

Jon Bernstein:

Welcome to PNC C-Speak: The Language of Executives. I'm Jon Bernstein, regional president of PNC, alongside my co-host Carolyn Jones, market president and publisher of the Boston Business Journal.

Carolyn Jones:

Thanks, Jon. It's great to be with you on PNC C-Speak. Each podcast features local executives talking about relevant and timely business topics. This knowledge sharing platform showcases leaders with forward thinking approaches that disrupt the status quo and cause us to think differently. Our guest today is Jim Heppelmann, the Chief Executive Officer of PTC. Welcome Jim.

Jim Heppelmann:

Yeah. Hello Carolyn. Hello, Jon. Glad to be here.

Jon Bernstein:

Jim, welcome to C-Speak. PTC's focus is on digital transformation. Can you share with our listeners a bit more detail about the company and the work you do?

Jim Heppelmann:

PTC is a global software company, fairly large at about \$2 billion in revenue, and we help manufacturing companies around the world produce products and then manage those products throughout their life. So that means software to help them engineer the products, computer rated design and simulation, software to help them actually manufacture the product in the factory. And then software to help them service and support the product when it's out in the field at the customer side. So we have customers around the world that range from Rolex making watches to Airbus making aircraft to Raytheon making those HIMARS missile systems that are helping out in Ukraine to Toyota making cars, you name it. Just all types of manufactured products around the world, and the company was founded and remains headquartered here in Boston.

Carolyn Jones:

Jim, you are really a thought leader in the spaces that you just mentioned, and you do speak and you write a great deal about industrial innovation. Can you tell us about that, what that entails?

Jim Heppelmann:

So being a thought leader kind of means I have a bit of a gift for thinking about a technology and then thinking about manufacturing companies and imagining how manufacturing companies might use that technology to engineer differently, to manufacture differently or to service products differently. And a lot of times we need to write that down and occasionally it gets published. So I've collaborated with Professor Michael Porter from Harvard on a few publications that ended up in Harvard Business Review. We've put a few publications into the National Associations of Manufacturers, and a lot of them just internally end up affecting the software that we develop and the value propositions we bring to our customers.

So anyway, I don't know, it's a bit of a gift that I can imagine how things might work differently and how we might use a certain technology to bring that to life. And it's a good quality I think to have in a CEO.

Carolyn Jones:

Just to add to that question a little bit, are there any key sort of tenets that stand out in some of the writing that you do or some key pieces of it?

Jim Heppelmann:

Yeah, I mean, there's a couple of areas I've focused on and become somewhat well known for. One was the so-called internet of things. We looked at, okay, internet of things, what does that mean? Well, the things you connect to the internet are actually manufactured products. It might be a watch you wear on your hand or it might be sensors in some big machine in the factory. But it's really the internet of manufactured products. And then we really consider it how might a company work differently if the products it makes and puts out in the field, were phoning home and giving it information.

Let me just give you an example. At a very high level, there's a lot of times customers buy a product, they use the product, they sort of personally monitor the product, and if there's a problem, they call the manufacturer and say, "Hey, there's a problem." And a lot of times the product's already out of commission, it is losing value and the customer's angry. Well, if the product had sensors, we could actually flip this upside down so the product would monitor itself, and in doing so, monitor how much value the customer was receiving, and it could be an early warning system. So rather than have the customer monitor the product, why don't we have the product monitor the customer and the value they're getting and be proactive in letting us know if a problem's developing so that we could intervene and solve that problem during a period of time when the product's not being used or something like that.

So that's an example of applying a technology, internet of things, to transform a business process and make it work very much differently and quite frankly, very much better. Professor Porter and I wrote a couple of papers really around various topics related to that specific phenomenon, for example.

Carolyn Jones:

Yeah. That's fascinating. Thank you for sharing that.

Jon Bernstein:

Jim, you've had a remarkable entrepreneurial career. What drives that in you?

Jim Heppelmann:

Yeah, I think two gifts. One, I mentioned that I can imagine how things would work differently when a technology is applied. And the second gift I have, this is going to sound strange, but I'm a bit impatient. I get bored easily. Which means I'm open to changes, very much. Sometimes just feel like it's time for a change because this other thing's getting a little bit too routine. So yeah, I became an entrepreneur. I founded a software company. It was acquired by PTC when it was still a very small startup. And over time that very small startup ended up becoming very much core to PTC and so much so that I became the president of the big company that acquired the little one.

