I hasten to add and there are certain management theorists and I had sort of a running polite squabble with Gary Hamel over this, who's a well-known management guru. He's always talking about tearing down the bureaucracy and tearing down the hierarchy. The fact is that as your organization or project grows, it gets more complex, you do need more roles, you do need a little bit more hierarchy, you do need a little bit of process it's just unavoidable and one guy who learned this is Mr. Larry Page. And it turned out when this is about 2003 or so, when Google got up to about 400 people he started longing for the good old days when they didn't have those annoying managers around. So he got rid of all the annoying managers, because he's Larry Page so he could get rid of them and he had a situation where there was one executive who had more than 100 engineers reporting to him. This did not last very long. She's laughing.

Well he learned the hard way and now by the way I was just at Google yesterday doing something with a guy named

Prasad Setty who runs sort of people analytics and now they're totally into essentially first-line supervisors, they're totally obsessed with them and think it's one of their keys to their success so they have learned. So the last thing here is that as systems and projects get bigger, you've got to add more complexity. But you have got to find some way to deal with it that sort of acknowledges and incorporates human limits. So Ben Horowitz - of Andreessen Horowitz, has got a great line that what you do is you put in just enough structure and process so you're giving ground grudgingly. So and his perspective is you wait for things to crack a little bit, but not break. And another expression, this is one of the heroes in the book, really interesting guy Chris Fry who before he was at Twitter, he has now head of engineering, but before he was at Twitter, he and another guy named Steve Green, they grew the development organization from 40 to 600 folks. And he has got this great line that the purpose of hierarchy is to destroy bad bureaucracy. And I think that's about right. Real quickly, we don't have enough time to go through sort of every aspect of what it takes to have sort of a good, if you will, non-friction filled bureaucracy. But if I was going to pick one lesson, the thing that I think more organizations screw up than anything else, I would pick group size.

There is a lot of evidence that as a team gets bigger than five, six, seven, eight, gets near 10 as Richard Hackman's quote said, things get really bad and essentially what happens is you get around 10 or 11, 12, 13 you end up spending more and more time on coordination chores and less and less time actually doing the work. And the other thing that happens is that you start having all these interpersonal problems because if you think about it, try to keep track of the personalities and moods of 10 or 11 people. It's like going to dinner and trying to have a conversation with 10 or 11 people, it's like almost impossible. That's why the average restaurant reservation in the U.S is actually four people, so a little evidence to support that. And a good example of a team that had some struggle with this was Larry Ellison's Oracle USA team, eventually the \$500 million or so that Larry spent got them out of this, but a year-ago a little longer ago than that, there was a guy named Perry Claiborne, anybody had classes from Perry Claiborne at the D.school? No hands, one of my hero, anyway Perry is one of - a great teacher. I just saw a hand. So Perry somehow or another and I don't understand how this happened got to know Jimmy Spithill who was the guy who actually won the last two Americas Cup as skippers and we kind of got a call that they had some group dynamics issues and so we went there and it's a long story, but we actually brought in one of our friends from NASCAR and had them do a tire changing exercise. But in the process they had this broken sailboat laying around, that's why they had time to do with us academics and you may remember the story this was October last year. So what happened was this is a 72 foot sailboat and I'm going to break the rules here, that 72 feet - this is about 110 feet, it's a \$12 million boat, this about a \$3 million mass basically. So this is in San Francisco Bay.

There is an ebb tide, the tide is going out. Now they're on the other side of the Golden Gate Bridge and here is they're boat, okay. And what happened in part, there is lots of other explanations. These boats are really freaking hard to sail, but part of the problem was they had all been racing in five person sailboats and they moved to 11 and they had all these coordination problems that they had to deal with. And by the way they got better, they came back, they won the Americas Cup. But that switch was really interesting and by the way one of the things that all the teams eventually figured out with the 11 person teams is everybody on these boats, they're micced and have headphones for starts. It's so loud. 72 feet, they are going 50 miles an hour in like a 25 knot wind you just can't hear anything, so what they figured out was they took the microphones away from five or six of them so they could only hear and not talk to keep down the complexity. So that was one of the solutions to sort to make them like a small team, okay. The next one and I will move to this one quickly.

