



Stanford eCorner

Small Acts and Big Impacts [Entire Talk]

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This special lecture offers insights from two leaders creating impact through entrepreneurship. Founder Elizabeth Samara-Rubio explains how her company, StorWatts, aims to provide distributed energy storage to millions around the world, while YouNoodle entrepreneur Rebeca Hwang tells stories of her early field experiences which formed her passion for social entrepreneurship.



Transcript

Good afternoon. It's been a pleasure to know Tom for so long and thank you very much for - interesting, it allows people to use their imagination what that means. I think you will find a little bit about what that means today in my presentation and Q&A session. So allow me to tell you about Energy to Grow. So ever - in terms of an entrepreneurial experience and one that has deep personal meaning, you have to hit the rewind button and figure out where did it all start and I will be very honest, it started very early. When I was nine years old, my family took us back to Colombia for a visit. And we were able to visit a national monument called Esfuerzo. And after a morning tour we were taken to the patio deck for a lunch. And as we were seated and waited for our lunch, we chit-chatted and then our lunch was served, it was Sancocho and if anyone knows what Sancocho is I want to talk you afterwards. It's a traditional stew.

As it was served, I notice the boy off to my right. He was approaching us, young and maybe 10 or 11 years old, a white shirt, white pants and no shoes. As he approached us, I just kind of looked at him and looked at my mom and he got about four feet away from me and then he lowered himself to the ground. So I have my food and he is staring at me, so I kind of not knowing what to do, and I ask mom why is he there? Why is he staring? And she says, she explained, he is waiting to see what you will leave behind. I looked at my mom, I looked at the boy and I just put down my spoon and gave the Sancocho to him. That experience left me with a perspective for life. And what I mean by that, that was a paradox in disguise. Back in the United States, my family had limited financial resources, but in Colombia we had enough to go out and to share. At that point, I began to understand that small acts can have big impact, regardless of how many resources we have. And I think that's a key piece right here, not only for just an entrepreneur venture in of itself, but for what we're trying to do at StorWatts.

So what's StorWatts all about? We're about to bring 3 billion people the energy to grow. And how are we going to do that? We're building a micro compressed air energy storage system that will be the most affordable, the most reliable, and the cleanest option at the distributive scale. We do this well and trust me, we will have redefined energy landscape at that kilowatt level for 3 billion people. Our goal is simple. Do this well, and 3 billion people will have a choice, a cleaner choice of how to - of an energy source that will help them grow their businesses and communities. So ultimately any technology at the end of the day has to impact people. So, actually my - these are pictures for some of the partners that we've been engaged with. Of to the - your right is a picture from Emprenda. Patricio Boyd, he was a co-founder and in charge of business development for rural operations. I met him in 2009 via email.

Then met him 2010 at Intersolar and since then he has been very, very helpful with us and just visited us last month at our StorWatts facility. He has been at the core of not only giving us insights, but also introducing us to the people who have operating experience for 5 or 10 years in the field. So, what does that mean? He introduced us to people who have an ESCO [Energy Service Company] in Laos, people who have an ESCO in India, to people who have ESCOs in Dominican Republic

and Honduras. That's just been a sampling of the people he was able to take us to, so that we'd actually get to know what we really have to build. In other words, I did not want to guess. The other picture is from my colleague, Anna Kaplan, she went to Cambodia and she has been helping me on several fronts and during this trips, the whole idea of micro energy and micro businesses was just culminated in her basically saying, I want to take a bunch of pictures for you. So she gave me about 25 pictures of micro businesses from Indonesia and Cambodia, you only get to see one of them. So, basically to her we - StorWatts already left a message with her. We're about providing an energy source of this, there is much better productive use of energy that allows people to do more with less. And then the last piece it speaks a little bit to what I did before.

After graduate school I went to HP in '97 and then after that went to my first start-up and went IPO, raised \$100 million that was called ZapMe. We actually launched about 2,000 computer labs and with over 500,000 users. After that I went and started my own business, a consulting business went back to HP with an emerging market solutions team. If you go on to your Google, put in HP 441 multi-user desktop, and what you will find is not only press releases but actually case studies of that project. And that project opened my eyes to you can't just take best intentions and great technology into these markets without having a little bit more homework in the field. And that you will see in the way we've actually evolved with StorWatts. Some of the things that we learned, insufficient packaging, arrives in a port of South Africa, gets on a truck, goes in a road with holes bigger than I can imagine and by the time you got to its location, because we were targeting rural schools, it was basically falling apart. The other part that we overlooked, oh my goodness, they may not always have - the grids out there may not always be available. So guess what? We had - we sent a system with AC, we did not design it to actually operate AC and DC. So, those are just a few insights into what has shaped our insights for StorWatts.

