

Something Extra EP 032: Women in Technology Panel

Lisa Nichols: Today's episode was recorded live at Technology Partners, featuring a Women in Technology Panel on artificial intelligence and machine learning.

There's a Harvard Business Review that just came out and they say that there's three major areas that AI can really support.

The first one is the automation of business processes. The second one is better insight through data analysis and I know we all hear about data analytics, all the time, predictive analytics, that sort of thing that's where AI can really come in and make sense of the data we've never ever had as much data that's being collected as we do today.


I mean, there is data from all sorts of sources but making sense of that data so you can make better decisions is really where artificial intelligence comes into play. A more streamlined customer and employee experience and there's people on the panel that had been working on customer experience for 20 years.

So I'm very excited for them to tell you how AI is really enhancing the customer experience as well as the employee experience. But this is where the magic of AI happens, and that's what we're gonna dive into. But before we do... Did everyone get a program?

Okay, so on the back of this, you'll have a bio of all of our esteemed panel. And so make sure you read through their bios, but instead of just rehashing their bios for you, what I really wanted to do is to take a couple of minutes to talk about how they got from there to here because there may be some people, even today, maybe in our listening audience with the live streaming or on the podcast or our live audience here that may be saying, "You know what data analytics, that sounds so exciting to me, but how would you even go about moving towards that?"

So I asked them each just to take just a couple of minutes and just tell you about their journey, and what I think you'll find is, none of them started out thinking, "Oh this is what I'm gonna do." But they have taken those opportunities to prepare themselves, and so that's why they are where they are today. So Charles, I hate to call on you first. Yeah, alphabetical order, there you go.

Charles: Oh great, well my name is Charles A. and I really appreciate being invited today, especially with such an esteemed panel. I would like to say that I didn't start off in the technology space and



much like the Accidental Tourist I'm the accidental technologist.

So, I actually started off in marketing, and as a kid had no idea what I wanted to do, which is, I think, not too unusual for a lot of college students but I did have a passion for a customer experience.

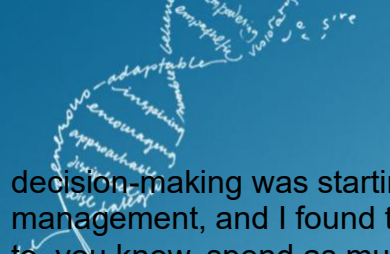
So I really started the customer experience based a number of years ago, and in fact, I worked for a company that is based in Kansas City and we really helped define voice the customer Enterprise Feedback Management. And when I started with that company, everything was voice. There was a lot of data we were collecting, but we were doing a lot of paper reporting, so imagine paper reporting, color-coded. In fact when we got color printers that was just the bomb. It was amazing. This was back when laser printers were \$7000. But what we didn't realize along the way, just how much data that we were collecting it and what important role that big data was gonna play in helping to understand customers, customer behaviors and I think what's evolved even really since Big Data has been understanding what to do with all that big data and I think that's where AI, and I think where we're gonna learn from the panel today, comes into play, but I say again, started in the customer experience space and started measuring the customer's experience and guest experience and about five years ago, was invited to interview with Smart Action, and instead of measuring guest experience, actually, now I am a part of a company that actually helps to deliver a great customer experience.

So what we do is actually virtualize customer agents, so a lot of the repetitive tasks that agents would normally do in contact care centers, we actually automate that using AI, so have gone from measuring the guest experience or the customer experience, to actually providing that experience and it's pretty exciting. So I look forward to sharing many of those stories with you today.

Julie: So on paper, my path looks like it. It makes a lot of sense in the moment, it seemed like split decision making or just a split time decision. In college, I majored in economics with a minor in computer science, so I took my first computer science course in college, and I thought it was great, it was fun, it was very challenging, but my interest was still on the business side at that point, and then through one of my classes, I had the chance to, as a final project consult eBay on its Eastern Europe, strategy and expansion there as part of a school final project. And so, that's how I learned about what eBay was doing and I also learned about the world of product management. So right after school I had the opportunity to work as a product manager at eBay, where I was for two years. So, I was on the selling side, so if you've ever tried to sell something on eBay whether that was on your computer or listing an item on your phone, that was the experience I was the product manager

of during my two years there, so I had a really great time at eBay. I learned a lot.

