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As part of the *Café Insights* series of interviews with inspiring speakers, The Insight Bureau recently caught up with Scott Bales who is a leading authority on digital innovation and where we asked him about the potential impact of Artificial Intelligence.

AV: Hello and welcome to another in the series of Cafe Insights. I'm Andrew Vine, CEO of the Insight Bureau and today I'm conversation with Scott Bales here in Singapore at the Fullerton Hotel. Scott is originally from Australia, but now lives in Singapore and runs an innovation firm called Innovation Labs Asia, and is a thought leader in the field of digital technology and innovation. So, welcome, Scott. I guess today is a real chance for us to talk about the digital shift. Something that's effecting all of us across every business sector you can imagine and great to take a moment to think about where this is all leading us, and perhaps gasp at some of the potential of it all.

SB: Yes, it can be quite scary at times.

AV: But tell us a little bit about how you got to where you are today, what your background is.

SB: So I'm a former banker, for which I'm still working today to repent my sins. [laughter].I worked for ANZ Bank in Australia for eight years until they basically planted me in Cambodia in a venture for them that was very different, very disruptive, and very entrepreneurial. And it exposed me to a whole new way of approaching my career. It required me to be resourceful, required me to identify patterns, connect people, do deals, and it basically became the catalyst for the work I do today, particularly around innovation and being a futurist. Since then it has basically moved into a whole bunch of ventures, with corporates on innovation, and new spin-outs, I helped co-found Moven with Brett King in the US; I sold a company to Visa back in 2011; I helped build the Next Bank community with Rob Findlay globally, which is now a real cutting-edge discussion and community around the world. Basically, it has led to a pattern of continuous pushing the envelope, at the intersection of digital's tidal wave with various industries.

AV: You do call yourself a futurist, which is great because we all need to anticipate what's next and what we need to do in terms of developing business opportunities. But you're not a blue-sky, crystal-ball-gazing guy. You're actually dealing with technologies which are affecting us today. The future is today.

SB: Don't get me wrong, I do spend a percentage of my time in that kind of crystal ball stuff. It's just my clients tend to buy on what I call the three horizons; What can I do in the next 12 months? What's going to affect me in 36 months? What's going to affect me in 60 months? Those are the tangible horizons that people can grasp and understand to make either investment decisions or strategic decisions. I tend to focus on those three horizons in the majority of my work.

AV: I was particularly keen to get together with you today because I'm hearing a lot more excitement about artificial intelligence. This is kind of the combination of a number of key trends. Give us an insight about what that really means. What is artificial intelligence really about?

SB: Artificial Intelligence (AI) itself is, I would like to say, a buzz word. But it's a combination of multiple things coming together. It dates back basically to the start of the internet, that's how old it is,

and really as more and more of the world becomes digitized, then there is more of a capability for the digital part of the world to have its own collective learning and intelligence. The biggest cut-offs that really are the shift to the internet to the mobile device, the commencement of internet of things, and, really, the proliferation of what we call the algorithm economy that comes out of the big data world. Businesses like Netflix, businesses like Amazon, the whole business proposition is based on the use of data and an ability to learn from that and build a value-creation model. And then there's more Sci-fi stuff beyond that. But that stuff is affecting us today.

AV: My understanding is that artificial intelligence, as you as you've said, has been around for a while it kind of went quiet for a while but it's just had a big boost. Is that because of the sheer-- is it Moore's law really giving that a big push? Saying that it's just so much computing power now that can be done to do the heavy lifting that humans can't?