What do we want to do from a business perspective? So, I walked you a little bit about thematically where I started and how I have shaped my career, but also how its informed me to be able to look beyond the U.S. borders and start looking how can I have that impact in emerging markets. So you probably have heard of the story of a lot of work on GSMA that if you can provide a more reliable source of energy for cell towers, then by an extension you might be able to also provide energy for community services. You do this well, you go from here to here all way through the clinics and the schools. From a business perspective, you're looking at a \$50 billion market opportunity worldwide. And from a person to person perspective, you're helping someone go from a communications device to a school, to a clinic, and to their homes. So let me first started StorWatts what did we ask ourselves? The obvious question is, can we actually have really big impact? So we asked, can we reach - what it would take to reach a billion people. Anybody want to know how many mobile subscribers there are here, at present, as of today? Okay. So we're - I think we're over 5 billion. Today in the squares right there basically show you where the largest number of mobile subscribers are.

So this will explain the path that we've taken. We have taken two trips to India. The last trip was spending three days with two of the largest mobile operators operating in the country. Basically we wanted to go ahead have a view of the landscape. What would it take to actually take this system out to the field? One of the sites was right next to a landfill. So we kind of know a bit of the landscape there. So this - the next question we ask ourselves, not as we can reach a billion people through a communications network, what would it take to go beyond just that handset? Could we go to the clinics, could we go to the schools? What would it take to help them with agriculture energy requirements? What would it take to help them with their micro enterprises and what would it take to help them have a better options for their home? These are drawn to relative scale and what this depicts is basically the opportunity to deliver watt hours per watt of load. So in other words earn energy storage per hour demand and opportunity for this different applications. So basically we start with one and we can scale to a huge impact. To do that we had to think really hard what the best technology out there that we can use to make that possible.

So how do we redefine the market space? So, if anybody's read EPRE reports, Sandia National Lab reports, you probably have seen segmentation of the energy storage space with 20 different applications and if they put the number of hours - discharge hours at the x axis they end usually at four or five hours. What StorWatts was wondering is, where are the applications were they need storage for a 6, 12, 18, or 24 hours a day? Where is that access? That's because - that's the markets that we're serving. So when it comes to where does StorWatts fit and where is the biggest need? Its in applications where energy storage is used at 1000s of hours a year, seven days a week. Six or more hours everyday. The depth of discharge 70% or plus and then harsh environments, 120 degrees Fahrenheit or higher, lots of dust, lots of sun exposure and when it comes to an economic choice, if you can do all that, can you last for 15 years in the field. So not you don't want to give any - in this environment it sounds like, I guess, you don't want to give them consumables when it comes to an energy product, you don't want to give them something they have to throw away because there now you introduced a new requirement. How do you recycle it? In our case a compressed energy storage system has a 15 year lifetime and you can add to it, you can redeploy it at a much lower costs than the alternatives. So with that said, storage is a game changer. This is just a snapshot of our initial concept drawings. Its an integrated design of tank in the converter.

And if - that was right next to me, that would be just about this tall. Here is a little bit about what our partner said. So we Patricio Boyd to whom I spoke about earlier from Argentina, he has - he is probably one of our biggest advocates, and he is definitely one of the people we want to do a field trial with in 2012, if not by early 2013. He has gone out of his way not only to

introduce us as potential partners, but were also working at potential investment introductions through him as well. I believe there are some folks from Chile. We were introduced to Nelson Stevens through Patricio's network and since then have reengaged with him, he just won a project where he had six new micro grids that he has to basically do the entire energy solutions configuration, in Patagonia. After doing a deep dive on our technology, doing a TCO analysis, we're coming out in front. So with that said, we want and we will dominate energy storage at a distributed scale. And we will do it in emerging markets. But making sure it's appropriate and it's affordable and it's something that scales.

