



For Cloud Professionals, part of the On Cloud Podcast

David Linthicum, Managing Director, Chief Cloud Strategy Officer, Deloitte Consulting LLP

Title: Technology is changing the future of work. Are you ready?

Description: Companies' ability to leverage new technologies such as automation, artificial intelligence, and machine learning to make better use of BI and analytics as a force multiplier is one key driver in their quest to separate themselves from their competition. However, the use of those technologies will also [likely](#) displace a large majority of manual workers. Companies will need to retrain those workers to focus on value-added activities to maintain a stable, reliably-employed workforce. In this episode of the podcast, David Linthicum and SAP's Andreas Bitterer discuss how new technology may reshape the work, and workforce, of the future and the steps companies—and vendors—can take to help their workforce weather the changes and contribute effectively to the new work economy.

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Operator:

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David Linthicum:

Welcome back to the On Cloud Podcast, your one place to find out how to make cloud computing work for your enterprise. This is an objective discussion with industry thought leaders who provide their own unique perspective around the pragmatic use of cloud-based technology. Today on the show we have Andy Bitterer. Andy is an SAP chief evangelist in EMEA for business intelligence, analytics, intelligent enterprise, providing thought leadership and raising the global profile of SAP's analytics and SAP Leonardo – love to hear more about that. Andy, welcome to the show.

Andreas Bitterer:

Thank you. Thanks for having me.

David Linthicum:

So we always like to talk about what people do in their day job. You know, it sounds like you're doing the evangelist stuff – you and I have that in common – but what's a typical day for you? What's your role at SAP?

Andreas Bitterer:

As an evangelist over here, I'm not a religious person, so I'm basically a storyteller, if you will. I talk to our customers. I speak at events and keynotes and breakout sessions about, you know, of the future, in reference to, in terms of what we do at SAP. Being a BI or I have this kind of hat on, talk about information, information usage, use cases, some really good stories that our customers have been doing. And with that I pretty much travel around the world and spread the gospel, if you will. And as an analyst, a futurist – I used to be an analyst back in my Gartner days, and I'm also a pianist, so I always have to be something like an 'ist thing to it. So I'm happy on stages. I'm talking to customers about some of their challenges that they have in terms of organizational structures, the lack of BI strategies, data quality, all the good stuff. And hopefully we have some good answers for them.

David Linthicum:

So anyway, ultimately, we're going through some evolutionary changes right now in the world of cloud computing and technology in general, you know, dealing with the way in which we're dealing with information. I always say to my clients, "We're looking to do wonderful things with your data." And the ability to apply analytics, the ability to apply machine learning, the ability to apply other AI technology, and getting into some deep, I guess, introspection in terms of what the data is and the types of information we can draw from the data. Enlighten us in terms of what SAP is doing around that space.

Andreas Bitterer:

Obviously we've always been, even with data, even though we're mostly known as SAP for our apps, right, that's from the R2 and R3 days for many customers we're still kind of the apps company, even though we've been doing BI and analytics and machine learning and all the good stuff for a really, really long time. And we've been a major, major BI and analytics player for a long time. It's just that most of our customers still put us in the apps corner, and that's just not really the case anymore. In fact we've been using applications not just as a – or we're not using data as a byproduct of applications.

We're really a major player on the information management side with anything from big data warehouses and SAP HANA and obviously with machine learning and some of this stuff, and SAP Leonardo with IoT and data intelligence. It's a really broad portfolio, and I'm trying to kind of explain to our customers in terms of what they can do with it, because for the most part – and that's been true for the last 20 years at least – is that most organizations think of BI mostly as a component, and that's really sad, right?

And if I'm going to some of these billion-dollar companies and ask them what they're going to do with this information, not just transactional but social information or seismic or meteorological or any of the other data types that are out there, it always comes down to, "Well, we're building some nice reports with it and nice dashboards." I really want to kill myself at that point because it's just so backwards-looking in terms of what they are doing rather than looking in terms of predictive modeling, or machine learning, or IoT or any of the new technologies that just expand dramatically the purpose of information. And sometimes their eyes glaze over in terms of what's possible, but they're just not really knowledgeable enough to really realize some of the value, and that's really sad.

David Linthicum:

Yeah, I think we're going to go through an evolution in the next few years where the businesses that are able to in essence weaponize their data or leverage their data as a force multiplier to push their businesses forward, whether it's gathering additional insight or even taking that insight and embed it into core processes whether they exist in the cloud or not – who cares? But your ability to leverage information in some sort of a strategic way is kind of a pattern that seems to be leading up to success of companies. Of course we have those who are able to leverage technology in very innovative ways to disrupt their markets, but we're going to see it coming to healthcare. We're going to see it coming to traditional businesses, manufacturing, retail, distribution, you know, all these things – life science. It's really a matter of them leveraging their data in ways in which they can enhance their business, and I feel that they're missing the boat on that, and I think you agree. What do you think they should do?

