TECHTalks | EPISODE 7 | Discovering xTech
With Mike Bechtel, Managing Director, Chief Futurist, Deloitte Consulting LLP.

Raquel Buscaino: Welcome to Deloitte TECHTalks. I'm your host Raquel Buscaino and I lead the Deloitte US Novel and Exponential Technologies' team where we sense and make sense of emerging tech. On today's episode, we won't just be talking about a singular technology, but rather the future of technology writ large. I have the immense pleasure of welcoming Deloitte Consulting LLP's Chief Futurist, and my good friend Mike Bechtel in a special episode where we'll cover topics such as the broad scale tech trends we're seeing in market, how science fiction is turning into science fact, and the question that's probably on everyone's mind, what exactly does a chief futurist do? Mike welcome to the podcast, it is so great to have you!

Mike Bechtel: Oh Raquel, it is an absolute pleasure to be here with you and I'm absolutely looking forward to our conversation.

Raquel Buscaino: So Mike, before we dive into all things emerging tech, I think I have to start by asking the question that's on everyone's minds. What exactly is a Chief Futurist? And how do we even get a job like that?

Mike Bechtel: Well, that's a fair question. And you're not the first to ask it. I tell you, for as long as I can remember, I've been interested in what's next, and, you know, as an inventor for many years, with real patents, real lab stuff, you know, in my origin story, and then for another 10 years after that, as an investor, separating what was possible as an inventor with what's actually profitable as an investor: that Venn diagram intersection really turned out to be: what's next?

And you can figure out into some degree what's coming based on what's going to be sustainable, what has legs, what has a business case? And so that's all to say, as a chief futurist, you know, there's probably a boring way to describe that role, you know, emerging technology research director, but I think as a chief futurist, you get people not just informed but inspired. You get that recognition that "okay, we're here to figure out maybe not just leading practices but next practices. And if you're going to activate change. You need to activate the head and the heart, and a little bit of storytelling goes a long way.

Raquel Buscaino: How do you actually even go about this? How do you actually think through what's next when it comes to tech?

Mike Bechtel: Well, couple thoughts here, you know, the first is that it's not just me, right? And I have a world-class team of researchers, writers, designers that that can really help roll up sleeves and make heads or tails out of what's coming. So you know, rule number one, right? If you want to go fast. Go alone. You want to go far, go together. So it's a team sport.

Number 2, it turns out, people say, what do you got? A time machine or something? You got a crystal ball? And I say, you know, no, our team ascribe to this notion that "the future's already here, it's just not very evenly distributed." Now that's a quote from William Gibson, the science fiction author from a book called "Neuromancer", 1982, but we take that quote rather literally, because here's why: as Deloitte, we

have the privilege of working with world class organizations, just about every sector, just about every industry, including public, and what you find is that there are folks building faces of our future today. Somewhere, somebody's present is our possible. Somewhere, somebody's today is our tomorrow. And so, turns out the crystal ball, it ain't a telescope, it's actually a wide-angle lens. You look far enough left and far enough right, you'll actually figure out what's next for you today.

So 1) team sport, 2) wide-angle lens 3) if I've learned anything in my 25 year-journey from, you know, geek to geezer, it's that futurists are secretly historians. There are patterns in our past that shape and inform what makes sense today and tomorrow.

And so, by focusing on the enduring, we can live the advice of good old Henry David Thoreau, who famously said: "Read not the Times, read the eternities," which is liberal arts speak for don't get sucked into the latest and the loudest, focus on what matters.

Raquel Buscaino: It's humbling to know that so much of the answers that we're looking for might actually be answers that we can learn from the past. It turns Futurism on its head and almost redefines the craft if you will, to something that becomes not just widely accessible, but something that anyone who's looking to think more actively about the future could actually do.

Mike Bechtel: It's very nicely said, and pattern recognition is pattern recognition. And so, to try to do that absent past patterns, you, you're going to have a bad time.

Raquel Buscaino: Yeah, makes sense. And so, given all the things that you're seeing, can you speak to what some of those patterns are, and even talking about the innovations you're seeing today that stand to change the way the future will look?

Mike Bechtel: I'd be happy to. One of the things that I mentioned that our team at Deloitte has been researching and teasing out is this recognition that human-computer interaction has really been a 200-year tale of technology getting simpler, and simpler, and simpler.

Tech is just a tool, no matter how shiny, whether you're talking about the latest generative AI creation or a rusty little hammer. Tech is just a force multiplier, and when you start to see that, you start to recognize that "Okay, a lot of these seeming revolutions are really just changes of degree from prior technologies" and so, back to human-computer interaction, the trend that we're seeing on interfaces is that "simple" tends to win.