Because once you provide a better and more affordable reliable energy storage system or energy source, there is more demand coming. So any platform that allows that person to add to it over time is a - has a very high premium in these markets. This basically shows you our levelized cost of energy. It's between \$0.18 to \$0.30, and basically assumes a couple of scenarios where there is 18 hours of grid for example and with different levels of roundtrip efficiency and those two obviously will change depending on the configuration. And this is very competitive with today's options not just diesel, not just lead acid battery, but all the other alternatives like lithium-ion, redox flow and hydrogen fuel cell tanks. And in closing, I leave you with what we are with a view of where we would actually fit in a cell tower. I look forward to your questions and thank you very much for your time. Good afternoon. How are you? As a former BASES leader, as a student from Stanford, this is closing the loop for me. I was always taking the speakers to their chats and now I'm already on the other side.

So, I don't know if that makes me feel really old or I made it. This is it. So these are our slides. So my story is actually going to be the past and the story of my life and the choices that I've made to be where I am right now. I'm going to talk about the decisions I made to choose to go from becoming a geek, a tech entrepreneur, a technologist from MIT, to choosing a social entrepreneurial career and now back to being a tech entrepreneur today. So here is a picture of the community I was serving in Nicaragua when I was in college. The problem that I was trying to solve was their water issue. There are 2 billion people without access to water, safe water and sanitation around the world. There are many definitions of social entrepreneurship, academics like Rick Dees will talk about social entrepreneurs as those who combine the passion and the belief in a social mission with a businesslike discipline that tech entrepreneurs have in Silicon Valley. So I put the pictures of Mark Zuckerberg and Rosa Parks and you end up with someone like Muhammad Yunus, who won the Nobel Prize in peace as a social entrepreneur.

My definition however is about happiness. I believe that have you seen this Maslow hierarchy of needs. Raise your hand if you have. So, these are the steps that we have to take to reach happiness and self-actualization. I believe that social entrepreneurship is really unique because of the following reasons. It allows the entrepreneur to be able to reach meaning and self-actualization by providing the first step to happiness to those who are in more need. So, you're really closing the loop in making yourself really happy and bringing happiness to the rest of the world. Now I'm going to talk about a few eureka moments that I had in my career where I really pivoted my life into becoming something that I didn't think I was going to become before. So, I was in junior year, I was a chemical engineering student in - at MIT, looking for internships in the summer. How many of you are looking for a summer internship right now? Only two, three? Nobody is going to work this summer? How many of you are looking to entrepreneurship or starting your own projects this summer? Okay.

So, the rest of you are going on vacation and having a good time? Wow, my times it was not like this. We actually had to work over the summer to pay for tuition. Anyhow, so in summer 2001, I was a junior and I had to get a summer internship. This is pre-Wall Street debacle, so everybody wanted to go to Wall Street and go to Goldman Sachs and become an investment banker. So, I did my part of interviewing all these investment bank companies, I ended up having an opportunity to go to London and it was a really great opportunity. They told me that I would have £10,000 I could use in any way I wanted to invest and show that I could actually manage a portfolio and have the lifestyle of a typical investment banker. On the other hand, I also had this opportunity to go to a very low-paying job in India, in Mumbai, for a local company that made pharmaceuticals together with Merck. And I remember having this dilemma, now do I choose to go into an investment banking job that has a prestige and the money and the glamour that everybody would want, or do I go to India and actually choose to pursue a career that would bring me some more meaning. And I went to India. So what I discovered with this program being in India is that I fell in love with my cause.

So how many of you care about something that you want to solve today? Okay, tell me some of those examples, which problems do you want to solve in the world? Speak up. Education. Yes. Social networks are making people less social. Uh-huh, okay. No it's a very interesting problem. The way we're interacting is changing. Anybody else? Infrastructure rules. Say more. Well I mean to construction and linking cities and making bridging, making the infrastructure available to everybody.

Excellent. Education. A very important one today. So I mentioned this because at some point in your life you'll have this calling eureka moment when you really fall in love with a topic or a subject matter. And in my case I was in India and I was looking at this problem, the problem of water, having 2 million kids dying of diarrhea every year because they don't have access to clean water. And I realized that this was my calling in life, I had to do something about it. I came back to MIT and I discovered that these big problems don't actually need solutions that are really complicated. You could have solutions that are

very low cost and simple. So I paired up with a number of professors and students at MIT, and we put together this technology solution that use ceramic filters as a way to treat water for developing countries, especially in rural areas where you don't have distributed provision of water. So we did this, we got some patents.

