



EPISODE 3: DATA & ANALYTICS

PODCAST TRANSCRIPT

Barbara: Welcome to Episode 3 of Trending Topics in IT: A Deep Dive into Today's Emerging Technologies, a new podcast series on emerging enterprise technologies and sponsored by Accenture and AWS. I'm Barbara Call, Senior Director of Content Operations and Strategy with IDG. I'm joined today by Ozlem Celik-Tinmaz, North America Lead for the Data Science Center of Excellence Team of Accenture Applied Intelligence, and Carlos Escapa, Global Practice Lead for the AWS Machine Learning and Data Science Group. Welcome, everyone.

Ozlem: Hello. Hello, Barbara. Hello, Carlos. Thank you for inviting me for this podcast.

Carlos: Hello, Barbara. Thank you for introductions.

Barbara: 00:00:45 -- Absolutely. So today we're talking about driving real business value from data analytics and emerging technologies such as artificial intelligence. So I'd like to start by presenting a few research stats from our IDG Research Study. We found that more than half of respondents report that public cloud has eased adoption of big data and analytics technology. We also found that 39% indicate cloud has enabled the use of artificial intelligence. So I'm wondering, what do you make of these stats and what role does the cloud play in these developments? Carlos, let's start with you.

Carlos: 00:01:23 -- Very well, Barbara. I think it's a very good question. Consider that scale and flexibility are the two key reasons why cloud is enabling a faster adoption of artificial intelligence. The scale refers to the fact that data

can come in bursts. We could have some industries, companies may have a ratio of 100:1 with regard to peak usage versus normal usage. And anybody that has gone through a marketing cycle that has been particularly successful can attest to that. And the cloud, AWS provides the scalability required without having to pre-provision resources in order to facilitate the data ingestion.

00:02:04 -- And then with regard to flexibility, data analytics requires a very wide range of tools and this applies to both physical tools like storage and networks, as well as different formats for data repositories. At times you would use Hadoop for that. Very often you use relational databases. We're now seeing an increase the use of graph databases. Obviously data warehouses have been used for a long time. The cloud just provides a much richer set of tools and more flexibility with regard to what tool to apply for the different use cases that customers need. So this is why we see cloud as a more natural choice, a more natural home for analytics themes.

Ozlem: 00:02:52 -- In addition to what Carlos said, I think sometimes businesses does not have skilled teams to run, manage, and support such infrastructure necessary to both process and serve large amounts of data. So if a business is not digital by its nature, so it's a physical product retailer like clothing retailer or a health provider like a pharmaceutical company, or if the business is in small or medium scale, then they don't necessarily have function competent infrastructure to answer the needs of big data storage or high computing needs. So cloud providers like give organizations an option



to outsource these infrastructure needs and then focus on the actual data analytics or AI that their business needs.

Barbara: 00:03:39 -- Okay, great. So that's a perfect segue into my next question. So it's clear that data analytics and artificial intelligence have become key focus areas for today's businesses. I'd like to hear from both of you, why is this the case first, and second, how are these two technologies intrinsically linked together?

Ozlem: 00:04:00 -- I can start, but I want to start with your second question about how AI and data analytics are linked together. Data analytics is basically using data, utilizing data to answer the questions the business might be facing and drawing insight from the data or making prediction based on the historical trends and other correlating factors seen in the data. And the main tool for data analytics, one uses machine learning. Machine learning is the core component of AI, artificial intelligence. It is the component that provides the intelligence, ability to learn and comprehend.

00:04:38 -- On the other hand, AI is more an end-to-end solution. It has also components in addition to components to learn; it has components to sense, like computer vision, speech recognition, or language understanding; it has the components to act, an example of which must be displayed in virtual agents like Alexa in your home or a call center chatbot. So still without data analytics and machine learning, the AI would be an empty toy. So that's the relation between -- or entire relation between machine learning, data analytics, and AI.

00:05:11 -- Coming to the question why they are the key focus areas for today's business, you can say two things. You heard these mottos a lot. Information is money in today's world. So it has been shown that smart use of data could provide business insight that's learned obvious to human idea(?) due to limitations of human brain and your non-brain(?) are processing large amounts of data all at once.

00:05:36 -- So the information harvested from

those business insights related about how customer preferences are changing through time or why customers are leaving or preferring certain functions(?) their companies or identifying root causes of certain manufacturing problems, all these can provide a really monetary value for your business. So that's why that's the power of data analytics and that's why businesses are seeking data analytics solutions.

00:06:04 -- In addition to that, time is also money in today's world. Automating many processes, business to _____ helps in acting swiftly, according to changes in business and customer preferences and also helps in saving a lot of money, high cost of utilizing large number of human experts. So such as, for example, for spending -- going through large amounts of documents to extract certain data of interest or by using chatbots or virtual assistants to service the call center. And that's the power of AI. So that's why businesses are also seeking solutions in the AI space. So naturally, all business wants to obtain the power of data and the AI, to attain their business goals and create new businesses for them and gain added business value.

Barbara: Okay, Carlos, anything to add there?