Since that time, of course, we've also acquired many startup companies and we bring them into the fold and we create a very constructive environment where we take their ideas, of course, we surround it with much more funding and pathways to the market and so forth, and we help these little companies develop their ideas into much bigger businesses within PTC. So as a company, we've been quite successful in terms of mergers and acquisitions by acquiring seeds and developing very large plants, if you will, producing fruit that's very interesting to our shareholders. So it's a good set of skills, I think, for

a CEO to have to be both able to imagine things working differently and impatient enough to want to go after them on a pretty regular basis.

Jon Bernstein:

What are you seeing in the startup space that's capturing your interest today?

Jim Heppelmann:

Oh yeah, there's a lot of stuff. I mean, of course AI, the whole conversation about ChatGPT is definitely out there right now. But I think PTCs of the opinion that all software will have AI in it, all software. So we tell our teams, we have at least nine different product brands, we tell all of our teams, you need to imagine how AI is going to be used in your product because it is, it's just a question of do we get there first or do competitors? So I think that, not necessarily always AI like ChatGPT, but I think that topic... Let me give you a quick example of how AI's used in a pretty innovative way.

We have something conceptually like ChatGPT in our 3D computerized design software, but instead of generating text it actually generates 3D models. So you'd kind of describe to it what you're looking for, what sort of loads and stresses would be applied, what are the interface points that the bolt holes got attached to and so forth and then it generates a part geometry for you. And it's fascinating because this generative design, which is the type of AI, produces designs that look very organic like Mother Nature made them. I say, if you ever think about it at the end of Thanksgiving dinner when you're looking at the Turkey carcass and you look at the shapes of those bones, they're not square or cylindrical, they don't have square corners. Mother Nature does not think humans think. Humans think about how to cut a part out of something, Mother Nature thinks about how you use cell division to build it up. So generative design AI produces parts that look like they came from Mother Nature. It's really, really fascinating.

Carolyn Jones:

I wonder, talk a little bit your thoughts on what startups can teach big companies, how does that reflect upon your own journey as a leader?

Jim Heppelmann:

Yeah, I think the key thing about startup companies is they work with such a sense of urgency. They really have little inertia because they don't have history and legacy. One of the things I always espouse to our own employees is that the real competitor's inertia. The thing that'll hurt us most is just our desire to keep doing what we're doing because it's comfortable. And it's very comfortable for humans to do today what they did yesterday, and it's much less comfortable to change. So at PTC, we have many programs to encourage people to be open to change, many slogans and programs and initiatives. Over the years, we've made many, many changes. Many of them have been successful, not all. But I think the more success we have, the easier it is to sell the next change. And to me, that whole willingness to change and to be agile and to pivot quickly is really a startup company trait, and it's largely because they have no legacy which creates inertia.

Carolyn Jones:

So a little bit more about you as a leader. So strong leaders are often defined by how they lead and inform when they're faced with big obstacles, major issues. You, yourself, you've created companies, you advise and coach so many others. So can you share with us a little bit about your process, about

how you process, how do you stay positive and focused for your teams in these different kinds of challenging situations?

Jim Heppelmann:

Yeah, let me first say, we've made many changes in transformations proactively, strategically, but especially over the last five years we've been confronted with so many unexpected dramas, whether it's COVID and work from home, and do you have to be vaccinated or not? And it's been kind of a deafening barrage, if you will, of things that a management team has to react to and try to navigate.

When it's the proactive issues what I've always tried to do is develop some kind of a vision and really go sell it and spend a lot of time espousing what are we trying to do? Why are we trying to do it? What would we have to change in order to make that vision come to life? So that's the proactive stuff where you have time and you can plan.

The other stuff is really, to me, I try to navigate on right versus wrong rather than right versus left. I try to stay out of right versus left issues as a company. Let's take for example Russia. We had a business in Russia, and after Russia invaded Ukraine, I mean, it took us a week to watch that on television and said, let's just get out of Russia. Let's just shut the business down. Our employees basically said, hallelujah. I'm totally on board with that. And we were one of the first companies just walk away, just told our partners, told our customers, we're done, sorry. There's some contracts we have to honor until such time as they come up for renewal, at which point we won't renew them. But we just walked out of there. And I tell you what, it was such a feelgood moment for our employees and it was a bold decision, but again, we did it on the basis of right versus wrong and we've kind of sometimes disappointed people by not taking a stand on some of the issues that I characterize as right versus left.