And so, when we look at, virtual and augmented reality technologies, unlimited reality technologies: multiverse, metaverse, omiverse technologies, what we see is not shiny capital intensive calls to wear a lot of gear on our heads, that's not the why. The why is: "Hey? Look! We can get beyond this proliferation of 16 by 9 screens in our life". Well, in a world where simple tends to win, imagine a world where we can paint pixels, where and when we need them, not with a big clunky headset, but with a good-looking pair of goggles, and eventually a good-looking pair of glasses, and eventually a contact lens. Now, if you say that "à la carte", it feels like a handful but when you look at it through that long lens of history, you say, "Oh yeah, stands to reason."

Raquel Buscaino: What I love about the simplicity is, it's almost like technology is meeting people where they're at, and that's something that I really love, because when you talk about friction and something that can reduce friction, that's usually a step in the right direction.

Mike Bechtel: Another recognition that our team here at Deloitte has found is that, just as interfaces tend towards simplicity, databases, and I use database in the most pluralistic sense possible information systems, right, information systems tend towards intelligence.

What was arithmetic 75 years ago, became structured-data 50 years back, begat descriptive analytics, which begat predictive analytics, which begat cognitive automation. And you know, one of my mentors, this fella, Larry Tesler, who was a computer scientist, he said: "AI is whatever computers can't do yet." And the reason that statement I believe, is low-key brilliant, is that it holds up in 1956, and it likely holds up in 2056, because I think, artificial intelligence has been a journey that has finally reached white collar professionals, creative professionals, people who didn't necessarily sweat mechanical muscles, right, but who are very much sweating the idea of mechanical minds.

And so, I think, you know this recognition to your point about reducing friction, so much of what's happening in this AI moment is not that machine intelligence is taking over, rather, it's that machine intelligence is freeing us from the muck of lower-order tasks so that we can raise our sights and elevate and focus on higher-order tasks.

Raquel Buscaino: And in a world where interactions are getting more simpler, technology is becoming more intelligent, how do we have enough compute, I guess, to make that happen?

Mike Bechtel: Well, the third leg of the stool, Raquel, we've all heard of Moore's law, the idea that the number of transistors you can put on a given chip, or, more specifically, a given space doubles every 18 months, well, that feat of mechanical miniaturization got us through nearly 75 years of better, faster, cheaper, and stronger computing power, but here's the scoop: because the laws of physics are what they are, and the nature of thermodynamics is what it is, what our Deloitte team began to see about 10 years ago was this recognition that miniaturization started giving way to parallelization. We heard less about Gigahertz and more about cores.

And then, parallelization gave way to virtualization. Who needs their own computer, when you can have a 100/1,000 computers in the cloud? Which is I, you know, I joke with my clients: there is no cloud, it's just some company with an enormous basement, but here's the takeaway: whether miniaturization, parallelization, virtualization or the emergent story: decentralization, there's a really important moment where you have to realize that we don't live at the end of history, because, you know just about every technology innovation that's ever been, eventually becomes the next generation's legacy core modernization headache.

I think, as technology leaders, it's our job to write the next page in the book, right, to elevate enough to be impactful but not to feel like the entire burden of getting it right once and for all, is even possible, because some pretty serious Nobel laureates have tried and still found that there are better ways 50 years on. Right?

Raquel Buscaino: And so, using your book metaphor. What does that next page look like?

Mike Bechtel: Well. What might be next? I mean, let's just talk about information technology, so human-computer interaction, let's speed-date this in a way. Okay, from punch cards, to command line, to graphical user interface, to mobile device, to virtual reality, what could possibly be simpler?

Well, the next step in simplicity is likely this idea of ambient assistance or ambient computing. What's even cooler than a machine that will cater to your every need? A machine that will proactively predict and infer what you need next, a computerized concierge right?

Now, what's interesting is, a generation ago, back to historians, a generation ago, we had assistants like that. They would show up in a word processor, and they'd say "looks like you're trying to write a letter" and you'd say: "Oh, goodness! This is not helpful!" but it was because those little systems, right? I think you know, they were blind to the world, they were on a 3 MB hard disk in a 300 board modem, but the point being sometimes ideas aren't wrong, they're just early and I think proactive ambient information, interaction systems make all the sense in the world, because again, "simple" is by and large, undefeated in 150 years of IT.

Now, beyond that, what's simpler than that? There's a whole flotilla of researchers working on mind reading. Think about brainwave reading and writing, helping a paraplegic walk, not by suturing their legs up with scalpels, but by thinking about how you used to walk.

Think about never having to feel too warm or too cold in your house, because your brainstem lets the thermostat know that you're about to be chilly. This is the promise of human computer interaction.

But, Raquel, you know, a computer scientist by the name of Edzger Dykstra, I think he said it best, he said, Listen: "The question of whether a machine can think isn't all that different than whether or not a submarine can swim." And I love that because it really gets this idea of like we could spill ink worrying about the existential quandaries, or we could get busy making people's lives better.