We participated in some competitions, won some money and then we had this laboratory technology that we wanted to deploy in the field and we're so excited about it because as MIT technologists we thought that that was all that was needed, a technical product and when we put it in the field then magically all the solutions would come about. So this is how it worked, we trained local artisans to make the filters with local technologies. So we would have these workshops where we would develop the filters and then we created this cooperative with local factories, small factories that would store and sell some of these filters. They would go house to house and then sell them or give them away and talk to the households and educate them on how important this was for their children and the safety of their families. We had our own improv lab in one of our offices, it was a bench where we would do testing of all the result of the treatment that we would have in the field. And then we will go and check how they're using it, for example this is a typical kitchen in Nicaragua, San Francisco Libre is one of the poorest towns in Latin America, it's the second poorest town in all of Latin America so the conditions are really primitive. And I would see them, every now and then you would spot the filter being used or in the kitchens and that was a really joyous moment for us. So this filter that had a ceramic component and a plastic bucket where the water was stored worked really well in the lab. The treatment efficiency in the lab was close to 95% so we thought wow we got this, it's cheap, it's local materials, people know how to build it, there's no maintenance. So why wouldn't it work? Well it turns out that it didn't work and we were in Nicaragua, we deployed about 3,000 of these filters and the majority of them were not used.

In fact I would do service regularly and people wouldn't really answer my questions. So at one point I said, I really need to see the filter, you can't just tell me you're using it and you like it, I need to go and see where it is. And I was really in dismay when I saw many of these filters being used as door stops or for plants or they're using the bucket in the field for irrigation instead of actually using the filters. So I mean, as I said, I was a technologist from MIT thinking I have a technology, it works in the pristine lab, why wouldn't it work in the field. And that's why I realized that obviously there was something missing and that I didn't know everything. And this was actually symbolically presented to me when I was actually in the field and I was trying to get close to some of the engineers who were local, since it's very important to engage in a trusted relationship. And I saw this animal on the left, what is the name of this animal? Donkey. Exactly. What is the name of the animal on the right? Cow. Okay, so obviously I didn't know that.

And I was talking about this animal and calling it cow and everybody was just smirking and laughing around me, and at some point I said, what's happening, why are you laughing at me, and they said, well, Rebeca, I mean Dr. Rebecca they would call me at that point, that is a donkey not a cow. So at that moment I went online and decided to apply to school because I had a lot to learn. Coming from the labs, I am going to the field and really not even being able to distinguish something so simple as a donkey from a cow, that was really symbolic to me on all the institutional factors, the culture of factors, entrepreneurship economy, marketing that I didn't know that would never allow me to be successful in this project. So I came to Stanford, and here I studied the social networks and the institutional factors that affect the performance and the success of these projects in the field. So I did a lot of studies in Argentina where I was still working with poor areas with lack of provision of water, safe water. The conditions were as bad, if not worse. Very poor families, but surprisingly they had piped water to their slums. So I was going and looking at these communities where there was almost no money, but they still had water provision. As you see there is pipe water next to houses that are made of tin and cardboard.

And I actually had to always walk with bodyguards because it was so dangerous that you couldn't even go there by yourself. And what I discovered with the study is that the institutional factors and institutional networks were in fact one of the most important components in ensuring the success of this project. Now, the problem with being an academic after having been an entrepreneur is that you can't go back, it's very difficult. As I came back to Stanford and I had this long thesis to write, 300 or 400 pages, I had a year ahead of me, locked down in a room where I could spend my days in the library. Or, as I told my mom, I could go and actually do these things and solve the problems and do it much faster. So unfortunately having experienced the idea stretched in my mind I couldn't really go back to being in the lab and I took this perpetual leave of absence and someday I will come back to finish it. So since then I have been working with organizations like BASES in helping other entrepreneurs to make various projects happen. And my main issue after coming back from the field was the issue of scale. What I wanted to do was not only to focus on my one idea but as the quote says, if you get a couple of ideas they are like rabbits, they reproduce and make more ideas, and when you get a lot of entrepreneurs together then it's even more exponential. So that was the initial idea behind YouNoodle and the technology platform that we built, Podium, which allows some of these organizers, connectors and entrepreneurs to scale up their activities by using a technical platform.

