

Return to Glory: How the U.S. Can Reclaim its Innovation Edge (and why Rhode Island may hold the key)

A conversation with Business Innovation Factory Research Advisor John Kao

Today's conversation on innovation typically focuses on individual companies or market sectors, but with his new book, *Innovation Nation*, Business Innovation Factory (BIF) Research Advisor John Kao takes the talk to a whole new level: how can you innovate a country?

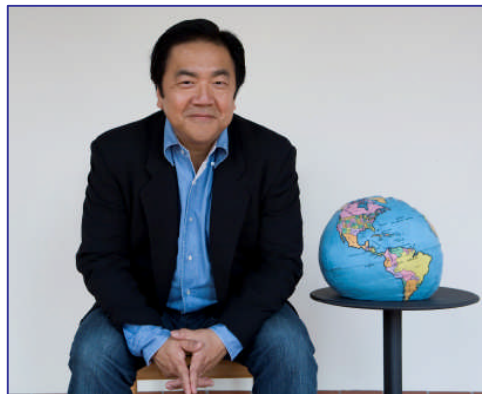
Kao may just have the most interesting—and diverse—resume of anyone I've come across. A celebrated jazz pianist, he's toured with Frank Zappa's Mothers of Invention band, produced several movies including *sex, lies & videotape*, taught at Harvard Business School for 14 years, wrote a best-selling book called *Jamming*, founded a few firms and consulted to big companies, small start-ups and government agencies around the world. Along the way, he also trained in philosophy with a B.A from Yale, psychiatry with a M.D. from Yale Medical and also business with a M.B.A from Harvard Business.

His book is fascinating. When you deal with populations instead of employees and governments instead of competitors, something as simple as a "common agenda" becomes difficult to achieve. It's clear that Kao is an innovation enlightener fervently bent on helping U.S. leaders move from just "getting" the importance of innovation to "getting innovation done."

He writes that the U.S. is in the midst of a "silent Sputnik" moment. Since we don't have an obvious inciting incident such as the Soviet's putting up a satellite in space before us in 1957, we need a leader who can galvanize and

incentivize smart people to tackle interesting and purposeful problems.

I spent some time on the phone recently with John. We talked about why the U.S. is desperately in need of an innovation strategy and how organizations like the Rhode Island-based Business Innovation Factory, which address the systemic nature of problems, could help the U.S. regain its competitive edge. What follows is my edited transcript.



BIF: Thanks for taking the time this morning John. The rooster hasn't even woken up on your end so let's start with a softball question. I loved your book. Tell me a little about *Innovation Nation* and how it came to be. What spurred you to write it?

John Kao: Do you know of Vannevar Bush? He was FDR's director of the Office of Science, Research and Development. He

said that a country that turns its back on science, technology and innovation is ultimately a country that will lose control of its destiny and its prosperity.

Innovation Nation came out of my personal sense of alarm about our country's growing innovation challenge and how indifferent or complacent the people I have encountered are about the issue. In looking at the innovation capabilities of our country today, it may, on the surface, not be a sputnik challenge. But if you look at it all together as the sum of how we manage talents, how we educate our young people, how we fund research, how we continue to be wise stewards of a society that welcomes risk taking and exploration and so on, I'd have to say the future is fairly bleak.

That's interesting because at our annual conference last fall, Irving Wladawsky-Berger (IBM's Vice President for technical strategy and innovation) sat down for an onstage interview with *Wall Street Journal* columnist Walt Mossberg and said that true disruptive innovation for established companies can't occur without having a near-death experience. It was pretty provocative and most of us were inclined to agree. Do you suppose that hypothesis holds true for established countries too?

There's little doubt that change is hard and creating a sense of urgency is probably a necessary condition for change to occur. So if you look at countries, there are really good examples of the near-death experience leading to transformation and Finland would be one of them. Here's a country that went through the economic version of near-death in the early 1990s with the evaporation of their foreign trade with the Soviet Union and other related issues with financial stability. A deep recession led to depression, unemployment skyrocketed, businesses failed. It was a chastening experience which hurt their image as a smart country as well as their cultural morale.