SB: Yes. I mean, Moore's law is a huge part of it, and so I look at infrastructural level influences – particularly I mean the cloud is a big one. Basically this afternoon we could go and plug into computational power that runs stuff as big as the NSA. That's quite easy straight off an AWS [Amazon Web Services] account. It's also around the fact that we've now got nearly a decade of habit of just collecting data, because data is one of the underlying pillars actually feeding intelligence. So those kind of things actually start to accelerate. So, if you look you look at Malcolm Gladwell's 'tipping point', we're kind of right there now, where we could actually see a growth based on computational power, the availability of data, and also what we call the connective-device network. So, you're looking at an internet of things, mobile, all these things actually just accelerate things. The best example is in what we call the algorithm of economy is what Tesla is doing. Tesla's car was - without scaring anyone - was released as, basically, an infant behind the wheel. As the miles accumulated on Tesla cars across the network, all of sensory data was brought back into their intelligence engine to continuously learn and develop the intelligence of the car, to refine the self-driving component. So, they didn't release the self-driving component until, I believe, the intelligence of the car network was at a sufficient level.

AV: The big thing, of course, is machine learning.

SB: Tesla is a good example, again, of that, where, now that autopilot is available in a Tesla, a machine itself can make its own decisions. All of a sudden having rumours of people going to sleep and the likes. But we're now trusting the car to make its own decisions navigationally, environmentally, on fuel efficiency. All the factors are coming to-- you are driving a car but the car is now making the decisions on our behalf.

AV: And how much further can this go? What are we talking about in terms of this really changing way we live and work? I hear stories saying this is perhaps the next revolution.

SB: One of the big, important roles in the digital transformation of most industries has been the knowledge worker, and the knowledge worker is basically the driver that points an organization, or an engine, or some kind of technology, in a way of absorbing data and deriving insights from it. But it's still very much human hands-on. And so it requires interpretation. It requires human experimentation. It requires human scenario modelling. What will happen, particularly in the AI space, is that the knowledge worker's role will either disappear, or it will be totally changed, because now the machine will be able to make its own decisions, will make its own experiments to test hypotheses offline and then apply them in the real world, almost in real time. The key thing in this – and this is the hardest part for us as humans to accept -- is that the weakest link in the digital transformation is actually humans. So, think about this; the weakest link in a car is actually the human! The weakest link in the internet is the human! So what happens when the shackles come off and it's allowed to basically roam free?

AV: For all of the excitement there is, for some of the reasons you've just said, it does look like machines will become smarter and smarter and smarter … And that may put us in a very insecure position. How do we feel about machines being smarter than us?

SB: We definitely don't like being in a situation where we feel we've lost control. Particularly, it will elevate the importance of members of society that are kind of the 'masters' of AI. So anyone that's been in AI now for a while is likely going to be the 'Bill Gates' of AI or the 'Steve Jobs' of AI. So it makes us feel very inferior. It gives us a lot of apprehension, and as a result we start building in human back doors into AI - right or wrong - but it basically creates a weakness within the system. If a machine was able to diagnose your cancer with 95% accuracy and it said that your cancer is so severe we needed to chop your leg off. But the human doctor over there is saying, "Look, I'm not quite sure. I don't have enough data to prove that. I think I might just do surgery and just pull out the tumour." Who do you trust? The doctor or the computer?

AV: And it seems to me as well that a lot of jobs will disappear, though other ones will be generated. Maybe the art of all of this is going to be how humans interact with machines, to be able to adapt, to go through different kinds of learning, different kinds of skills development.

SB: There's a lot of stuff involving what we call a natural user interface; how do we use a more humane way to interact with a machine? We've got Siri and we've got Cortana out there today. While these technologies are still in their infancy, they become a more natural interaction for us to have conversation with a machine, as opposed to having to write programmatic lines of codes or a paragraph of text to give instructions to a machine. And so you will find this in time, and I don't know if you've gotten into this habit yet, but now I'm trying to do as much as I can only on my phone through Siri --- just so that I get comfortable with the idea of a natural user interface. I mean, Siri is coming to your Apple TV soon. I use Siri on my watch, my iPad, my phone, you know, the likes, and very soon it's going to become this sort of collective ecosystem where you can almost interact with technology in that way. I am waiting for my Amazon Echo, which is going to be exactly the same thing. I'm someone who is always trying to experiment with these kind of things. And you'll find a little more and more devices are going to go this way.