Andreas Bitterer:

I totally agree. No, really I totally agree that they're really missing it just because they don't even know what to ask. So if you're going to an organization and you talk to IT – they can build anything, right? They can store the information, they can secure the information. They can distribute the information. It's just that if the user side, people in finance or marketing or sales or production or the guys in logistics if they don't know what's possible and they don't know what questions to ask, they will never really leverage the information that is actually there and at their fingertips more or less because they don't know what's possible.

So there is a lot of education necessarily to basically find these really killer use cases to educate the user that more to information than just, you know, putting a nice pie chart or bar graph on a piece of glass, like a tablet or something. I think the biggest problem an organization has is finding those really interesting use cases and make a difference, because if we're honest, you could send out 10,000 reports a day, and if people just look at them and say, "Okay, that's really interesting; so we sold more this month than last month," and nothing has changed, the whole purpose of BI or analytics is just more or less in vain. So unless you find something that really changes something, either produces a risk or finds a pattern and enables a higher margin or you have less customer churn, or whatever the business impact of it is, and unless you have that, and then it's really just more – what's it going to take, if you will. So you have some nice information and a nice dashboard and that's it, and I think that's just what BI has sunk to.

David Linthicum:

So drilling down on AI a bit, machine learning, deep learning, things like that, the things we've been actually doing for a long time – my first job out of college, and I'm 57, was as an AI analyst. You know, here we are many years later in essence exploring the possibilities of the same technology. So what should enterprises be doing in terms of leveraging artificial intelligence systems to leverage their data in more strategic ways?

Andreas Bitterer:

Yeah, the same thing. I mean, you need to know what's possible because as you just said, AI isn't really new, right? Everybody talks about it as if even was an evolution from BI. I've heard that a long time – a lot really, that people are, "We're not doing BI anymore, we're doing AI now," as if that was sort of a next step, because AI really has been around since, you know, when I was in university in the '80s, obviously things have changed dramatically since then. But for the most part AI isn't there to come up with new things; it's just more like an automation of old things that are just either too boring to do, or too

cumbersome, or too dangerous, or too long-running. So we'd just rather let a robot do it or an algorithm do it, because we probably have better things to do.

And to be honest with you, there are some use cases where AI and robotics are basically really changing the way organizations work, and how even societies work. I remember when I was living out in California the meanest thing parents could tell their kids is, "If you don't work hard, you're going to be flipping burgers for the rest of your life." I'm not sure whether you still do that, but I mean, that was the ultimate threat I guess. And now there's robotics and AI and some of these kind of robots – I think they're called Flippy, which is a robot that basically flips burgers now. Then there are janitors' basically jobs going away because there are robots in the supermarkets, and there is also AI-based kind of machinery that basically just does all the boring stuff. Here in Hamburg, where I live, we have garbage collection trucks that have no garbage collection people on them anymore because it's all done by an AI engine. Basically, it has a lift in the back and just pulls all the garbage cans in the back of the truck.

So I mean, there is a lot of societal changes based on AI technology that we'll see, and I think we haven't even seen anything yet, because we're just getting started.

David Linthicum:

Yeah, I was at CES, that's the Consumer Electronics Show in Vegas. And just the number of automated workstreams that I saw in terms of factory floor, you know, a robot that could play ping-pong, and I did see the burger-flipping robot. And the ability to kind of automate humans out of the equation and kind of take everything to the last mile is something that's occurring now. So what do you think the impact's going to be on the workforce and the culture in general?

Andreas Bitterer:

I would think that – and probably people that do most of the manual work they will be looking over their shoulder in terms of when the robots are taking over. I don't think that we'll see kind of Robocops running around anytime soon, right, even though I think technically they can do that. I mean, what's the guy's name who is running parkour, Altross, Atlas, something that – a Boston Dynamics guy who can open doors, who can do backflips and all that kind of cool stuff, even though it's not something that would kind of take your job away, unless you were a professional back-flipper. But I mean, these machines can now do things that humans can do very well and probably cheaper, safer, faster, more reliable. So many of the low-wage jobs, I would think, will be more and more replaced by robotic engines.

And to put a positive spin on it, these people can do more high-value work. Now, obviously, they need to be trained to do that because if you're basically just doing some manual labor, and you're paid for that, you would need to be trained to do some more brainy work, rather than just manual work, because robots will be able to do that. And they will. I mean, it's not that this is going to happen in the next year or two, but, ten years from now we'll see a lot of robots. I mean, just think about all the robots here in my house. I mean, I don't mow my lawn anymore; I have a robotic lawnmower. I have one of these kind of vacuum cleaners running around. I don't need to do that either. So there will be areas where humans will just be obsolete.

David Linthicum:

Will someday they rise up and kill us in our sleep?

Andreas Bitterer:

Yeah.

David Linthicum:

[Laughter] Yeah. The thing is, is humans bring innovation and the ability to be creative, and I think it does free human beings to go off and work jobs that are more creative in nature, and so they're not repetitive tasks to go over and over again. But it is going to be a cultural change. If you think about it, we've gone through this many times in history. We had the invention of automation of farming, the ability to plant and harvest and things like that using combine machines, things like that, the cotton gin which allowed for the mass production of cotton-based systems, and all these sorts of things that people have a tendency to kind of forget the fact that we go through this about every 20, 30 years in terms of an accelerated set of technology that really kind of changes the way in which we think about work. And, so, do you think something like this is going to happen again in 30 years?