Jon Bernstein:

Talent recruitment and retention is top of mind for so many. What insights can you share about creating a great employee culture and experience?

Jim Heppelmann:

Yeah, let me say, talent recruitment in my mind has completely changed over the last 5 to 10 years. It used to be employees were looking for a good location, maybe that nice building we have at Seaport, they're looking for interesting work, they wanted to be paid well, and those things are still important, but what's risen from maybe the bottom of the list to the top of the list is what does your company stand for? What is your culture? And that's the most important thing. If we get through that, then they'll ask, what's the job? How does it pay? Is it interesting or not? So I think that companies like PTC have had to be very thoughtful and deliberate about how we craft our purpose and how we guide and shape and nurture our culture so that we could be viewed as an attractive place to stay, if you already work for us or an attractive place to join if we're trying to hire you.

And again, to me, that was the bottom of the list 10 years ago, and it's the top of the list now, and it's a different set of skills to develop that. I'm much more of a technologist. I'm very, very comfortable with technology. But at PTC, we've made a lot of investments to ramp up programs and bring in talent to really try to guide our culture and make the company a great place to work on all those software dimensions.

Jon Bernstein:

Diversity, equity, inclusion are important issues for businesses to focus on, what has been the position of PTC on this and how do you communicate that to your team and the community?

Jim Heppelmann:

Yeah, back in, I think it was, 2020 following some of the Black Lives Matter protests and so forth, we decided that as a company we probably needed to step up. It was one of these right versus wrong issues. And so we launched... In our company, if you really want to make something happen, you have to start a program, you have to give them a budget, you need a leader, you need a cross-functional team. So we created a DEI program and we hired our first chief diversity officer, Kameelah Benjamin-Fuller, and really leaned in on it. And we made a lot of progress in the company, but also contributing, for example, we're the primary underwriter of the MassTLC Tech Compact for Social Justice.

But internally, we've made a lot of progress. In fact, just today we had an employee meeting, and we're actually now at the point where we're setting targets, for example, more diversity amongst the management ranks of PTC. And that's important because we're going from, hey, we should have more diverse management to precisely this is how your organization has to evolve in the coming years and kind of almost giving out... If we want to hit a sales number, we hand out quotas and we try to build pipelines, and there's a lot of management trying to make sure that we hit those targets. And so now we're kind of taking the same approach and applying it, for example, to create more diverse representation in our management ranks because we have fairly good diversity kind of in the lower levels, but then as you climb the management ladder, it drops off pretty quickly.

So just today we kind of launched within our company that, hey, we're serious now we're going to drive towards some very specific representation targets, which are going to affect hiring to a great degree. A fairly high percentage of the management positions we place in the coming years are going to have to be underrepresented minorities and women in order to get to these targets. So it's a good example of what companies need to do if you really want to take this seriously and move the needle.

Carolyn Jones:

If I can just ask one more question about that. That's great having those targets, because as you said, if you set a goal it's more likely to get done. How do you think PTC will try to find those people? Because I think that's a question for so many.

Jim Heppelmann:

It is a bit of a challenge to find people. I think we have to be creative in where we look and we have to a little bit be creative in what it is that we're looking for. I mentioned brains and passion, brains, passion and fun, but brains and passion is actually a phrase that came from some years ago our hiring practices. We said the company's trying to change, and yet when we hire candidates, we try to hire people who have the same backgrounds we have, and those are just people we'd have to change. So rather than hire people we'd have to change, let's hire people that change us. Let's start looking for people who actually have a very different point of view that we do as opposed to more of the same. And I think in order to get more diverse representation, we're going to have to take kind of a similar approach, which is we're not looking for people who know our industry inside and out in their female or underrepresented minorities. We're going to have to look for females and underrepresented minorities who have very interesting points of view are very smart, passionate, and we're going to have to trust that they're going to bring something to us that we don't have but probably need.

So I think we're going to have to look differently and look in different places and look for somewhat different profiles than we typically have because our industry is a little devoid of talent at those higher levels. And so we won't get there by stealing it from other companies, we'll have to generate it.