AV: Maybe it'll take time for us to accept it. I mean, you're at the forefront of understanding what all this is and you're hungry to learn it and understand it, but the average person is going to have to be introduced to this gradually and slowly.

SB: I mean yes and no, and I'll give you an example: most people look at the iPad like a foreign alien when they first see it. But because the actual gesture technology that's built into it is more natural than a keyboard or a mouse, people pick it up faster. A one-year-old kid can learn an iPad faster than they can learn a mouse.

AV: And even my mother can! [laughter]

SB: Yeah, you see? Because it replicates a lot of the things that are natural to us; turning a page, zooming, and that kind of thing. So they have done a very good job on that kind of natural user interface. And that makes working with the technology a lot easier for more people.

AV: Well it does sound a very exciting future that's ahead of us. How, if we look ahead -- maybe only as far as ten years from now or certainly 10 to 20 years -- how would you paint a picture of the way we live and work?

SB: The sectors that I like looking at right now are those where there is basically a knowledge gap between the consumer and the producer, particularly where that knowledge gap become, basically an equal opportunity that creates price in the market. So I'll give you an example: insurance. Self-

insuring is very, very possible. If you sit down with a risk modelling and understand how much money you have to set aside and what's the likelihood, "I'm going to get sick, or crash my car, or get robbed." But over time more people are going to have the intelligence to actually answer these questions themselves. So industries like insurance what are based on basically a knowledge gap, they are going to come under threat. They're going to see serious threats. The other thing with this is around the education needs are going to shift significantly in the next sort of five, to ten years. Even medicine most people can get online and understand detailed anatomy, physiology, biochemistry. Once people become equipped with not only the access to information but the access to intelligent technology that can help them understand that information, we start seeing not only a connected society but an intelligent connected society. And so for any industry out there that's really trading on that gap in knowledge, they're going to come under a lot of threat.

SB: The second part, as you said, is around jobs. Jobs are going to be better supported by technology, particularly those where there's a knowledge gap, or where their job is based on the cleansing of data, or interpretation of data. You're going to find those jobs are going to evolve very, very quickly because all of a sudden machines will be doing that for you. The biggest task in AI right now is data cleansing and structuring, particularly taking in unstructured data to be usable in the machine world. Those kind of things are really, really going to change a lot of roles. The one role I'm a little worried about, particularly given how many people are globally employed, is customer service. If AI technology becomes so intelligent, what does that mean for the call centre operators? But we may come to an economic decision where we realize that spending $10 million on artificial intelligence for customer service is far cheaper than having a call centre of 10,000 people in India. So that's basically some of the key threats that's going to come, until we see resources being repositioned and redistributed.

AV: Is there going to be a gap, do you think, between those who are gainfully employed in certain ways and others who are losing out, part of our society going to be underemployed while the other is employed?

SB: I would say there will be a global trend of the increase of intelligence. That will be absolutely definite, because that's been a trend we've been seeing now for two decades off the back of the internet. Part that may -- I wouldn't say exclude people -- but disadvantage them. It's going to be similar trends that we've seen in the digitization of industries. So I'll focus on Uber for a second: the people that are disadvantaged from Uber's progress the most are the people that resisted it. Why? So we're this, the single biggest day for customer journey growth in Uber's history was the day the French taxi drivers protested, because they basically gave everyone a reason to change [laughter, because all of a sudden 10,000 French taxi drivers weren't available. So what did you have to do? You had to go to Uber. It happened in London too.

AV: Yeah, an own-goal! [chuckles].

SB: Those people that resist the change are those people that will be disadvantaged.

AV: Well, we have a lot to look forward to, and there's some trepidation, perhaps, but we're a very adaptable kind of a species, so let's hope that we use it all to our advantage. Thanks very much again, Scott, for spending a bit of time with me and talking about this. Very interesting, indeed.

SB: Thanks, Andrew.

http://www.insightbureau.com/ScottBales.html