



Stanford eCorner

Savi's Winding Road to Success

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Verma talks about how the initial idea of wanting to track children to cut down on kidnappings and lost children led to Savi's current technology. Along the way, they learned about marketing, R&D and funding.



Transcript

As I said today, we literally span the globe, and about 85% of the world's cargo ports are using our technology to track stuff either for homeland security or for global supply chains or for the military. So that's literally an example of the network effect, but it took us a long way to get here, and we had an interesting and strange and long and winding road to get to this point. When I met this guy, Rob Reese, over at the Career Action Center, he had this idea. He wanted to track children. He had lost his kid in a supermarket. The kid wandered away, freaked him out. Two-year-old kid. He said, "Hey, I've got an idea. We need to build something." The movie "Aliens" had just come out, and so that little hand-held tractor which would tell you how far the alien was from you, so he says, "Why don't we build something like that?" So this was my hobby project, you know? The dissertation I was working on, which I think has commercial applications but I'm not sure what it is, was being able to track the presence of metal on an ocean surface. I'm sure there is a commercial application for it but I'm still thinking about that one.

And so I said I'd take a few days off or a week off or something and help this guy design this. So first lesson we learned is the difference between engineering and marketing. Before I went and started helping this guy out, I went and did research. So I went to talk to all my grad school buddies. I said, "If we could build something for \$500, which was like a bracelet, and you'd be able to have a handheld device and if your kid wandered away, it would tell you with a little error how far the kid was and also which direction the kid wandered away into, would you pay?" "Cool! This is good stuff. We'll all pay for that." Turns out, all graduate students in Electrical Engineering at that time, or the majority of them--I don't think it's changed that much, I guess--were male. And so it turns out, women make all the purchasing decision in families. The first words out of their mouth was, "Are you trying to imply I'm a bad mother and I would lose my child?" Second word out of their mouth was, "Are you trying to imply that my kid is a dog? This is like an electronic leash for my child." Not a good marketing idea. Luckily for us, not so luckily for him, Saddam decided to invade Kuwait. The military shipped 40,000 containers to the Gulf and had no idea what was inside 25,000 of them.

The so-called concept of 'just in case' logistics. "And just in case I didn't get this stuff, let me order another one. And just in case I didn't get this, let me order another one." I mean, a perfect example is I think they shipped over 1,130,000 rounds of tank ammunition, used 30,000 and shipped 1,100,000 of them back eventually. There are still containers out there in the Gulf that are serving as houses for somebody, but they are still paying what is called demurrage. They are still paying the rental fees on those containers that they use because we showed in Desert Storm that as a military and as a country, we could move a lot of stuff from one part of the world to the other. We just don't know what the hell we moved. So this weird thing had just started--this is early '90s--called the internet. And DARPA came to us. And we were about 10 people or so. We had just figured out that

this child-tracking thing was not a good idea, so we were sitting around trying to figure out what the next market application was going to be.

And DARPA came to us and said, "We've got this thing called the internet. It's only being used by college students to send emails to each other. I don't think that makes any sense. We need a killer app for it. When a killer app is if you could connect the internet to your container and somebody could sit here and know what's inside every container all around the world, wouldn't that be great? Can you guys do it?" We're 10 people. We could do anything. So they came to us and said, "Can you do it?" We said, "Sure. No problem. How much money?" "A million bucks." Or two million bucks. And we started building it.

We were too dumb at that time to know just what a difficult task we had taken on. This was in '92, '93 timeframe. But we built up this technology, and lo and behold, it worked. I would tell you we are one of the few companies in Silicon Valley that did not start in a garage. We actually started in a front bedroom. We only moved out of that front bedroom in 1992 when we got a \$2-million contract from the Small Business Innovation Research in DARPA to help build out this network. OK, so we started building out this network. This was in '92, '93. And a few years later the military said, "You know what? This stuff is good. This thing works.

It's starting to add value." So they decided to have a competition and pick a company. Motorola, Marconi, everybody else competed. Again, we were too dumb to know that we couldn't take this thing on by ourselves, and we won. So we won this big contract, Texas Instruments came to us and said, "We'd like to buy you guys." We were like, "What the hell is that?" We started this thing because it was kind of fun. We didn't use venture capital because we kind of looked at it and said, "We don't really want to--" because we have 40 employees. I think a few of us owned the majority of the company. I think 70% of the company was in the hands of our employees. I think we had a few angels that helped out. Then Texas Instruments came in, put cash on the table and said, "You're now part of Texas Instruments." Interesting story. Probably one of the best things that happened to us in one way and the worst thing that happened to us in another way.

This was in late 1995. We were doing about \$4 million in revenue, Texas Instruments bought us, we became part of Texas Instruments. The CEO of Texas Instruments at that time was a guy by the name of Jerry Jenkins. Jerry, in my opinion, is probably one of the greatest CEOs that ever lived. He unfortunately died within six months of buying this company. But he bought Savi because one of the things he was concerned about, and this goes back to entrepreneurship, the number of technologies that had spun out of Texas Instruments, if you aggregated them together, had a market capital that was double Texas Instruments' market cap at that particular time. And Jerry's concern was that Texas Instruments was a great engineering company that could design great stuff that didn't know how to turn it into great businesses. And so part of what his strategy was was to start bringing in mavericks that would really be irritants into the system and help really create businesses by being irritants. The analogy he used to always come up with was we need entrepreneurs like irritants, and just like a grain of sand inside an oyster creates a pearl, this will create pearls within Texas Instruments. It's a great concept, great philosophy.

The guy was a great man. Unfortunately he died. Very shortly thereafter, Tom Engibous, who was the CEO, came to us and said, "What do you guys think?" We said, "I'm not sure this is a good fit," because Tom wanted to take TI towards being a DSP company and we saw ourselves as much more of a systems company. So we worked out a deal and we were sold to Raytheon. And about a year later, we were able to buy the company back from Raytheon for significantly less than what we had sold the company to TI for. And this was in 1999. And so literally we were doing approximately \$17 million of revenue at that time in 1999. We've had a pretty nice run, from \$17 million to about, as I said, between \$90 to \$100 million is what we will do this year. Since that time, we've raised venture financing from the likes of Oracle, Moore Davidau, all the key Accel partners, etcetera, etcetera. UPS is an investor in the company.

And we have suddenly watched this technology that everybody kept looking at as something being weird--RFID, what is this?--become just ubiquitous. And our vision has been pretty consistent. After the child-tracking thing was over, we pretty much came up with this one thing which was, we will track containers and conveyances as they move around the world, and we will tell you what's inside them. It's been the vision of the company since then. And suddenly that's become the hot phrase. So it's not like we went out to create this great business. We felt that was a problem, there's a problem that we think we could come up with a solution to, and we just stuck to our guns. And we took a long, long time and suddenly, Wal-Mart's come out, Defense Department's come out, and it's now become this concept that it's going to be the ability to track everything that moves with some electronic identification code and it will become ubiquitous.