So how did they turn it around so quickly?

They started by investing extremely heavily in science, technology and education. A lot of the money went into what's now, in retrospect, a 21st century infrastructure that supports public/private partnerships, new approaches to linking industry and academia, and new economic models for research. Their rebirth can also be attributed to a real strategy for growing their own talent as opposed to trying to attract smart people from other countries. Fundamentally though, it was attitude more than money behind the Finns' achievement. A vast cultural shift accompanied their new national approach to education. Today, 95 percent of sixteen-year olds are enrolled in secondary education. Learning, as I say in the book, is very hot in frigid Finland.

The Finnish example was illuminating for me. I find though that so many countries today want to emulate Singapore. They travel to Biopolis, have their a-ha moment and then return to their own country wanting to implement similar strategies. But Singapore is really an entrepreneurial upstart, only just established in 1965. Now take someone like Ireland which has been around for centuries and has died and come back to life several times. I think what they've achieved in one generation is more profound and more transformative. How do we do that here in the U.S.?

Innovation is hard to talk about. Right now, we just don't have the language or concepts to have a meaningful national conversation. That's certainly part of the intent of my book. Because it's one thing to say the issue is important and another to have a conceptual framework for the conversation to take place.

Let's go back to the Finnish example. If you look at the country today, they are extremely prosperous. Their transformation though, is a result of specific pain points. Today, they make an explicit link between a challenge, the response and the results. In the book, I discuss what that means to the U.S. and describe our current situation as a silent sputnik

moment in the sense that we have a real challenge in this country but it doesn't have obvious pain points.

Innovation is hard to talk about. Right now, we just don't have the language or concepts to have a meaningful national conversation. That's certainly part of the intent of my book. Because it's one thing to say the issue is important and another to have a conceptual framework for the conversation to take place. If you look at the rhetoric in the current presidential campaign, the closest we get to a discussion of innovation is in the way the candidates talk about the economy and the growing challenges to the middle class. Although a couple of the candidates have given speeches on science and innovation, the pain point hasn't surfaced in the same way as the discussions around our foreign policy or energy dependence.

So if we go back to the early part of our conversation, I would say that's because the US is not near death. Which means, if we now apply Irving's hypothesis, we're not capable

of transformative innovation, and if that's the case, can we strategically evolve the future without living under those obvious pain points?

I think it gets down to how leadership works in a country. We know in companies that leaders are stewards of the vision and their job is to articulate what is possible as well as galvanize their organization into action. And if that organization is complacent, their biggest challenge is to be a catalyst for change. Well it's the same thing in the White House. I think that in the recent past, we've been told by leadership that all is ok despite evidence to the contrary. What we're seeing in the primaries is a huge up swell and desire for change.

And let's face it, sometimes a leader needs to frame a situation in order to create that sense of urgency. Sometimes it has to be manufactured. As I said earlier, as of right now, we don't have an obvious Pearl Harbor or Sputnik moment.

Let's talk about the Business Innovation Factory or BIF as we like to say. Formed in 2005, we are, in essence, trying to strategically and experimentally evolve the future. It's a bold vision. Ultimately we see it as a way to provide the US with a platform for experimentation that puts us back out there as a leading competitor in the global innovation race.

There is a duality to this vision in that we're also, obviously, pro-Rhode Island. By turning our small size into a competitive advantage, we look at BIF as a sound economic development strategy. Basically, the proposition is that if you built it, test it and prove it here, you can do it anywhere. What was your initial reaction to our concept? How important do you believe place power is in building and experimenting with networked business models?

Place power is really important and experimentation only has validity if it's in a real-world environment. The issues you're talking about in areas like healthcare or education are complex to the point of what the literature calls 'wicked.' These wicked problems have multiple stakeholders and no clear answers. There's a lot of need to coax solutions into being which may be provisional or in need of ongoing revision.