Andreas Bitterer:

Yeah I mean, so you mentioned the farming, right? Smart farming is one of these areas where technology has a huge impact. In fact, we just had a use cases in which some of these gigantic plantations will now be monitored not by people driving around with their quads and checking out the plants and checking out whether there is enough nutrition in the ground, or enough water, or whether leaves turn yellow, or whatever. They just fly drones across the whole plantation, take images directly from the air. They can identify each individual plant, know exactly where there's maybe a disease, maybe they need to spray something, or another area needs more water, and a third area the fruits are ripe. So all of that will be changing how agriculture works and basically just taking soil samples from every ten meters from some of these harvesters, for example. So there's all this information being generated all the time, and now it's not that the farmers, the guy with dirty fingernails sitting somewhere on a tractor. The guy has more of a digital business than anything, because they're just looking at dashboards of their farms and plantations and they just maybe send some drones across it to basically do, like check up on the plants.

David Linthicum:

Yeah, I wrote an article for InfoWorld about how the automation of farm equipment is kind of leading the way in terms of our ability to deal with autonomous because we're not letting – I don't know about Europe; you can fill me in on that, but more jurisdictions aren't letting autonomous vehicles on the road, at least not without a human in them. So we're going to have to change the culture around that as well. So is it going to be the adoption or basically the ability to kind of accept that we're going to give up control to AI engines going forward?

Andreas Bitterer:

You talk about these self-driving cars and stuff like that, right? I think there is still a person necessary in there more or less for insurance purposes. But, at some point if the infrastructure is up for it, then we definitely can see some self-driving cars where there's just passengers. So you sit in the back. You don't even need to kind of check on anything because the car does it all for you. You know, if you look at the autopilot that Tesla does right now, you know, there's all these kind of sensors and cameras and they identify weather conditions, road conditions, traffic conditions. They know when joggers are basically

just on the road and they basically just hit the brakes and stuff like that. So these are really, really smart cars already, and I would think that Tesla is kind of leading the charge, but I mean, the other companies, if they don't want to be overtaken and right now Tesla really is, if I'm not mistaken, even the most valuable car manufacturer on the planet. You know, the Mercedes, the Toyotas, the Hondas, they need to do something. And once there is enough pressure from the car manufacturer to kind of come up with new vehicles, societies and governments and laws will need to change. Obviously there's a lot of infrastructure necessary to kind of allow that, but you know, 20 years from now I don't think I'm going to be driving myself anymore.

David Linthicum:

Yeah, I hope I won't be either. I think it's wasted time, especially around here in the Washington, DC area. It takes an hour to get anyplace because of the traffic. So it'd be nice to hand that over to somebody else.

David Linthicum:

So, Andy, how is tech evolving in 2020, you being a futurist and all? And how is SAP kind of stepping up to the plate to adopt technology that's evolving in 2020 and beyond?

Andreas Bitterer:

I think the challenge of organizations kind of leads us to basically just take all the new technology into the apps directly, because there is this one challenge that organizations have, is that they don't have necessarily all the skills that they would need to have in order to kind of leverage all the AI and machine learning and deep learning kind of technologies. And because they don't have the skills or if they do, they're kind of rather a fleeting resource, if you like, and they're expensive and everything can't afford a hoard of data scientists, organizations are basically expecting the apps vendors to kind of leverage all of that and take it directly into the application. I mean, we already do that. We have literally hundreds of machine learning algorithms just baked into some of the applications, and basically these algorithms are leveraged, and the technology is leveraged; it's just that people don't see it. So you could argue that a salesperson or marketing person becomes users of machine and they don't even know it. They don't have to know it. It's just that it obviously takes a long time to basically, just as a software vendor, just to leverage all the technologies that are out there, but we are basically on a good trajectory there to basically enable all our applications with some of the new technology, whether that's from IoT or big data or any of the other kind of big things.

David Linthicum:

It's an exciting time to be in tech. So where can we find out more about SAP and SAP's technology on the web?

Andreas Bitterer:

Well, the easiest thing would be to go to SAP.com.

David Linthicum:

Yeah, check it out. So SAP, as Andy said, it's not the application company that it was 20 years ago. They're doing some amazing stuff, certainly around things like HANA analytics, and really kind of taking things to the next level. So if you enjoyed this podcast, make sure to like and subscribe on iTunes or wherever you get your podcasts. Also check out our past episodes including On Cloud Podcast hosted by my good friend Mike Kavis and his show Architecting the Cloud and his book by the same name. So if you would like to learn more about Deloitte's cloud capabilities, check out DeloitteCloudPodcast.com, and if you'd like to contact me directly you can reach me at DLinthicum@Deloitte.com. Until next time, best of luck with your cloud projects. We'll talk again very soon. Take care, guys.

Operator:

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