Similarly we co-founded, as Tom mentioned, the Cleantech Open which is an organization that helps Cleantech companies create their companies, get resources, get mentorship and funding and since 2006 this organization has helped thousands of companies raise over \$400 million of funding and created about 2500 jobs. So with this and the fact that if you look at the average income of PhD dropouts from Stanford versus those who graduate, I think I didn't make the right decision. So in the

beginning, every time you have an idea, crazy idea and you believe in a cause and you want to make that happen, people will say it can't happen. Second they will say maybe it can happen but it's not worth your time, get your doctoral degree, go and study medicine, get a job, a real job and make sure you have a safety net for your life. But after a while when you do pursue that cause and you follow your instinct you'll see that the choices you have made were the right ones, and I hope in a few years you'll be right here presenting your careers. Thank you. At this point you can ask your question to both of the entrepreneurs or to one, just if you could say your name and say whether it's for one or both and ask your question. Who's first? No one. Yes. It's for both.

How do you make good decisions? Let me take it. Well first you have to know what you want. And once you're pretty clear what you want, there's always going to be a plan A, B, and C. So that's the way I made decisions. I mean, to some of the - Rebeca's points around pivoting, went to HP, left HP, went back to HP but went back with a certain goal in mind, emerging markets. When I moved on beyond HP I continued to be in remote applications, I worked at the Moore foundation as a consultant for two years. We funded about \$18 million worth of remote sensing technologies for bio diversity conservation in the middle of the Amazon. So everything was with an intent, so as long as you're clear what you want, give yourself some options and go for it. In my case I always assume that I don't know. As I showed you why, so I typically try to know who knows the piece of information that I need to have in order to make an informed decision.

Then I have a couple of mottos in life. One of them is, that I always try to make decisions that are going to improve my future but not at the expense of the present and that goes back to the investment banker issue. I saw so many of my friends going to get a career path that made them extremely miserable today for a future that would be possibly great. And I think many of them regret those decisions. And also depending on your life stage I really would tell, being conscious of whether you want to narrow down your options by that decision or whether you want to increase the number of options with each decision you make, that's an important thing to take into account. When I was younger I just wanted to create more options. So every decision I made I wanted to make sure that it was not narrowing the number of possibilities that that particular decision would create in my life. I was just wondering, how have you guys been able to align the interests of business with the interests of doing social good at the same time? How do you align the interests of the business and the interests of social cause? I actually believe that in order to have great financial success you do have to have a belief in a social mission or a cause. Those are the most successful companies. One of the latest trends is in using happiness as the asset that you're selling and promoting.

Delivering happiness, from the founder of the Apple, is a good example of how companies that are pushing for the wellbeing of society ultimately end up doing better in the market too. Well, I echo that, so for any technology with social networking or roads or energy storage, ultimately it's because you know - you have an idea of who you want to impact. The business will take care of itself, obviously you have - you want to make it as a for-profit endeavor if you can, because it's more sustainable. And if it's more sustainable then you're really pushing yourself to make it sustainable for the user. What was the biggest challenge you had in your career? What was the biggest challenge you had in your career? I had no challenges. Nothing. Learning the names of animals and - I think in - for example, in each one of these projects there's always a point in the project where you think it's going to fail. Either you run out of resources or money or cash, or in the case of Nicaragua I remember that there was one decision maker in town that needed to be convinced and he decided that he was not going to support the project and was not going to give us the permission to go to the community. So you deal with those things, for example in my case I went to his office and I sat down there and I said; I don't care what happens here but I am not moving until you listen to me and I am not moving until you say yes. And when you're a student and you're young you get away with a lot of things like that, probably today it will be more difficult, but when you're 20, it's cute.

It will work. Rebecca, I think you could get away with it today. The biggest challenge staying - because we've had already a career, multiple choices in our career so far. It's always balancing the practical with the, what if? And the practical is always, as Rebecca was talking about is going back to that job that pays very well and gives you a lot of sense of security, but - and it's been saying no to that and sticking with seeing it through. Someone in the back. Yes, sir. If you could tell me a little bit about how you assess talent before you engage with a partner or an employee and afterwards too? How do you assess talent before and after you hire or partner with someone? Very good. So for partners when we did our VOC if you will and I think you've heard from Steve Blank and others, there's get out of the building early. I think we went to about 10 ESCOs with operations in over 15 countries and at least five years of operating experience. That's what I was looking for, in other words I wanted to see someone who has tried the best and failed, tried the lowest option and failed and give me some of the real pain, because I really wanted to make the better choice.

