

MIT Alumni Books Podcast | Unscaled: How AI and a New Generation of Upstarts Are Creating the Economy of the Future

[SLICE OF MIT THEME MUSIC]

ANNOUNCER: You're listening to the *Slice of MIT* podcast, a production of the MIT Alumni Association.

[RINGBACK TONE]

HEMANT TANEJA: This is Hemant.

JOE Hi, Hemant, Joe McGonegal at MIT, how are you?

MCGONEGAL:

TANEJA: Hi, how are you?

MCGONEGAL: Now let's get into it. I'll read the little introduction, I'm rolling tape here, and I'll say, Hemant Taneja, Class in 1997, is the author of *Unscaled-- How AI and a New Generation of Upstarts Are Creating the Economy of the Future*. It was published in March 2018 by Public Affairs Books.

TANEJA, who holds five degrees from MIT-- three bachelor's degrees and two master's degrees-- is Managing Director at General Catalyst and he launched their Silicon Valley office in 2011.

Hemant, thanks for patching in here to talk about this book. Why is 2018 the right time to write this book?

TANEJA: We're starting to see the early effects of the use of AI in various parts of the economy, both positive and negative. So I think lots of questions are being raised today on how do we respond to the use of this powerful technology in building the various industries over the next couple of decades? And it provides an interesting framework to think about those questions.

MCGONEGAL: And it's one you've been developing this notion of unscaled-- the unscaling of industries that you study as an investor-- for some time and published previously about it before coming to the book, yes?

TANEJA: That's correct. So I moved to the Valley from our Cambridge office to open the operations in 2011. And it was remarkable to see-- instead of selling software to major industries like insurance and health care and financial services, the entrepreneurs were starting to reinvent

these industries.

And they were using AI and data and a lot of those platforms that have been built in the past decade, that's what got me thinking about whether we're in the midst of a technology cycle, as venture capitalists often say, or are we in the midst of a fundamental or secular change broadly in the economy? And those thoughts led me to eventually writing the book.

MCGONEGAL: Define unscaling as you see it. And maybe what's the risk of not acknowledging the trend towards unscaling right now?

TANEJA: In order to understand unscaling, you have to look back at the last century and recognize that scale was the key measure of progress. We scaled our hospitals, we scaled our power plants, we scaled our corporations, and it served us very well. Take health care, for example. We fought off infectious disease and trauma and infant mortality rates by using health care systems.

We kept scaling that to bring that capability more and more per population, but if you look at that system today, do we really think the health care system is viable? Do we really think our education system is preparing our kids for the 21st century? Do we really think our banks are-- not really, they actually failed in 2008. Is our government working? I'll let you answer that yourself.

So I think as all these institutions that have scaled beyond a certain point, they all started to break. Meanwhile, as we have organized content, community, and commerce online, this next generation of entrepreneurs that we talk about in the book are using data and AI and taking segments in each of these categories and unscaling those off of these traditional corporations that serve them.

One of the companies we referenced at the beginning of the book is the company called the Livongo, which I was involved in helping get off the ground. What Livongo does is it says, well, for the 30 million people in the United States that have diabetes, let's not send them to our skilled health care system. Let's give them a connective glucometer and let's make sure that we're monitoring them on a real-time basis and keeping their glucose levels in healthy ranges.

That's really what those 30 million Americans want. They don't want a system where their blood glucose is [INAUDIBLE], they've got to go to the ER and then somebody treats them, which is what happens because no one's really monitoring this very treatable disease.

So the system that Livongo provides, it also unscales those 30 million people of the health care system and gives them a solution that's much more valuable, delightful, desired from the consumer's perspective.

And across every industry that's what's happening. Entrepreneurs are taking small segments that were traditionally served by these large companies led by economies of scale and giving them products that these legacy companies just can't compete with.

This is a secular trend that we're in the midst of, and this is the golden age of venture capital where every one of these industries and markets are getting rewritten using data and AI.

MCGONEGAL: Talk about that other investment of yours, Color Genomics, two MIT alumni still working on this. They're another example of unscaling, but more in the life sciences space.

TANEJA: It's a great example. Again, what our health care system does today, is driven to say, if you get sick, we will make sure that you're treated, doesn't matter what the cost is. And that's what's really personally making us bankrupt as a nation. And as employers, businesses that provide health care, that's not what the consumer wants. What the consumer wants us to not get sick.

In order to be able to do that, leveraging the advances in genomics and applying AI machine learning and various data analytics tools and building great software, what Othman and Elad are doing is essentially saying, hey, we'll just help you understand your propensity for various diseases based on your genetic makeup, and then help you figure out how to mitigate those risks and stay healthier longer.

Ultimately, that's what the consumer wants, and that's the core mission that Color's going after.

MCGONEGAL: In terms of technology and personal technology in the Valley, a lot of people point to the year 2007. Why was that such an important year for the unscaling phenomenon?

TANEJA: So 2007 is a really interesting time in general. You had Facebook, AWS, and the iPhone, these three platforms that started to gain-- they were launched and they were gaining momentum, Facebook Connect in particular.

And so these platforms, along with a lot of the other platforms we had built earlier, whether it's companies like Flextronics that became outsourced manufacturing platforms for new

businesses, or companies like FedEx and UPS that are outsourcing distribution and logistics for new businesses, all of this together essentially completed the entire stack that we know as vertical integration.