Carolyn Jones:

So just to shift gears a little bit, Jim, talking about some of the other things you're involved in. You're on the board of the Mass Technology Leadership Council, which is really an important organization here in our community. Can you tell us a little bit about the work that MassTLC does and the impact that you see they have on what's happening here and across the country?

Jim Heppelmann:

Yeah. The MassTLC, Technology Leadership Council, is a group of about 300 Massachusetts technology companies and affiliates like universities who have a vested interest in the Massachusetts tech ecosystem. The purpose of the organization is to really try to make sure that Massachusetts is a great place to start, operate, and grow a technology company. Massachusetts is a pretty good place to do that, but frankly, there are some issues that we could improve as well. So the MassTLC tries to, first of all, create community. So all of us organizations know each other and the key players know each other, and we can learn from each other. We say, you can't be best in class if you don't go to class. And to a great degree, MassTLC is a class where we learn from each other, we can help each other.

And then the organization as well does research and advocates for policy. DEI policy is a place that the MassTLC is quite active. They have various programs including a board ready bootcamp that tries to prepare diverse candidates to serve on boards of directors. They have the Mass Compact for Social Justice, which many technology companies have joined. And it requires that you make some commitments to do things to advance the state of DEI and so forth. And that's one of the places where the Mass ecosystem is, has a lot of work to do, let's say. Tech in general is quite male and quite white. There's some amount of female representation, but when you get into people of color, it drops off very fast. And in places like Boston, it really drops off. So there's a lot of work we need to do, and that's one of the fronts that the MassTLC is trying to move the needle.

Jon Bernstein:

Jim, you'd said that recruiting people is based upon what your company stands for and what is your culture? Can you answer that question for PTC?

Jim Heppelmann:

Yeah. So we say that what our company stands for, our purpose statement, is power to create, PTC, power to create. And what we tell our employees is that you yourself bring to work every day a power to create. You're helping us to create software that we sell to customers. You might be helping us to create business plans, create marketing programs, create websites, whatever. But we depend on your power to create. But then this power to create of our employees becomes embodied in our software, which of course has passed through to our customers, and it becomes part of the customer's power to create. So that's sort of our culture statement to help people understand how do we fit in the world? We help companies develop this power to create great products.

Jon Bernstein:

Jim, what sparked all of this?

Jim Heppelmann:

So we hosted a high school class from a Boston inner city school and they saw some technology demonstrations and so forth, and then they had a session with the CEO where they could ask the CEO questions. And one of the students, maybe a Black 10th grader said, what does PTC stand for? And I said, oh, well, it used to stand for Parametric Technology Corporation, but then we... And they said, no, no, no, no, that's not what I mean. What do you stand for? And then I was like, didn't have a very crisp answer. And certainly said, okay, when a 10th grader can't humiliate the CEO because he cannot convey what is our purpose, everybody maybe had a different point of view but nobody could write it down or nobody had written it down, that's what led to power to create by the way.

We have a series of values at PTC, I'll tick through them real quick. And my favorite one is brains, passion and fun. It means we're looking for people who are smart, who really care and want to lean in because they're passionate about it, and don't take themselves too seriously because we want work to be a fun place to come to. The second value is PTC for all, that means you bring your whole authentic self to work and will be very inclusive in our culture. The third is customer first. At the end of the day the customer doesn't win none of us win for long. And then there's a couple more excellence and innovation, meaning we really want to be good at what we do, not just show up but be best in class. And then finally, boldness and agility, and that's so that we can keep adopting big, bold ideas as we have over the last decade and never grow again, complacent, and be overrun by inertia. So those are the values of our company, and I think that's a pretty good package both on the purpose and on the values side.

Carolyn Jones:

Yeah, I would say so. I always love hearing these things because they always inspire me just to do things better at my own organization and do things differently.

Jim, I wanted to talk a little bit about some of your observations on Boston and sort of the business outlook in the city, in the region in general. When you think about that topic, what are you optimistic about and what worries you?

Jim Heppelmann:

Again, I look at it from the tech ecosystem point of view, 'cause that's what I know. I myself, by the way, am a transplant to Boston who moved there when I was acquired by PTC 20 years ago. I think Boston's got a great tech ecosystem, but to be honest, we're quite far behind Silicon Valley just in terms of magnitude. Silicon Valley is a much bigger place, but they have a much stronger ecosystem that feeds off itself and nurtures itself than we do. It's really why the MassTLC so important is we can't just be independent Boston companies, we have to also help each other and turn this into a vibrant place again, to start, grow, and operate a technology company.