Carlos: 00:06:57 -- In addition to what Ozlem said, data analytics and AI are intrinsically tied because of the temporal space. Data analytics in the past 25 years has been mostly about analyzing the past. In recent times, with the advent of Spark we have seen a lot of real-time data analytics. Machine learning allows us to transcend that and start to look into the future and to use inferential data science in order to come up with responses to questions in what-if scenarios; and this allows us to enrich business processes and streamline them by removing a task where the cognitive value is relatively low. And this is what's giving rise to new efficiencies and also significantly better customer experiences.

Barbara: 00:07:45 -- Okay, great. Thank you both. Ozlem mentioned that information is money and our survey results clearly point to data monetization as a real measure of success.



Let me share a couple stats. So 43% of respondents said that the ability to monetize data is a top measure of success with respect to cloud deployments; and companies who are more invested in the public cloud are more likely to report better utilization and monetization of data. So I'd like to ask both of you, what's your take on these stats? Carlos, let's start with you.

Carlos: 00:08:21 -- It is certainly the case that experimentation is a lot easier in the cloud because standing up resources is relatively straightforward and also standing them down is very easy to do. Therefore, since data science lends itself to experimentation, it's just an easier platform to start to do the first steps and to start to try new ideas. And we certainly see this a lot. There's a lot of AB(?) testing that takes place, and using this you can actually adopt monetization strategies with a much lower level of risk. Because you can control the percentage of transactions where you do the experimentation or you can, indeed, segment the user population or the customer population and then start to provide new services or new products that are based on machine learning models. Ozlem?

Ozlem: 00:09:15 -- Just to add a little to that, to _____ to data monetization goes through data analytics and AI, but as we mentioned before, both AI and data analytics requires the data infrastructure, data storage, computing power, and ability to do tests that Carlos mentioned. You try to with more than one. And sometimes by using AWS or other cloud providers offering services to do that for you, to provide that for you, and also sometimes necessary frameworks to implement certain components like cohort(?) speech to text or to organize object in videos. That's basically _____ business' journey for monetizing data. So that's why it is when they use cloud deployment, businesses find faster results and for building effective solutions for data monetization.

Barbara: 00:10:11 -- Okay, great. So I will say our survey revealed on very real issue around data analytics and that is skill gaps. A couple stats here: 41% of our respondents say data

analytics is one of the top two in demand skills; and more than a quarter of respondents said they'll turn to third parties for data analytics, as well as the platform expertise necessary to support analytics and AI technologies. So what advice would both of you offer IT leaders who are facing these kind of knowledge gaps?

Ozlem: 00:10:48 -- Without progressing grade(?) skills to utilize data for analytics, businesses face many challenges such as start with, they cannot ask the right questions. Meaning they cannot frame their business problem in a way that can address with the data in hand. In addition, they cannot see the potential areas data can help without knowledge of what data analytics can achieve for them; they don't even set goals and start to _____ and strive for a solution. Their data just sits stale in their databases or wherever they are storing. On the other hand, or spectrum, sometimes businesses use data analytics and AI as magic, so expect too much from it. In other words, they don't have realistic expectations, realistic goals from data analytics.

00:11:36 -- So to address these challenges I think what they can do or what options that they take, and usually they try to hire data analytics experts to stand up data science teams in-house. But without right talent, seed talent or seed teams, it is more difficult to find and hire right people. In _____ sometimes also think data analytics needs a consulting company like Accenture where this saves a lot of startup time and effort and helps them start their data on this journey right away. For example, our team Data Science Center has an Excellence Team within Accenture Applied Intelligence Group engage with the clients from the start, from the point of understanding their business problem and framing and scoping it in such a way that it can be solved with data in hand, until building a solution for them using their data in hand; and building a recommended roadmap to improve that solution with more data or by addressing other problems they might have.

00:12:40 -- So along the way, if you _____ that business, you can also team together with the



client's businesses, existing team, to train them by taking some part of this effort and then learn along the way what data analytics can issue for them and make realistic expectations from the data analytics and AI.

Barbara: Carlos, any thoughts you'd like to share?

Carlos: 00:13:04 -- I would like to maybe contribute a couple of ideas to people that are putting together a team. There are several roles that participate in data analytics. Two critical roles would be data engineers and data scientists. And I see that the companies that do not have a strong data engineering really struggle to retain data scientists, because they become frustrated if the data are not available or if the data is not clean or they have to do a lot of data manipulation in order to start to do their data science. So that is an important point when securing and keeping talent in an organization.

00:13:45 -- A second point that I would make is the reason such a thing as a full stack of data scientists, you pretty much need that segregation of roles, people that are good at building robust pipelines that can build data lakes; and then people that can actually relate the data to a business problem. Also, as I mentioned, these are the people that can actually frame a problem in a way that it is solvable through machine learning. And then allow them to experiment. People need to experiment with machine learning. You cannot apply Agile techniques. You cannot do sprints with data science. It is an experimental science, so therefore, there is a need for discovery for trial and error.

