

How is AI helping us navigate today's digital disruption?

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BRADLEY HOWARD (BH): Hello, everyone, and welcome back to the latest episode of our podcast Tech Reimagined. We're now in Season Two, where it's all about answering the burning questions related to the way the technology influences our personal and professional lives. We have today with us a special guest, Brian McBride. Brian, hello and welcome to Tech Reimagined

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BRIAN MCBRIDE, CHAIRMAN – TRAINLINE (BM): Hi Bradley.

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BH: Hi. Would you like to introduce yourself?

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BM: So I chair Trainline, the booking app that hopefully you use to buy a train tickets whenever you're going to be traveling again. We went public a couple of years ago, and it's been a pretty hot year for us with the pandemic. I'm also on the board of the British based asset management company Standard Life Aberdeen. And I'm on the board of a Swedish investment company called Kinnevik, and they own shares and companies like Babylon and Serlando and Tele2. I'm also an advisor to Scottish Equity Partners, and I'm the Lead Non-Executive Director on the board of the Ministry of Defense. Prior to that, my career is very much threaded through a tech lens. I was Chief Executive of Amazon in the UK from 2006 to 2011. I ran T-Mobile, I worked for IBM, I worked for Dell, I worked for Xerox. And I've also chaired ASOS and been on the board of AOL and a few other digital companies. So that's me.

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BH: Well welcome to the show again. So today we're going to be discussing the role of artificial intelligence and machine learning, when it comes to all things digital and especially around digital disruption. So let's start off with, some people are obviously worried that AI and machine learning are going to take away their jobs. What's your view on how this technology can actually help us?

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BM: I think it will take away some jobs and I think it will create some jobs. I'm not making out that it's a balance and it's easy peasy, but some jobs will go and some jobs will arrive. You know, 10 years ago, we never had data scientists, you know, we didn't know what that was all about. 10 years ago, we weren't, you know, having people trained in cyber and stuff like that. So I think tech brings new opportunities and it helps eliminate things as well. If you look at the sort of jobs that have been eliminated by, let's say, tech in general over the past 10 years, they have been routine, repetitive, administrative, boring jobs. You know, and when you look at what, robotic process automation and some of these trends have done, they've just automated and therefore made faster, better, cheaper things that it took an army of human ants to do before. So, yes, the jobs will go, but the jobs that will go will not be at the high end jobs. You know, if you think about machine learning and artificial intelligence to look at it, let's say brain scans, you know, you can train the machine to look at brain scans and it will pick out where tumours are, where breakages are, where fractures are, much better than the human eye can. What is the output of that? The output of that is a clean binary diagnosis that person A has got a particular condition and that's what that machine has done. But then what happens is you have the human, you have the surgeon, who's then going to decide what you do with that information. They're going to then prescribe treatment. They're probably going to carry out that treatment, albeit with the help of some robotics, you know. So, again, I think AI and big data is not about, you know, one or the other. It's how do humans

learn to work with machines and how do machines make humans much more productive, and hopefully at a faster rate. So this is a partnership, I think, between the humans and the machines. I read all of these doomy, gloomy stories about, you know, the machines taking over the world and, the machines, you know, running the next war, etc. I hope it doesn't come to that. I don't think it will, because you can take that very black view of life. I think that in the main, that all of the automation we're seeing just now, it for the good, I mean, you look at what it's doing just now, especially in areas like, medicine and science, it's phenomenal. We would not have got the vaccines that we've got today in the time that we've got today without A) a lot of global coordination, but B) with the ability to sequence genomes and use big, big data.

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BH: Yeah, I was going to ask you, do you think that AI and machine learning can help us navigate through the pandemic?

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BM: Well, I think they already have. You know, I think that that's what all of the scientists were using, you know, to sequence the different versions and strains of the bug, and, you know, we're seeing the tip of the iceberg - what we're seeing today in the UK, what we've qualified, three different vaccines. There's probably seven or eight globally that have been qualified, there were probably 50 or 100 candidates. They all started, farming the same huge amount of data about people that got this and what the characteristics were, what the symptoms were, and then breaking it down into the actual genome itself of the virus. So I think that all of these technologies have come together and they've brought this vaccine to us, much faster than anyone would contemplated, two or three years ago.

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BH: Yeah. So AI and machine learning requires lots of data in order to provide better results. What do you think the role is that technology can do in order to gather that data from across organisations?

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BM: I think yeah, the data is there. It's becoming much more meaningful, much more actionable, with some of the technologies we've got out there at the moment. And you find it with things like the mobile phone itself, it is capturing and throwing off lots of data from customers, from people about what they like, what they don't like, what they look at, what they don't look at. And so it's giving you, the company, the ability to take that data, process and turn it background, where it becomes a way of making the customer's life better or easier. But I'll give you a couple of examples.