Once I start down a road I want to make sure that I know what makes other things fail, so that I am designing around that if you will; that's a partner. And talent, I am looking for people who recognize that part of success is failure. So the ability to recover, I really look for someone's ability to recover. In my case it's usually, I start with a value system. If I don't have the same values and morals with the person I am going to spend probably the most amount of time at work with, it's just not going to work. So we have to agree on basic tendencies of the values that drive us. Second, I think it's very important that we have complementarity. Oftentimes I meet people who have the same skill sets of me and we don't really work well together because

we compete and we end up getting on each other's feet. And then the third part, I like to be more obsessed about something, it may not be the topic in question that I am trying to build, the actual project that I am trying to build but people who have a certain level of passion and obsession about something, it could be chess or it could be cheerleading or football. They tend to also have an easier time getting obsessed about the start up for an entrepreneurship project that you may have with them.

So I look for obsessiveness. You talked about value systems and morals, like how do you assess those value systems when you like meeting with somebody new? How do you assess value systems when you're engaged with someone new? So, actually this was one of the issues or events that made me go to India instead of say in investment banking. I had an interview with an oil company, and I am not going to name which one. We had a very nice chat for about an hour, so everything went well. The technical part was perfect and then he said, let's chat now more chit chat, this is not part of the official interview, but I would like to know let's say, we have a national park with a lot of natural resources and nature and there's a company that will go to that place and create a lot of destruction but create at the same time a large economic gain and jobs. So how would feel about that. And he was looking at me like this. So obviously that was a value based question that the company was trying to assess whether I would be okay with certain practices that were ongoing in the company. And I didn't get the job and I was really happy about that. So I think many times you can be very direct in asking hypothetical questions but also in - what is important to you.

Tom has a tool that's called the Trust Spider where you can actually align yourself in different aspects of communication, work ethics and values so that you can score the compatibility between you and the partner. And that's very, very helpful. I have used it with our team. Thank you for coming and giving a talk about everything and great projects, but with all entrepreneur ventures especially with social ones, the entrepreneur themselves is so important, what happens when you leave? Everybody leaves a company one way or the other, so what's your exit strategy, CEO succession, how does the passion stay in the company once you're not there? So, what happens when you leave, what's your executive succession strategy, how do you keep the passion in the company after you leave? It's a great question. I'm just thinking right now I have one of them, one or two that I have in mind, Tom has met a couple of times, extremely spirited, also aligned on values, she is making some tough choices to try to stay very close to social entrepreneurship. That type of talent, the way I scout for that at this stage is literally I come to some of these Stanford events, classes, I've sat in and I just look, and I'm watching and I'm trying to get a feel for what could be possible in terms of bringing in someone early on, so that I can mentor them and I've done that with one in particular individual for about two years, just to bring on and mentor them. Exit plan, I haven't really, I've put some thought into it, but there is so much work ahead of us. But I think there is an exit plan, I think the exit plan is probably, we'll look at it once we get going from tens and hundreds to tens and hundreds of thousands of units. In my case, I really feel strongly that the best companies in the world don't have a good product alone they have a great personality that stays beyond the founder, the CEO or the product lines that they have today. So, Apple is a great example of the character that the company has with or without Steve Jobs, you know the personality of the company.

And that's a really big challenge. For example, our company at YouNoodle we're creating that right now, we've 14 people. And very intentionally we are setting some parameters as to what that personality will look like. So, one of the things that we do as a joke is - have you seen the Honey Badger video on YouTube? Okay, so there are things about the Honey Badger that I love; the tenacity, fearlessness, persistence, obsession and passion for that honey they have to get, no matter how many bees are going to bite him. So we joke a lot about Honey Badgers, we give out words within the company that the Honey Badger badge for people who go really outside of their duty, beyond their duty call to do something that's really tenacious and fearless. And I think those personalities actually stay on. It doesn't matter if I leave tomorrow, that will make sure that the company continues to attract the right talent, and survive over time. In the far back? How do you manage to balance your work life with whatever else is in your life? How do you manage to balance your work life with whatever else in your life? Good questions for both of them because they - you know, how to juggle, so... I actually don't know the answer to that question. I'm hoping to learn from you? Wow, okay.