Ozlem: 00:14:29 -- I like the way that Carlos added that there's not one talent for data science or to building AI solutions. You need to have data engineers, data scientists, and computer science experts to make robust solutions. So yeah, thank you, Carlos, for your addition.

Barbara: 00:14:48 -- Okay. Before we continue our conversation with Ozlem and Carlos, I'd like to say a few words about our sponsors. Trending

Topics in IT: A Deep Dive into Today's Emerging Technologies reports on emerging enterprise technologies and is presented by CIO.com in partnership with Accenture and AWS. Now back to the show.

00:15:12 -- So welcome back. We know that the volume of data is only going to explode over the coming years as IoT centers come online, companies continue to collect customer data and so on. And I would say it's critical for today's IT leaders to get a handle on their data analytics and cloud strategy. And in fact, for some of them it may be too late. Would both of you agree with that, and let's start with Carlos this time.

Carlos: 00:15:38 -- I don't really agree with that. There is a lot of expectations that have been created in the market. This is I think normal in a technology cycle. But the fact is that companies react at their own pace in their own ways; and I have certainly seen that for machine learning/artificial intelligence, the companies with the fastest adoption are not necessarily coming from the typical finance vertical which is in another technology area, the sector that moves the fastest. I see a lot of adoption in engineering, in energy, manufacturing, and actually these companies are beginning to harvest the data at their own pace. There's some for which it makes sense to move very fast and others that are going a little more slowly.

00:16:32 -- The beauty of cloud is that you do not have to design multimillion dollar datacenters. You actually start to use them from the first dollar, so to speak, and you can scale up very, very quickly. I have seen analytics projects happen in a matter of weeks. And once the data is landed on the cloud, it's literally days until the data begins to be harvested. So this allows companies to move basically at their own pace and adopt cloud just as soon as it begins to make business sense.

Barbara: Ozlem, anything you'd like to share there?

Ozlem: 00:17:08 -- Yeah, I agree with Carlos that businesses can choose their speed



themselves if they wanted to do it faster, earlier, or later; but the one thing I think is most important is, especially for those businesses that use IoT sensors in their business, they are producing vast amount of data by loading this data as mentioned. They are _____ milliseconds down to milliseconds or even faster. In order to make this large amount of data, they need to take action to store down and organize those data most efficiently so that they are ready to use for AI or data analytics with minimal data prep activities. Incorrect storage option might add comfortable upfront time overhead to any data analytics task for data prep efforts that Carlos mentioned earlier. So AI and data analytics is only possible once the data is cleaned and stored right in one place; and then it is then business can proceed in making use of them in a timely manner to accelerate their turn of investment.

00:18:17 -- So in that sense, of course, if their businesses especially are storing vast amount of data, they need to start early to organize them and to store them, collect them more efficiently and cleanly.

Barbara: 00:18:31 -- Okay, so thanks very much for that. That's great. So we have time for one last question here for both of you. Just maybe one or two key takeaways that CIOs and IT leaders need to keep in mind when they're talking about data analytics and artificial intelligence. Ozlem, why don't you go first.

Ozlem: 00:18:49 -- Data is the most valuable treasure and enabler for business in current times. Not using data analytics at all will cost your business more than the required investment for incorporating AI and analytics into your business. On the other hand, it needs a lot of investment to collect and store the data up front. So it's important to put it in use through data analytics as soon as possible to get a return of investment by monetizing data.

00:19:18 -- So my recommendation for them is don't spend time trying to do everything in-house, building infrastructure, hiring new talent, building new teams. Start your analytics journey

with minimal overhead by working with third-party data analytics experts like Accenture or third-party cloud providers like AWS right away. And along the way, while working together with us, you will see the best practices in action and can make more educated decisions on what talent you will need to build in-house analytics team and to train your current teams with the latest technology. And you will gain valuable knowledge for how to approach your business problems and that data _____ impression(?) by basically showing an example by doing it.

Barbara: Carlos, what would you like to add?

Carlos: 00:20:08 -- Yes, well, two takeaways that I would offer to IT leaders. I would say the first one would be that building on what Ozlem just said, focusing on data hygiene in the long term really pays off. Having a very high-data quality, a strict use of the data quality and understanding the long-term value, it pays off eventually for any company.

00:20:33 -- The second one is that there is a lot of low-hanging fruit normally in machine learning projects; and prioritizing the use cases becomes a way to achieve buy-in from inside of the organization. So finding use cases that can be done relatively quickly involves the identification of basically datasets with copious amounts of data. And a good place to look for this would be marketing or CRM type of use cases where you can use relatively simple machine learning techniques to optimize campaigns, to come up with product recommendations, to prevent churn; and focus the support and the sales organizations on those customers or those products that have the highest profitability for a business.

00:21:19 -- These are normally the first steps that organizations take in order to achieve quick wins; get the organizational alignment behind making more investments in machine learning; and then grow the use case and the population of data scientists in an organization.

Barbara: 00:21:37 -- Okay great. Thank, Ozlem and Carlos. It's been a great discussion. Thanks



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