

AI and You

Transcript

Guest: Katie King

Episode 29

First Aired: Monday, January 4, 2021

Hello, and welcome to both 2021 and episode 29. This is part 2 of the interview with Katie King. She is the leader of the [AI in Business](#) consultancy in the United Kingdom, which I am a partner in. She is a member of the UK Government All-Party Parliamentary Group task force for the enterprise adoption of AI, and the author of *Using Artificial Intelligence in Marketing: How to Harness AI and Maintain the Competitive Edge*. She has over 30 years' experience and has advised many of the world's leading brands and business leaders, including Richard Branson, Virgin, Accenture, and Harrods, and she's traveled from Dubai to Singapore in the process.

Last week we talked about some of the lessons for businesses in adopting AI, business trends to look out for, and a bit of the history and purpose of the UK's All-Party Parliamentary group on AI. This week we'll be talking about AI in education, ethical concerns for businesses adopting AI, and Katie's tips for entering the field of AI consulting. So let's get to it with part 2 of the interview with Katie King.

And you were referring there to some agreements about the ethical use of AI. To what extent do you think those are working out and they're being applied? Lots of people have developed these ethical principles, but how much do they get used in practice? And how are they applied?

That's a good question. I mean, certainly, this global partnership only was formed in June of this year, but there have been codes of conduct and recommendations and white papers and so on. And I think, to be blunt, the law and the regulators are catching up and I think it's been a free for all. And that's what we need to avoid because I think particularly technology companies have found loopholes and have been able to do what they want, and then to apologize and pay fines and be called up in front of, and then their reputation may be temporarily impacted. But I think the regulation, and I see this, you know-- I feel we need to as businesses, as organizations in certain industry bodies, as trade associations to be much more proactive. I think all companies must not sit back and say, "Oh, well, we'll do what we want because it's not yet being enforced and we don't have clear regulation." For our own benefit as human beings, as individuals, we need to be more proactive with that. But equally, the regulation and the balance of regulation and innovation is an interesting one, but the regulators do need to be tighter and to do something more quickly.

I want to shift topics now to education because, well, I grew up in Britain, went to high school there, and here you are talking from there so I'm thinking about what sort of things I learned back then. And they were things like how to do calculations with four-figure tables, extract a cube root with pencil and paper, and other things that preceded the widespread availability of calculators. And now we have widespread availability of Google. We are basically nowhere out of reach on the planet now from the internet and the instant answer to any question that

Google knows. And so how should education pivot to serve the interests of a country's students in furthering careers for themselves personally in AI, and the interest of the country in developing its worker base?

Yeah, that's a fantastic question. It's a subject I'm really passionate about. I work a lot with schools, colleges, universities. My daughters are 21 and 24 and one's just finishing her degree and one finished only a couple of years ago, and my husband's a teacher. So I know the implications for all the different stakeholders. And so I guess there are two sides to this. I can clearly see the Wild West that for a lot of organizations is the world of AI at the moment. CEOs I work with in different sorts of organizations are frightened, they don't know where to turn, they don't know which tech disruptor tool to use, whether to use Adobe Sensei, IBM Watson, etc. And there are hundreds and thousands of tools on the market. Then think about a teacher or a bursar or somebody making the decision in a school or a college or university with limited budget and with limited time to really think about it, it's a very confusing picture. And then think about the ministries of education. Do they pivot? Do they invest in this technology that then is obsolete 18 months later? It's a very complex space. But what I will say is that there is most definitely a major skills gap that needs to be closed because what we're teaching our young people are not necessarily the skills they're going to need when they go into the workplace, or not enough of them. I'll give you an example. I ran a pilot program with two schools and around 60 students, 16-year-olds, 18-year-olds, just finishing their what we call their A-levels before they then go on to university. Some were studying data science, some were studying business, media, marketing, etc, photography even. The data science students clearly are technical, and they have the skills, and they will be in demand, but they don't know, they're not being taught how AI is reshaping all different jobs, and so they had a major gap. The other students who were studying all these other subjects have no inkling about technologies like AI and machine learning and how they are being reshaped by or how being reshaped so that when they then have their degree, and they go into the workplace, they know which tools to use. So there is this huge skills gap. And my pilot program was hugely successful, and it taught them virtually through six hours of lessons with people like Amazon Web Services, Alan Turing Institute, Microsoft, and others, it closed that gap. And that is a real gap. And I don't see any changes coming to the curriculum quickly enough and so we're relying on this extra-curricular or this extra voluntary work happening to make it helpful for them. And I think that's a major problem, but I do see the two sides of the equation. But certainly, in the UAE, I know tools and people that I've been out to education missions with the British Embassy, and they have tools and those tools are being bought around the world, for example, in Dubai, and they are AI education tools. And I worked with Squirrel Ai, a Chinese AI education specialist, and other countries are ahead of the UK in their adoption of the deployment of those kinds of tools in education.