Often times, you may not even know you've succeeded except by virtue of 20/20 hindsight.

So the real exciting thing about BIF and your experimentation model is that it's so much more than the typical action-oriented research that simply takes one slice of one issue and follows the thread down the rabbit hole. Instead, you're providing a highly creative process that generates the kind of collaboration required to get all points-of-view in the room. Only then can you figure out how the processes really work from a systems perspective.

Piecemeal remedies do have their place, but if that is all you're doing, it's not going to get you to a brave new world. To create robust and systemic solutions, you have to have experimentation and investigation at the level BIF is providing.

That's really the crux of it isn't it? The processes for achieving incremental versus radical innovation are in fact quite different. And through the BIF platform, we are indeed trying to get to that brave new world. So tell me John, you've traveled quite extensively over the last several years and you've been privy to many public/private collaborative innovation projects. If you were going to point out potential roadblocks or blind spots we're likely to hit or unlikely to see, what would they be?

One problem I see is simply framing the issues in too limited a way. Because the kind of problems you look at should be determined by how you define the problems themselves. For instance, what we're talking about in terms of innovation is certainly related to science and technology but it's not synonymous with it. Wise leaders understand that innovation is not just a 'techie' type of thing. It also comes from design and the arts and social models. In the business sector, a lot of leaders have a medieval definition of innovation. They think it's about jazzing up the corporate culture or providing permission for people to think outside the box or build the better mousetrap. And while you can't disagree with that on surface, it's a limited point of view that really prevents the systems thinking we were talking about earlier.

The other issue, which is more on a societal level, is that innovation must be about

something or for some purpose. I like to say, 'If innovation is the big answer that we are seeking, then what is the question? What are we solving for?'

I think it's pretty clear in places like Finland or China or Singapore that innovation is really for something – it's for a national narrative of progress and it speaks to the optimism in their future and a desire for a better life. Our future here in the States is a little mushy right now. The American ideal for the 21st century is really up for review. A bold leader will make a connection between the idea of regenerative innovation capabilities on the one hand and national purpose on the other.

I've advocated in the book that we look at a renewed American innovation engine as a way to reengage with the world. Bottom line, the U.S. should be the preferred platform for addressing wicked problems. We do have the scale and the money and the talent and the infrastructure. But that connection hasn't been made yet. And I believe that's because people fail to have the right level of dynamism or direction to their innovation efforts when they fail to link it to purpose.

Again leadership and stewardship are really important as is building sustainability in our innovation effort. We need a strategy and roadmap for where our country is going and frankly, this is a multi-generational proposition.

That's a great segue to my next question because I want to talk about mindset and in particular, public sector mindset. I love your sea turtle metaphor from Beijing. You write that more than 50 percent of the staff at Beijing's Chinese Academy of Engineering and 80 percent of the scientists at the Chinese Academy of Sciences are repatriates. The Chinese call them "sea turtles" because these researchers have wandered the world for a while but eventually returned to the nest.

In Rhode Island, we're building an ecosystem for those exploring sea turtles to return to the nest. Fittingly, from your book I learned it's clear that places like Singapore and Denmark

do provide proof that small can be beautiful. But there's much work to be done. You write about how Danish success in innovation was due to the joint effort by the government, private sector and trade unions to find creative new ways of gaining national competitive advantage through innovation. Who drove the bus? Was there a conductor or a prime mover or was this a true jazz ensemble?

In the Danish experience the desire for that national conversation was present in a number of communities. So it wasn't hard to motivate. But I would also say that someone acted as the convener.

The specific example had to do with the transition of Denmark from an agricultural state driven by a certain set of economic drivers to a knowledge-based state powered by wholly different economic drivers. Obviously, everyone had a dog in

that hunt. There were people who were heavily invested in old ways of doing things who knew they were about to be disrupted. They certainly had a stake in it. Denmark's government was very concerned about buffering those disruptive effects of change through education, subsidies and investment in new infrastructure.