Computation front, I would just tell you that, you know, you've got biological computing, neuromorphic computing, quantum computing means of getting beyond math entirely and into the quirky laws of physics as a means of solving sticky, wicked problems, and again, even that stuff won't be the end of history but it's coming.

Raquel Buscaino: Speaking of the different technologies in the tool chest, if you will, we talked about what the edge or what the frontier looks like for information technology, you mentioned that there is these technologies outside of information technology, too. What does that look like? And what does that mean?

Mike Bechtel: Everything that you and I have had the opportunity to discuss today, is, it's not really technology so much as a kind of tech that we might call Infotech.

But if you think about it, and our Deloitte Tech Trends research really suggests that this is the case, and increasingly so, there are other domains beyond Infotech that are finding an increasing number of

undergraduate students, graduate departments and degrees, grant funding, venture capital funding, market liquidity events, right? IPOs (Initial Public Offerings) exits acquisitions, the action is proportionately more and more outside of IT.

So where's it headed? Well. We at Deloitte call these families of adjacent technologies: x-Tech, X as in exponential because they're tiny little seeds today but they figured a hockey stick their way up to becoming Sequoia trees tomorrow, but also X in the spirit of a variable, right where X equals biology, "biotechnology", synthetic biology, the information theory of aging, building biological systems with computing principles, there's a lot going on there.

"Climate tech", making this precious blue dot that we're living on more habitable over the next generation. Our first big flagship, which I don't need to tell you about Raquel, because you played an instrumental role in conceiving and executing "space technology", the recognition that because we started here doesn't mean we're stuck here.

It's a big world out there and then some, and I think that Infotech will be central to all of these but there's going to be a lot more to the party than just information management.

Raquel Buscaino: And you think it's gonna be cross-industry, too, right? I mean, when it comes to some of the things you're talking about like space tech, biotech, neurotech, how will every company be a space company? Or how will every company be a biotech if they're outside the space industry or outside of the life sciences, healthcare industry?

Mike Bechtel: This is the business case for curiosity because what my team and I at Deloitte have found over and over again, is that the application of known models and principles to known business lines is excellent for identifying efficiencies, effectiveness, and cost stakeout but capital "I" Innovation tends to come at the intersections between traditional businesses and traditional business models. And so when you say with authority and an imagined hindsight that construction companies would be well served to become the construction companies of structures on the moon.

You say, yeah, sure, that makes sense but until you say that in the imagined past tense, it's hard to imagine that there are construction companies running around today figuring out how they're going to get busy building all those moon bases. So curiosity, it matters.

Raquel Buscaino: And what I like about the example that you just gave Mike is, you really do root it in the human experience. Sometimes I feel like when we talk about technology, we get so caught up in the details and the granularity, it oftentimes makes it difficult for people to connect with it. And so, as you think about your role as chief futurist back to that very first question about inspiring people in the future of technology, how have you found an effective way to story-tell and communicate what this future actually looks like?

Mike Bechtel: One of the learnings I'm most grateful for in my opportunity to have led futurist work here for Deloitte, is this recognition that it's not enough to merely think about what's likely to come, you have to feel it, you have to activate the whole self, the head, the heart without goosebumps or shivers, the

former being positive indicator, the latter being negative, hum, you're not appreciating the possibility and the upside and the peril on the down.

One of the things our team at Deloitte has recognized is the importance of speculative fiction to our research. The truth we've experienced is that speculative fiction, well-conceived, well-written, what it creates is a visceral understanding that's more than just white paper, that's more than charts and figures, but that paints a picture that says, "Oh, okay, I like these parts. This is alluring." "Oh, I don't like those parts. Oh, that's concerning."

And it's that activation of the whole person that allows us, I think, as business leaders, to make better decisions, to create the desired futures and to arrive at those desired futures a little bit ahead of schedule, but the best way to create that future, I think, is to imagine it as richly and holistically as you can, and to recognize that that is not an abstract intellectual exercise, that exercise requires empathy.

Raquel Buscaino: The future isn't something that happens to us, but, like you said, it is something that we are actively creating and building, whether we know it or not.

Mike Bechtel: I'm just grateful for this opportunity to have shared what we're up to with you, Raquel and I I'd be remiss if I didn't thank you for the instrumental role you play in, in helping our team. It's a privilege being part of this discussion with you and it's a privilege trying to turn the long arc of history in a direction that we can all feel pumped about together.

Raquel Buscaino: Love that, Mike, and thank you for such an incredible discussion, and for really making Futurism accessible to all our listeners dialing in today. So, to our Tech Savvy listeners. If you did enjoy this episode, please share and subscribe. And if you'd like to learn more about the future of emerging tech, you can follow myself, follow Mike, stay up to date on our collective work, our socials are listed in the episode description.

Thank you for tuning in, and I'll see you on our next episode, and until then stay savvy.

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