You know, when I was in the online fashion business, the big difference between the physical high street fashion retailer and the online one was that the online players, Boohoo and ASOS and people like that, they know much more about their customers than any department store does. It's about data, big data, data science and putting it to work. And all of the great digital companies today, they're all data driven. They do not make gut feel intuitive decisions, "Oh, I think we might do this. I think we might do that." Everything's about data. Everything is A/B tested before you do it. And you've got to prove that, you know, you've moved the needle before you do something. At Amazon, you wouldn't change the colour of a button or the placing of the button or a pixel or anything, unless your data said 'this will either make it faster for the customer or better or cheaper'. But I think back to my time in fashion, think about an online fashion retailer. You've got 20 million customers, you've got 100,000 skews. That's almost like the biggest spreadsheet in the world.

And no human mind would really be able to kind of do much with that. And so that's where you use that data to give yourself the ability to do what we call 'personalisation and discoverability' and so through machine learning, you know, ASOS for instance, you know, they created a kind of recommendation engine that understood the relationships between information that the human mind cannot compute because it's just too complex or it involves processing too much data. So their systems could look at all of the interactions over the past 12 months between customers and products. And the software would train itself to estimate the likelihood that any given customer will view a product saver, add it to its bag or buy it. So it's dealing with billions of rows, it's billions of columns and trying to just narrow that down to four or five smart recommendations that you could give to that customer about what jeans to buy what bag to buy, what jacket to buy, that means that they're more than likely to click on it and buy it. And we're getting back to the humans versus machines. I think what we see is that, you know, artificial intelligence won't necessarily beat humans, but humans working with artificial intelligence will certainly outperform humans working alone. So it's that ability to harness both.

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BH: And on some of the newer companies that you mentioned in the introduction before, can you see them using AI to help make decisions at a board level, maybe about M&A activity or some governance as well.

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BM: Yeah, I mean, well, if I look at, I mean, even Trainline, so again, we're a big tech business. And think about the rail system, 6000 miles of track, seven and a half thousand passenger services every day, 9000 bridges and signals. So there's a whole lot of information flying around the system about that. And for us, we look at what are the busy routes, where are more and more people wanting to travel, and we don't set the pricing on the railway. But if you're an airline or something like that and you're using that sort of information, you can decide, when is it time to put the price up, when is it time to put the price down? So actually you could be using that data to manage capacity throughout the network and make sure that there's much more balanced or leveled. What we also do with data is we actually do a lot of crowdsourcing. So we'll get people on a train to tell us, is the train busy? Is there a seat beside them? Is the train overcrowded? We can aggregate that data in a matter of seconds. And then if I'm waiting on that walking platform on my train comes in at 07:28, I can then be told by my app on the phone that carriages 1-10 are standing room remotely. And this time after a pandemic, you don't want to be there or carriage 11 and a half and 12 are actually much emptier. So we could use data to help people's journey, to make them feel safer about it.

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BH: Do you see the need for AI at board level?

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BM: I think what you need to have at board level is people who can understand the output. I don't expect my fellow board members to be experts in machine learning or anything, but they have to understand where the data came from, what science was behind the recommendations. And if the board are saying "We think you should, buy company A because our data tells us that the market there end is going this way or that way", that's what you look at around the boardroom table. For people in the board today, they have to be broad, they have to understand data, they have to understand digital, but they don't have to have written a line of code.

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BH: I've got a particularly topical question for right now. We're seeing some price inflation across industries due to shipping disruption and supply chain disruption. How do you think technology can help play a part in overcoming this?

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BM: I see quite a few disruptions today. We don't have enough drivers or anything either, you know, because all of the EU drivers left and we haven't trained up enough new HGV drivers, because during the pandemic you couldn't sit in a car with somebody. So I'm not sure these things are tech-based per se, and I don't know how much we could do in terms of, I do work with the MOD so I see training in the RAF for instance, and training in the Navy, there's a huge amount of simulation involved and using great tech to get people experience of, landing on an aircraft carrier without actually having to do it. So I just don't know, at the basic level, can we create a whole bunch of simulation training to allow us to address hotspots like, you know, not enough HGV drivers or whatever skill it has to be that we're looking for.

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BH: And finally, have you got any last thoughts about anything else to do with the AI or database decision making that you're seeing in the companies that you work in at the moment?

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BM: I would just say to people, look, it's not going to go away. Don't be frightened of it. Dive in there, embrace it, use it. The great thing about machine learning is you don't need to have a huge data reservoir to get it working. You can get machine learning to work with a small data set, so experiment with it, play around with it, because the more you can play around with it and you can set queries and add to the data, the more iterative it gets, the better it gets. And that's the whole point about machine learning. It keeps iterating, it keeps learning, And so the sooner you start, the sooner you'll get really good outputs from it.

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BH: Thank you, Brian. As always, that's been really inspiring. To all of our listeners, thank you for tuning in today and we hope to see you again soon. Don't forget to like, share, subscribe to Tech Reimagined: The Endava Podcast, or you can contact us by going to endava.com and filling in the contact form. Until next time, have a great week.