All of a sudden, if you're a product team and you understand a segment of the market for your product really, really well, you can remain a laser-focused beam that's building that product, and you can rent everything else you need to compete with the massive incumbents in your space. You can go build an insurance company. You can go build a car company. You can go build a One World Schoolhouse a la Salman Khan work which we talk about in the book as well.

And with nimble teams, you all of a sudden have all the advantages because you're focused on the product to take on these incumbents. And that advantage that started in 2007 is what I call the economies of unscale. The advantage that these small, nimble product teams have in their ability to focus on their customer, iterate their product, and just rent scale as and when needed to compete.

MCGONEGAL: How is your MIT education alive and well in the writing of it?

TANEJA: Well, MIT education has been the foundation for how I think. A lot of the systems thinking capabilities that I developed were quite helpful. As you know, at MIT, a lot of the work that gets done in developing interdisciplinary thinking, that's pretty powerful, because what's happening is, you're bringing expertise in consumer technologies and machine learning and AI, and all these different verticals-- as I mentioned, health care, finance, energy education, and others-- we're building all these learnings together to build these modern companies. So to being able to think across these disciplines has been a core enabler for me to understand them, and frankly, invest across these industries.

MCGONEGAL: You grew up in New Delhi, moved to the Boston area at a young age. You write that your parents gambled everything to bring you here. Explain that.

TANEJA: It's interesting if you think about the late '80s, early '90s in India. It was very difficult for somebody to use education as a way to be very successful from a career standpoint. There weren't that many fantastic universities, and a lot of the culture there was largely entrepreneurial and most people end up just starting businesses.

We were a lower middle class family and we didn't have the capital to go start businesses, and

we certainly didn't have the resources to put me through a strong education system either as those that succeed in the education system often have access to.

So my parents realized that and they essentially gave up their life. They weren't well-positioned to figure out what they're going to do and they moved to the United States. And when my uncles, who'd been living there, sponsored them for a green card, they jumped on it and they said, we'll figure it out. At least it will create an easy path for greater education for our kids.

So they sold their little house and got on a plane and showed up here, and then we had a fresh start. So I think without that risk, I don't think we would ever have been as successful and fortunate as we have been.

MCGONEGAL: I would say, you have five degrees from MIT. You did drop out of the doctoral program, you write, and there's a nice alumni reunion kind of going on in this book of many classmates of yours and fellow alumni you write about. I wonder what you made of-- you say your mother never forgave you for dropping out, but what do you make of the current movements, Thiel Fellowship to drop out of college and create a startup of your own and so forth?

You also write about Patrick Collison, now the CEO of Stripe. What do you make of a journey like his?

TANEJA: I think there are certain journeys like Patrick's that are essentially black swan events, and I don't think we want to replicate those for everybody. So I actually am a believer that getting deep enough in skills that you care about from your work standpoint, whether that requires going to college in the future or you learn through online tools and various other classes, leave that aside.

But the idea that you operate in a mastery-based environment or on the skills that you want your career to be based on, we should not be giving that up.

When Patrick and John started Stripe, they were unbelievable software developers. You know, even they did drop out, and that has served them very well in building an amazing company. For some, they should go through college. And in the future, maybe there's not that many universities where it's worth going through an actual university program, but developing those core skills-- whatever the paradigms of education will be, I do think that has got to be done. Without mastery, you can't succeed.

MCGONEGAL: Tell me what else you're reading right now.

TANEJA: I am reading *Homo Deus* by Yuval Harari. This book is trying to think about what are going to be the core problems or missions for society and humanity for the next 1,000 years. If you look at what-- we focus on a lot before, it was war, famine, and plague, and fighting those, and building a humanity that can succeed through those challenges.

We've essentially conquered all of those, as Yuval described in the book, and the question is, what are the kinds of next generation challenges we will take on as a humanity? And examples, it could be our longevity and living forever and ideas like that. And I think it's fascinating for me, because as I've been writing about what is humanity focused on over the next two or three decades, it's helpful to calibrate that against-- Yuval's views on how do we think about it on a 1,000-year time scale?

MCGONEGAL: What else will be written on the topic of unscaling by you?

TANEJA: The idea of writing another book is very much something I think a lot about. I found that experience to be very cathartic. It helped me think about why I made certain investments. After a while, when you're doing the same thing over and over again, as I have been investing for 16 years, it just becomes second nature to you. So you're off to not even reflecting much because you've been doing it for so long.

So it helped me just reflect back on the underlying patterns across companies like Stripe and Snap and Color and Gusto, and companies and projects we've been involved in AirBnB, or et cetera. So I like the idea of going through that experience again in the next few years. I think the exact topic would probably be dependent on where I am focused for that time.

And if you asked me to write a book today, I probably would write about health care and the goal of unscaling and AI in health care. But I'm still decompressing from this prior experience, but I'm sure I'll be back on it in the next couple of years.

MCGONEGAL: The book is on *Unscaled-- How AI and a New Generation of Upstarts are Creating the Economy of the Future*. And it's available now wherever you buy your favorite books.

Hemant Taneja, thanks for joining me.

TANEJA: Thank you for having me.

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