This one is easy. When you see a factor spread, sometimes there is this tendency and sometimes I get paid to do this like I come in and give a scaling speech or I come in and give an innovation speech or any of the other books that I've talked about in this event and some exec will be under the illusion that this will actually change things to spread this sort of thin coat of effectiveness. Sometimes organizations do this for the full little bit of training, but when you look where effectiveness actually spreads, what happens is you get a deep pocket of excellence and that spread from one place to the other. That's how the 100,000 Lives Campaign worked, that's how a fast food chain we worked with did a little bit. An example of something that was real simple and not too complicated to spread, one of the cases we found out about was in Iraq, there was interesting - a thing came out one group noticed that when the enemy threw RKG3 hand grenades sort of old Soviet Union hand grenades and they threw them against something that was soft they wouldn't blow up. So when what they do is they put a trampoline on the side of the truck, okay. And something called the Army Centre for lessons learned spread it really quickly and it spread throughout Iraq. So that's Connect and Cascade. A more complicated one, this is Fifi she's at the Pearl River plant, one of the cases that we wrote and what they did was a kind of changed the mindset and approach when they were doing changeovers in a pharmaceutical plant to viewing it as a time to rest as opposed to being a pitstop and had these mini transformation, these little areas of effectiveness and they spread it throughout the organization after that. And then finally and this is our last point, and we are actually doing pretty good on time that book from Good to Great, one of our arguments is that good to great is great, but when you look at the spread of effectiveness what we really see is from bad to great is what really happens and here is our argument why.

So there is a lot of evidence from all different parts of life that bad is stronger than good, stealing, corruption, fights, laziness incompetence it's stronger than good. It infects teams it's more contagious. There's a great article that my class reads that's called Bad is Stronger than Good that reinforces this. To tell you maybe the most important thing you will hear today for

those of you who want to maintain long-term personal relationships, there is good evidence that if you're in a long-term relationship and every time you have an argument or fight with your partner, or just an unpleasant interaction, if you don't make it up with at least five good ones you're in trouble, things are not going to last. And the same thing happens when you go into the workplace, bad interactions pack five times the wealth of good interactions. If we have one deadbeat or jerk in your team, it lowers performance by 30% or 40%. So there is a lot of evidence that in order for good to spread what your job is to get rid of the bad first. So to give you one example, one of the class guests in our scaling class was a guy named Barry Feld and Barry Feld took over at Cost Plus Stores. This was about seven or eight years ago. The stock price was one, they were on the verge of going into bankruptcy and so he had like 156 stores and he walked around to most of them, visited most of them.

He closed some of them, but he also did something at every store that he went to which was the first thing he looked for was do they greet me or the customers? And if they didn't he saw that as bad behavior because it meant when people aren't greeted they steal more and they buy less. So what he taught them to do and he'd do it on the spot is greet them and give them a basket so they'll buy more stuff. So that was one little thing and then the other thing is he looked to see was if the bathrooms were clean because he had learned from a career in retail that when the bathrooms are dirty it's connected to a whole bunch of other problems. And eventually they were sold to Bed Bath & Beyond and it was good exit story. And getting rid of the bad is not necessarily always getting rid of sort of obnoxiously bad difficult things, sometimes it's little things that screw up your group. So this is from Chris Fry who we're actually doing something at the Commonwealth Club next week which should be fun. He is now the head of engineering at Twitter. So he takes over engineering at Twitter and he goes to his first meeting with his senior team and he looks and they're doing what probably many of you're doing right now, they're all looking at their cell phones and he says - he said we're having votes and they're still looking at their cell phones they're not even listening. So he took their cell phones away from them and put them in a basket and think about who works for Twitter, and the way he described it is they all started vibrating because it was like taking away their heroin or something and but he said we actually have shorter more effective meetings now. And to me that - we all know about the distraction of cell phones in life, but to me that's a pretty good example of getting rid of something bad so the good can spread, okay.

We can move - there is the scaling principles, a couple of wrap up comments and we could have some discussion hopefully. The first thing and this is really something that we learned. When we hear these words and we're talking to people and trying to spread excellence, we don't have time to do it the way we really should or we're going to take the path of least resistance, we start getting nervous because there is a lot of evidence that what ends up happening is I'm going to get in trouble from this, but you will end up like Groupon where you want to do things so quickly that you screw up everything else and you got to go back and redo it, it's this notion and in fact if you look at research on how educational interventions spread, there is lot of evidence that the most effective groups take the path of most resistance. So I wish I could tell you it was easy, but it is not easy and there is no such thing as quick and easy scaling we can identify. And related to this we're going to end with my buddy and the local and deserved hero David Kelly. So I have been involved with two different scaling efforts with David. One as an observer and the other as a participant. I learned it's much easier to be an observer than a participant by the way. In the mid '90s through about well even through now I've been an IDEO fellow. So I've sort of watched IDEO scale, and there's lots of times when people would be all upset and they'd go into David's office and he'd just sort of tell them to calm down basically like it says scaling is a manageable mess.