So, I've been called a really good juggler. I can - yes, I can have a lot of balls in the air, but the only reason I can keep them up there is because I've an amazing family. The kind of very highs and some lows that go as - the nature of starting your own thing requires that type of support. And it's an intense level of support, and I couldn't be more grateful to my family for making that. As an extension of that, I have amazing people around me who guide me and give me - making some very tough decisions in less time and with more clarity. So with that type of support I can have a family. Yes, I have two children. And still have time for baseball, soccer, track et cetera. I don't have balance. So I can't really - provided my fiance is here in the audience and he will say, she doesn't.

So I'm not going to lie about it, but there is one lesson that I learned since school, which is that before I used to push myself until I crashed, and then I took two or three weeks to recover and went back to work and had the same level of intensity. Now, I know exactly when I'm going to crash. So, maybe like two days before I'm going to crash, I stop. So I don't have to go through a long recovery period but I just have to have maybe a weekend to recover. So, it's just understanding the finesse between I'm crashing and I'm about to crash. Looking at technical solutions for big problems, but, Rebecca, you focus on the human

problem side of the implementation, Elizabeth the technical side of the implementation. What do you see as the greater challenge: solving the people problem or the development of the technological solution? Like with your power thing, people are stealing copper out of the ground in Northern Africa and that stops the grid from getting there, so there's a lot human implementation problems that... Oh, absolutely. So which is the greater challenge? Let's try to paraphrase your question, when you're doing a technology venture that has impact, is it the people problems or the technological problems that are more of the greater challenge? If you put those two together, you're probably going to have a conversation about business model. So that's really the challenge.

It's not one or the other, it's the business model. And there will be theft and there will be attempts. We met with the CEO/founder of a very large ESCO in India in Palo Alto three weeks ago, and he said that in one instance - so they know that their solar panels are stolen, so they said, okay, that's it, we're going to put on a huge cylinder of cement; no one can take that now, it's like cemented on there, you can't move it. Well, they had, I think, three instances where they just cut right through that cement and took it. And they actually found out that one of the three was actually a dowry, so something you gave for your daughter to get married, so we were left a little bit with our mouths hanging open and we were like really? So I made a little joke, I thought, well, at least you know she'll be married for 20 years. I think you have to have both, always. We can have technology without the cultural institutional issues around it, but I do think that technology has a potential to truly disrupt in a very short time period, and the issue is choosing the right technology for the right place at the right time and you can innovate or you can recycle the technologies that are out there, but it will always combine both aspects for the project. Yeah. Do you feel that more research in the previous technologies so that people that don't have them will feel the benefit of them? That's a very, very good question. If you could paraphrase.

Yes, the question is, am I certain that bringing technologies to communities that don't have it is a good thing; it's a moral thing, right? I was really torn when I was in Nicaragua and I was pushing this new technology that I developed in the lab and most of the impact that I was having was actually influencing the community to want to have Nikes just like mine. It was - the unintended consequence was that I was pushing cultural values that were not necessarily important in Nicaragua. And then I was looking at the happiness - that was what I perceived, maybe I was misperceiving it, but at least what I could capture from my interactions with people, I was - seemed to be pretty high. People seemed to be quite satisfied with their lives even though they didn't have much, and then half of my friends back at MIT were on Prozac where they had access to so many things. So I think that's a very, very important question that everybody in a social entrepreneurship project should take into account and have in the back of your mind or their mind while implementing it. But I do believe strongly in the role of technology in solving these problems. So it's about finding the right cultural framework to do it. I will agree. Moral certainty - that sounds a little bit above my pay scale. But certainty that we will have a much more positive impact, I believe so very strongly.

I see what we do with lead-acid batteries here in the United States when we shipped over a quarter of them to Mexico and they're not - although we can say we have a 98%, 99% recycling rate, but up to a third of that is sent to Mexico and you've seen the pictures if you look at New York Times' article, what they - how those are - well, how they're handled in Mexico. I don't want to see that. I think that people should have a real choice of a cleaner and more affordable option, and we've chosen compressor energy storage because it has properties where you're not introducing toxic and hazardous materials to people who may not have the way - either skill set or the infrastructure to handle it properly. Here's something I'd like to do. There are people from all over the world here who don't know each other. I'd like you to take 60 seconds, turn to someone sitting to your right or your left or behind you and meet them and think of a good question that you could ask our entrepreneurs. Go, 60 seconds. All right. We've got eight minutes left. Who wants to be first? No hands? Come on.