And you were talking about curriculum change there, it's easy to see how this shifts, it's less easy to see who should be changing it. If we were to go back 120 years, someone graduating from school there would be handicapped if they didn't know how to shoe a horse. That would be something that you might expect to know for getting around the way that we need to know how to drive a car now. But that's no longer relevant in the same way now, learning things that

can clearly be gotten from Google, like learning capitals of countries and geography is pointless when I can just go, "Hey, Alexa, what's the capital of Tajikistan?" and expect to be able to do that anywhere, anytime, anywhere on the planet. And so why use part of my brain on that? There are better uses for it. But then that's not something that I think any teacher would argue with, but the people who set curricular are not the ones in front of the classrooms so much, they are elsewhere. We've got to connect with them. Have you seen efforts in the UK, which has much more centralized educational authority than, say, the United States to make their curriculum design more agile?

No, I haven't. I really haven't. And it's there, and it's relatively easy and quite affordable, and that's disappointing. I agree with you, I think there are tools that allow the school or the college to schedule and automate and take away some of the manual tasks from the people doing that. And then in the classroom, there are tools that enable the teacher to give the students a very blended piece of instruction, and for it to be almost democratizing the best education money can buy to anybody all around the world but it's not yet being rolled out properly. That's the sad factor.

Let's say that there's an enterprising student listening to us and they're thinking, "All right, I can't control what they're teaching me, but I can control what I learn in other context." What would you tell them to do? Where should they look? How should they take matters into their own hands?

Yep, absolutely. And I think that self-learning and that teaching young people how to learn and be resourceful is such an important skill. So I know, and I've actually been through it myself, an incredible course available for free by the University of Helsinki on their website. Just Google it, University of Helsinki. I think it's called AI Fundamentals but it's a free AI course. It's not too technical, but it will test you. But that's fantastic. And then, of course, we're all familiar with Coursera and there are courses available there. I've got lots of resources on my website, aiinbusiness.co.uk. So there are lots and lots of resources. Follow the Gartner and Deloitte and PwC, they're always putting out great material on AI. As a student, you're thinking, "I want to be a lawyer", "I want to be an entrepreneur", "I want to be a photographer." Understand and research as you rightly said, Google YouTube, fantastic resources there. Find out currently how is the world of photography or construction being reshaped by new technologies. And of course, you're going to have a passion and because that's something you've learned the old way of doing it, and there'll be still major elements of that will continue but you also need to understand the tools that are going to reshape the way that work is done in the future. And it's exciting.

It is. And terrific advice there worth the price of admission there. Moving on towards a close here, how do you think your job will be different in 10 years?

Oh, that's a good question. So I wear different hats. I'm an author and I'm just writing my second book. And I've heard and I've seen Yale University and Oxford University saying that AI will be able to do everything humans can do, for example, writing an award-winning book. But again, I think about my work as a marketing professional, as a management consultant, as an author and I just need to know continuously in the coming decade, how I can keep staying ahead, using the

right tools, and evolving. So actually, I agree with the World Economic Forum that the nature of the tasks I do will change and I think there'll be more and more tools available to me. Some will look dramatically different certainly five to 10 years from now, that I might access through a hologram and through all sorts of other cool ways. I think my life will change with regard to Internet of Things and driverless vehicles, and so on. So I think society and smart cities and intelligent cities that we live and work in will make the industries that grow and emerge very, very different. So I think my life will be much more international, and technology will play a much bigger part. But I still see myself consulting clients, speaking to them in all different kind of ways, but maybe through avatars and digital people and things like that. But yeah, it's certainly going to change and I'm up for a bumpy ride but [I'll] try and stay ahead of it for as long as I can.

There's that word **change** we use so much. And it's uncomfortable for a lot of people. I definitely resonate with that because a lot of things change that I would rather have stayed the same in many respects. Well, certainly climate change is not a good kind of change, that's an easy example. And to be born in the latter half of the 20th century or the 21st century is to be growing up in a world that has made no contract or implication that it's going to stay static, you can't pretend that it's not changing. But that doesn't make it any less daunting when we see change accelerating, and we're going towards an unpredictable unknown. And particularly when we talk about things like jobs being lost, and new jobs, but we don't know what they are being created, there's a lot of room for fear, in addition to the excitement, but people latch on to the fear generally more than the excitement. What kind of words would you have for people in general, whether they're leading a business or not about how to manage the balance between that fear and excitement of the unknown we're hurtling towards?