It always seems screwed up. You sort of need that to move forward and I always say David is so wise. He must be calming them down and then we started the D.school and I was actually helping to scale and I was one of those people in David's office hysterical or just sort of like standing there because everything was all screwed up, what's going to happen next. We have no procedures, people are fighting, I mean with all due respect to the D.school if you want good group dynamics in the senior team, this is not a place to go. And it still isn't true, but David one thing that he does is he sort of casts a spell over you, as the quote sort of says that you clean up the best you can, but you've got to keep moving forward. And this is kind of weird, but I'll - and I'll end here, it always reminds me of research on mood and even research on things like a visit to Disneyland which is sort of interesting and it turns out and I think this is an important thing for both leaders and for our own mental health. If you look at the average mood of the average person, right now always sucks the most. Lots of evidence. So how are you feeling right now versus tell us about the past, because most of us have pretty good mental health and we misremember how good things were in the past and we're pretty optimistic about the future. So a lot of what a leader's job is, is to change attention to move away from how much the present sucks, thinking about of the great past and especially how great things are going to be in the future and I would argue to go back to David and then we should open this up for comments since I've seen him scale one organization, IDEO and been part of the other.

One of David's tricks is that he moves your attention to the next big thing and in fact some people who have worked with David for years describe it as next big thing management. So even though things at the D.school are not perfect now and I would point to ways in which it's screwed up. Well we are going to the next big thing so we're thinking about the future, so who cares about how screwed up things are, we're just going to keep scaling if you will. So I think that's enough, so maybe times for some comments and questions and don't believe everything I tell you is always my key motto, so please argue with me. So I don't know how comments or - oh we have applause okay. So thank you. Thank you. All right. Comments, questions,

disagreements, I love when people disagree with me. I can do cold calls I've students from my classes here.

Yes. Do you see a possibility for a consistent organizational theory to emerge or you think it will be forever limited to contradictory ad hoc case studies? Wow! So that's - so you just said everything sucks in organizational theory and there will never be any consistency there? I actually, and I have been an organizational theorist for 30 years. So the question is are we left with contradictory ad hoc case studies or will there be a consistent organizational theory? I'm really sorry, but I actually think that there is pretty consistent organizational theory and I - I have been an academic for 30 years, some of the basic stuff that I'm talking about is actually pretty predictable which is as organizations grow. They need more differentiated roles, they need a little bit of hierarchy, but not too much so there is not too much friction. They need to have groups that aren't too big and if you sort of like go through the evidence, yes there are many areas where it's difficult to figure out what to do exactly in the situation. But I don't think it's as hopeless as it all seems. That said, can we come up with an organizational theory that's going to assure that you succeed 100% of the time? My view and this is very well supported since we are in the Thought Leaders Series in Entrepreneurship. If you think we're going to come up with a system that increases the odds your start-up is going to succeed, I see no hope at all in the future. It's a Darwinian system. It's very difficult to figure out what's going to happen, but this has been going on as long as possible.

But I actually think that if you got together organizational theorists although we bitch at each other at the margin. There is probably 20 or 30 principles that actually hold across organizations. But maybe none of them will help you save your particular organization. So we are stuck with the ad hoc case studies. That was a good question. I liked it because I'm obnoxious. So it's good. More I'm obnoxious questions. No, I liked it. Yes.

Is there a correlation between the size of a company's growth and the amount of discretion ... Between what? Between the size of a company as it grows and the ability to give the employees.... Discretion? So the question is that to me is does that mean that smaller organizations do they allow more autonomy and discretion for employees? I actually - what I think is in a really small group that's probably true. Once you get to 30 people or 25 people, it's probably all the same. Because in a really small group you can be participative, but if you look and then you get to a certain size, you need some structure and then what you can do though and Google is actually pretty good about this and if you look at the changes that are happening at Zappos, you can create a system where the groups are sort of self managing, but you always need a little hierarchy. So I think it sort of goes like that and then it flattens out. And I think that's what the evidence says. Yes. So when you put on your management consulting hat, you look at the sequester? The sequester? You want me to answer a question about the sequester? I don't know anything about the sequester. I want you to put your management consultant hat on Washington and how would your...

So I've been asked just for the viewing audience, I have been asked to fix the Congress, okay. So just to let you know, so anything I say from here on is bullshit, okay. But that said, when you look at situations where the worst situation is where you have a bunch of medium power constituencies and none of them can dominate - there is either no dominating force or there is no cooperation. Medium power constituencies who dislike each other always suck. And I got to be careful since you were at Apple during those days that was one of the problems that Apple has and I'm going to switch to Apple, because I don't know very much about the government. That was one of the problems that Apple had when Jobs took over, there's this incredible list I have somewhere of every product they had like a bazillion different - there was like 16 different performers whatever the hell a performer was and either you've got to have people who are cooperative enough that they are smart enough to do the right thing or this is a good word for authority that you have when there is dysfunctional conflict you have somebody come in with an iron hand and shoot everybody or put them in line and this is exactly what Mr. Jobs did at Apple. He fired many of my friends. So the answer is either peace, love and understanding or a .44 Magnum at the top. And that there, sir - that's organizational theory that either you have true love, peace, understanding and collaboration and everybody is on the same page and has the right mindset or somebody comes in and has the power and we're uncomfortable talking about power in U.S society and Tom Byers knows me as well as anybody in this room.