One of the problems we have is that we're the biggest exporter of tech talent. The universities in Boston really, let's say Massachusetts, but the Boston area, really powers Silicon Valley and a whole lot of other tech hubs. It's pretty incredible how many people come here to get educated and then go away to start a company and become entrepreneurs and so forth. So I wish there was a way, and there's lots of challenges that get in the way, but I wish there was a way that people who got educated in Boston, more frequently became entrepreneurs in Boston. I say Boston, I really mean Massachusetts. I think there's a big brain drain there somehow, that if we could figure out a way to capture more of that talent and keep it in-house it would really help the economy of Massachusetts and the tech ecosystem in Boston.

Carolyn Jones:

So do you have any sort of call to action for yourself, for your peers, and others in other areas in the community that can help maybe make that happen who might be listening?

Jim Heppelmann:

Yeah. I mean, there's a series of challenges. There's some policy problems that get in the way. I'm not a big fan of the Millionaires Tax for example, because it kind of tells an entrepreneur that you start a company and land it big, we're going to take 9% of it. If you do it in several other states, they wouldn't take any of it. So I'm not a big fan of taxes on entrepreneurs who have big dreams.

I mentioned Boston's not viewed as a particularly friendly place for people of color, for example. And so there's a lot of people that say, I don't know, it's a little too a white for me, maybe I should go to a place that's a little bit more diverse. So there's some challenges like that. There are others.

And then there's some great building blocks. I mean, the universities, the fact that we do have hundreds of tech companies in Boston and some pretty great ones. So it's a list of pros and a list of challenges that we need to go tackle. The MassTLC is trying to play a role, and there's some other organizations as well trying to play a role and guide some policies and so forth that would solve some of the problems that might cause entrepreneurs to take their idea and grow it somewhere else.

Jon Bernstein:

Jim, we'd like to close with some rapid fire questions. So off the top of your head, are you ready?

Jim Heppelmann:

Yeah, sure.

Jon Bernstein:

What did you want to be when you grew up?

Jim Heppelmann:

An astronaut.

Jon Bernstein:

Awesome. You almost are, in many respects. What's your favorite food?

Jim Heppelmann:

Chinese.

Jon Bernstein:

What are you currently reading and or watching?

Jim Heppelmann:

Yellowstone, it's my favorite thing to watch.

Jon Bernstein:



Who's a Boston leader or organization that we should watch?

Jim Heppelmann:

Maura Healey. And I say that because she's stepping into some very big shoes of a very popular middle of the road governor, who is one of the most popular in the nation. I'm actually impressed thus far to see it go from a Republican seat to a Democrat seat. And yet, what I like about Maura so far... And I'm sorry this is not a rapid fire answer. But what I like is that she's being thoughtful and not opposing everything Charlie Baker did because he is a Republican and she's a Democrat. As a middle of the road independent I hate it when politicians do that. So far I'm impressed, but I think she's got big shoes to fill and God bless her, I hope she does.

Jon Bernstein:

What's a favorite spot in the city?

Jim Heppelmann:

Harbor Walk Downtown Boston, the Seaport. My wife and I walked that many, many, many times.

Jon Bernstein:

I like that spot of the city as well as you can tell.

Jim Heppelmann:

Yeah, exactly.

Jon Bernstein:

Yeah. What makes you laugh?

Jim Heppelmann:

Saturday Night Live, it's been making me laugh for 40 years, and it's just as funny now as it ever was.

Jon Bernstein:

And finally, what's a wish you have for Boston?

Jim Heppelmann:

I'd go back to that. We could do a better job retaining the incredible talent that we educate in the city. I just think such a loss that so many people come here to get smart and then go home to do something with it.

Jon Bernstein:

And that wraps up another episode. Thank you so much for joining us, Jim, and for sharing your insights.

Jim Heppelmann:

All right, thank you.

Jon Bernstein:

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I'm Jon Bernstein.

Carolyn Jones:

And I'm Carolyn Jones. And this is PNC C-Speak: The Language of Executives. Our guest today was Jim Heppelmann, CEO of PTC.

Jon Bernstein:

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