At its heart, the Danish story is really one of how culture can become a strong competitive advantage in terms of affecting the kinds of transformation that we're talking about. It's hard. When I talk about the U.S. stepping up and reigniting its innovation engine, the underlying wish is for large-scale transformation. But you need to have the right kind of environment in place that enables the right kind of collaboration for true transformation.

The key in Denmark's case is that culture is an enabler of transformation. It's an ethos of collaborative decision-making and inclusion – making sure that people are not left out, that all points of view are heard. We succeed together or we don't succeed at all.

So let's talk about our American culture. It's built on the maverick - that independent

visionary who makes things happen and gets things done. That's quite different from the Danish value of learning together as a community. What are some of the ways we can be smart in weaving a US social fabric that thrives on an ecosystem of cross-thinking, free-spirited collaborators?

We have a big reservoir of that maverick/explorer culture but that's also a part of our secret sauce in what makes us good. I don't think that what Howard Rheingold has called our "wild-ass American culture" disappears overnight.

Yet some of our traditional values have gotten a bit out of focus in the early days of the 21st century. We have always viewed ourselves as an altruistic country that wants to be a force of good in the world. But it seems as though there has been blowback on a number of those efforts to assert those values out in the world.

Which is why, in a way, a reignited innovation engine could pave the way for large-scale innovation practices to be prototyped in one sector with the idea in mind that they would have relevance in other areas, other wicked problems, around the globe.

You just hit upon the purpose of our experimentation labs. BIF isn't about reinventing the wheel to solve wicked problems. It's much more about combining and recombining existing technologies or products or services in new and creative ways. We're really the penultimate chapter in collaborative innovation - ultimate being when an innovation gets out of the lab, out of Rhode Island, and into the greater world.

We intend our labs to be open and transparent. Knowledge sharing is integrated

into everything we do. For our readers, it's worth noting that you spent years as a Hollywood producer. Can you talk a little bit about the Hollywood business model? It seems relevant to our project-based environment where multiple and diverse stakeholders are convened and reconvened depending on the project at hand.

The history of Hollywood is a fascinating history of innovation because the organizational models and business models have evolved to keep pace with different power dynamics among a variety of players. It seems to me that having elements of an experience design-oriented model that borrows from Hollywood as well as from the world of traditional design are key to collaborative innovation.

Business needs to learn from design which isn't necessarily an obvious idea to a lot of people. I'll give you a contrasting example. When I was in Finland recently, I learned that there is a new university being formed out of three established and well-respected institutions – a school of technology, a business and arts school and a school of design. With a mandate from parliament they are literally being merged. The name of the new entity is the Innovation University. But you can only do that if you're willing to leave old categories behind and force people to move. It's interesting because that's a mindset that's ingrained in the Hollywood culture.

John, thanks so much for a great conversation. You recently joined our Research Advisory Council which means you'll be hearing a lot more from me. I know that your experience will be a tremendous benefit to our community and I look forward to our paths crossing again soon.

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About John Kao

BIF Research Advisor John Kao is an authority on the intersecting subjects of corporate innovation and transformation, design, and the future of business. Dubbed a “serial innovator” and “Mr. Creativity” by *The Economist*, he has made a career out of helping organizations go from “getting” the importance of innovation to “getting innovation done.” As chairman of Kao & Company, John has worked with a wide range of *Fortune* 500 companies, startups, and government agencies around practical issues of strategic innovation and organizational transformation.

About the Business Innovation Factory

An independent, non-profit organization launched in 2005, the Business Innovation Factory was founded to enable collaborative innovation. The BIF idea is simple: create a platform where public and private sector partners can collaborate across boundaries to focus on big win projects and deliver transformative innovations. We believe that more organizations would innovate if they had access to a safer, more manageable environment to explore and test new ideas--a real world laboratory where organizations can keep current models producing while they design and test new ways of delivering value. Rhode Island is that place.

www.businessinnovationfactory.com