I hate receiving or giving authority. I just hate it. But the fact is as an outsider sometimes it actually works. So I - yes. If you're looking at characteristics of organizations and their leaders in terms of being Buddhist versus Catholic... Yes. What do you think about the sort of leaders themselves being born or made? Do you think there are other philosophies that may not lead to a good organizational leader? Boy that's an open-ended question. So how do I summarize that for the viewing audience? Are leaders born or made? Are leaders born or made? The answer is yes. And so here is why - and so this is - that's the answer to - so in the old days when I was a real academic I actually got involved in a bunch of these person situation debates and essentially what you have is the behavior you see is such an interaction between person and situation that untangling them is actually pretty difficult. So yes there is some genetic loading, but the fact is and there are probably some people who are not genetically prepared to be leaders including some for - I've a son with Asperger's syndrome, I'm not sure he should be like leading a large company, maybe could be a member of it.

But most people probably have enough of the genetic loading to actually be in a leadership position and what depends is giving them the opportunity to actually do it. And there are some people who don't have a loading and I would go back to the

good old days of Hewlett-Packard which used to be a great organization. God knows what it is now. Meg Whitman has a job that's even harder than being Governor of California, she found it. But in the good old days what they would do and I have a lot of friends Debra Dunn who is teaching a class here at the D.school. What they do is if you were sort of a competent solo player, they'd give you one person to lead and see if you screwed it up. And then they'd give you a team, then they'd give you little bit more and when you do that it turns out the leadership is a learned skill that most but not all people can learn. And there are - there might be some magical amazing leaders, but Danny Kahneman, the Nobel Prize winner in Economics and I don't know what happened to this dataset, but at one point I heard a rumor he had a dataset that if you randomly switched the CEOs of all the Fortune 500 firms, there would be no change in the performance across the Fortune 500. I don't know if this is true and I think I believe in leadership more than that, but leaderships a complicated thing. And that's a question that people I think don't really know the answer too, but I do think that leadership is a learned skill.

I would emphasize that. One more question. One more question Professor Byers says. Final question. Yes, sir. Can it be a three-part question? Three parts, it has to be short. All right. So I will just go with the I feel like a lot of us are going to be working in the real world, most likely we are going to be at the bottom of the totum pole, we're going to be like below the individual. Say if you're in like a toxic environment, you're in an organization that's like completely resistant to change. What do you do, how do you insight change and...? Well so this is the question.

You're in an organization that sucks, what do you do and you're working there? As a low level employee? Yes. So to me real quickly either you try to create goodness where you're at and this is the scaling thing and it really is quite interesting that there are some cases where people create a little local goodness and then it spreads and it spreads and it spreads. Now, so this case study is exactly right. I could tell you 15 case studies of people who did this. But if we look to the odds this approach just sucks. On the average you're going to fail. So if you are in an organization that really sucks and you're a low level person to me, you've got three choices. One you get out as fast as you can because you're going to start becoming like those jerks and incompetent people you work with, it's very contagious. The second thing you can do is to form a posse of people, don't just fight the man or woman yourself, because a lot of evidence that when you try to be an individual deviant, that's how they label you, so form a group of people and that sort of political action and then the third thing and this is I think a temporary solution, but - and I hate to say it I'm sure I've done this in my life. You know when you have one of those really bad classes and you just say to yourself, and it's a good thing about the quarter system by the way.

This class just sucks. And because you know I've three kids and I'm used to them having classes that suck and we just say to them suck it up to use that term and just get through it and learn the fine art of emotional detachment. Sometimes like life is like a bad airplane ride and we have all had the bad airplane ride you know like to get bumped. I had this about three weeks ago. I am in the last row, middle seat by the bathrooms in the giant plane and I'm a big guy, but the two guys on either side of me have - are at least 50 pounds each heavier than me. So I shut my eyes ordered a double bourbon and imagined I was somewhere else and tried not to give a shit. And sometimes your job is like that. And it's not a good permanent solution, because I would still be drunk and on that airplane, right. But sometimes it's just sort of like the fine art of knowing when not to give a shit is a really good technique, but get out as fast as you can is my quick advice. And I think we better end on that weird question.

Tom wants it to end. Thank you.