Good question, Peter. So I do a lot of work around this and so I refer people-- Well, first of all, I say, "Look, if I can do it at my age, with my background-- I'm not a technologist, I have a degree in languages and an MBA." I'm not teaching people how to code, or how to use Python and TensorFlow, but I am teaching them how to apply AI. So if I can do it, you can do it. I had no clue how to write a book and so you learn, you keep putting yourself out of your comfort zone. You have to be bold, and you need that self-confidence and that self-esteem, which again, will come from other people, from yourself, and we all have our ups and downs with that as well. I would also refer people to the Kubler Ross Change Curve and I do quite a lot of work around change management. And think about our approach to the pandemic and think about our approach to change in the face of technological evolution like AI. We start with shock and then we deny that it's actually happening. And then we get really, really frustrated, and then we get depressed or low or anxious. And then we gradually experiment, make decisions, and then integrate it. We've done that through various lockdowns and through our approach to COVID. And as managers of small businesses, as CEOs of major corporations, we need to help our people and we need to work with our HR teams on the culture, on the motivation, on the reskilling, on the wellbeing, and they're all-important elements to that. So it's about sharing knowledge, it's about developing capabilities, motivation, communications, and ultimately alignment. And we need to keep doing that in the face of all different kinds of change. That

would really be my big advice. But be curious. Keep reading, try and stay ahead. And don't think everyone else is doing it brilliantly because the truth is they're not. AI is not being deployed at scale in any industry. I've seen pockets of it in retail, in financial services, in telecoms, but it's still early days. So there's a lot of hype, as you rightly said at the beginning. So don't think everyone else is doing it and doing it really, really well. They're making mistakes, and there's still time, and you need to get on that, get on the onset, be on that bandwagon. You need to be equipping yourself personally and professionally to cope with it.

You've demonstrated the sort of resilience that distinguishes people from machines at this stage, so I think that's a good leading by example. We will have links to your site in the show notes but before we go, can you tell people how to find out more about what you're doing or engage you or other things that you have coming up?

Yeah, most definitely. Thank you. As I mentioned, I have a main website, which is aiinbusiness.co.uk and as you say, you're going to put those links up there. I'm very open to collaborating with people internationally. I want to take this conversation forward with interested people all over the world. So when Peter puts up the LinkedIn, the Twitter, the Instagram, the website, do honestly feel free to connect with me. I do lots of international speaking engagements, I do a lot of consultancy, I do advise governments, and so on. So very, very open to doing that, and of course, run paid workshops, as well as lots of free short courses as well.

Terrific. Katie King, thanks for coming on the show.

Thanks for a great conversation, Peter. Nice to be on your show again. Thank you.

That's the end of the interview. I think Katie really illustrates how the adoption of AI by business is accelerating and how much room there is in the field for people who can help them. If you recall Andrew Ng's assertion that "AI is the new electricity," we're really seeing the explosion of that technology penetrating to more and more sectors and affecting more and more people.

In today's headlines from the world of AI, an article in the MIT Technology Review describes a breakthrough by researchers at the University of Waterloo in Ontario. We know that one of the defining characteristics of AI is that it requires big data to work, right? To do image classification it needs hundreds of thousands of images at the very least, right? And that this sets it apart from humans, because we're able to learn from only a few examples.

Well, the researchers demonstrated something they call "less than one-shot learning", or LO-learning. They got an AI model to be able to accurately recognize more objects than the number of examples it was trained on.

They demonstrated this on a popular data set of images of handwritten digits, 0 to 9. The MNIST dataset, as it's called, contains 60,000 images of digits, used to train models. They were able to distill those images down to 10 images that were just as good at training a model to recognize the digits 0 through 9. Those are carefully-constructed images, of course. In fact they look completely weird, like strange noise. But they work. Then they asked themselves whether they could do the same job in *fewer* than 10 images. They constructed five images that were hybrids of multiple digits and they worked just as well. Hard to imagine.

Then they asked, is there a limit to the number of categories you could teach an AI model to identify through LO-shot learning from a tiny number of examples, and amazingly, the answer turned out to be no. PhD student Ilya Sucholutsky said that even two examples could theoretically encode any number of categories. “With two points, you can separate a thousand classes or 10,000 classes or a million classes.”

While there are some limits, this is a big deal for a field that is data-thirsty. Quoting the article, “That could be a big deal for a field that has grown increasingly expensive and inaccessible as the data sets used become ever larger.” There’s serious potential for decreasing the amount of electrical energy that model training requires.

In next week’s episode, I’ll be talking with Dr. Edward Parson of the AI-PULSE project at UCLA. Ted works there at the intersection of AI and law, researching how AI tests our legislative frameworks and how our justice systems and even our economy may need to evolve. That’s next week on *AI and You*.

Until then, remember: no matter how much computers learn how to do, it’s how we come together as *humans* that matters.

<http://aiandyou.net>