Given that there are so many problems in the world that needs to be solved, how do you go about selecting which problem am I going to solve and how do I know how to make a business model that could scale and that would be a sustainable business and that would help those - solve that problem? So, how do you pick the problem and how do you know it will scale. Okay. Right, so StorWatts is all about one goal: Energy to Grow. And how did I come to that? Because ever since I was - starting from nine years old and onward, I knew I wanted to be one big part of as many peoples' lives as possible. And that one part is be a part of their best efforts to achieve their goals, because if I do that, there will be a multiplier effect. And that - so when I thought about StorWatts and we talked about it amongst ourselves, it was how can you have a multiplier effect? So people are already trying to earn as much as they can, through either farming or micro enterprises, going to school, studying at night as much as possible. How can we have an impact that - in their best efforts, so they can reach the next multiplier effect in their productivity or in their academic interests. So that's one. That was the theme, find a way to be a part of someone's best efforts to achieve their goals. You will have a multiplier effect.

The second piece is to have a roadmap. So once you are in a position to enable someone to accomplish the first test, the second test, the third test, think of how much of an impact that is. So when I saw - presented the bubbles, it's because that's exactly how we thought. That's exactly how we saw the market, is we come in at the communication level because that's something we can leverage. But we see through how we can impact the rest of their lives, and the opportunity is huge. But it has to be the right choice, i.e., technology people, business model because when you go in as small, you should assume that

your technology does three things, it scales at a lower cost than your competitor. I think you have to fall in love with the problem or an issue. The path of a social entrepreneur - and an entrepreneur in general - is so difficult. You're going to be miserable 80% of the time, and then 20% of the time you'll say, wow, I'm doing something great for humanity. But it's so hard that if you don't fall in love with it, you will drop out, you'll quit sooner or later.

The second thing is that you have to find people to do it with because if you're alone, again, it's just going to be too difficult. So I would go - I would look around for problems and you'll see that one of them will resonate with you, for whatever reason; because you care about the problem or because your skill set and background is the best fit to solve that problem. And then, you'll find other people you can resonate with who are also as passionate as you about that particular problem. And then you're set; it's history from there. Isn't that contrary to what you said earlier though, about not sacrificing the present, if you're miserable 80% of the time as an entrepreneur? Wow, I was called on my inconsistency. It's very true. Rebeca, nobody heard him. Okay, the question is, isn't that inconsistent to what I said before that if I - I shouldn't forego the present - sacrifice the present for the future, then why am I choosing an entrepreneur career that makes me miserable most of the time? And I think it has to do with a pyramid again, I've been thinking about this question a lot recently because I have no balance and I was feeling very stressed. And I believe that there are some people whose path to self-actualization only comes through these big ambitions and extremely challenging problems that you want to solve. Without trying, at least people like myself are not going to reach that level of meaning and self-actualization.

So I don't actually have an option. If I could be born again and I could be just as happy without having all of these ambitious goals, probably that would be easier. And you can see the happiness in different countries and you'll see that some countries definitely have happier people. Denmark number one, always. Yeah. One last question, yes? So where do you go to get funding? Because VCs usually don't like to fund a company that is less than a billion, right? So where are you going to get funding because VCs don't like companies that have a potential market cap less than a billion? So my answer will be with a caveat. The VC landscape is changing dramatically and has been for the last three years, and I think it's going to change again. I think you're going to see a lot of VC firms - a lot of people who were at large VC firms go into smaller firms. And I think that's - might be actually a good thing. So with that said, all the math changes, right? So all said, it's not just a billion; it could be something smaller.

With that said, when we have engaged thus far, we have actually had more traction with international investors who are much more familiar with the markets and the culture, and can - would serve us probably very well, in terms of guidance to grow the company in the areas that we're targeting. There are also cause-driven VCs and investors. A lot of angels invest in things that they really care about, I mean, stories that they care about. So you can look for those people who have a good fit with your project, but now we have potentially crowd funding picking up in a few months. So I think that will open up a lot of opportunities for social entrepreneurs. With that, let's thank our two entrepreneurs. Thank you.