One thing that I noticed as a trend in product management, was that data-driven



decision-making was starting to become a more and more valued skill in product management, and I found that this is a part that was really interested in but I wasn't able to, you know, spend as much time as I liked during my day job on really strengthening that part of my skill set. After about two years, I was like, I'm really interested in machine learning and being better at data analytics. I took some courses outside of work, and then the opportunity at Jane.AI appeared while I was doing a job search for a smaller company and an opportunity where I could be part of a project that involved machine learning. And so this data analyst job at Jane.AI came up, I applied and in the last six months, I've been able to really strengthen my skill set, especially getting hands-on experience with machine learning. And from there, they were like, "Why not become a full-time data scientist, and really work on the machine learning ensemble." So that's a really exciting part of my job, even though I didn't start out thinking, "This is where it went, as you uncover your interest. And as I covered what I thought was really fun and challenging part of my job." No, that's kind of where I directed my self toward.


Kim: My name is Kim Simon, I work at Mastercard, and I've been in the industry for many years. We're not gonna talk about how many... But I started out math and computer science major. Born and raised here in St. Louis, Missouri for my entire life, and I started out as a developer. In fact, I actually worked here at Tech Partners. I feel like I'm coming home.. And my husband actually was place through Tech Partners so they do a amazing job at identifying talent. So I started out as a developer, my background is developer DBA, so I kind of brought that to the industry, when I started at Mastercard which was about 12 years ago, I started in a role where I knew nothing about the technology, I was forced to become a manager and it really helped me separate being a leader versus being a technologist. And I enjoyed it, I loved it, I had a passion for leading and motivating people, and I also brought my experience of the data side and kinda the technology side to help make those decisions. So when we talk about data decisioning that's kind of how I bridge that gap.

So fast forward a few years, one of the career moments in the key moment was Apple Pay.

So if everybody is familiar with Apple Pay hopefully I was part of that project, I felt very honored, to be part of that project, and I actually joined when I was at Mastercard, I was on the business side, which was a brand new world for me, and I learned from andm as Julie was saying, from a business perspective, from a product perspective, so it was my first time looking at things from a

customer lens I spent a lot of time at the Apple headquarters, doing the integration components. And, wow, I mean I... My eyes just got huge, learning the possibilities. What can the day to do for

us? It opened a hole whole arena. After that, and I'm in my current role where I lead



business operations, so I lead Business Operations for the processing division, and we use AI to help make our decisions, we have tons of data, at MasterCard. Plentiful data, we don't know what to do with it all, we have so much data. How do we make smart decisions based upon the data that we have?

That's a challenge that we still struggle with, not gonna lie, I mean we still, what's gonna take us to that next stage in our advancement as a company? And I feel kind of privilege to be part of that and it's a culture change. We have the tools, we have the technology. It's a culture, it's a mindset, and one of things that I kinda bring to the table is, I've been... I've got both sides now I've got the product side, which Julie was kind of mentioning, and I've also come from a very data-driven background, just being a math major. That's how I think.

Ed: My name is Ed Corno and I'm a Chief Technology leader, which basically is a Chief Technologist for IBM and my background is unique and different. I think it all starts with your own personality, your drive what you wanna do with your life, what kind of curiosity, you have, where you wanna go with it, do you wanna be in a situation where it's kind of mundane or average? Where do you wanna take your career? These are all questions you have to ask yourself, 'cause it first starts with you and how and you wanna go about change in your life. Or how do you wanna... Really wanna develop your career? Because that's what I did through my 25 plus years of experience, I saw personally that the internet was gonna be huge, was gonna be gigantic, and my education was BA from WashU in St. Louis and then a Master's degree from Webster University and I started dabbling with the internet when I was working at Nestle Purina. They came to me and said, "Hey there's this thing called the internet. This was back in like 1992, I remember that, yeah, before Google, before Amazon, before all these huge companies in the internet space and said, "What can we do with this? It's gonna be a fad. It's not gonna go anywhere..." I raised my hand and said out of curiosity, I'll take it on. So then they gave me a team of developers I started managing it, I got into the web space side of it, and I said, I'm really intrigued with the rest of this.

What's behind all this? The middleware, the data, all that makes it an incredible experience for us. And I had the vision luckily and fortunately to say, "This is gonna be gigantic."

And I jumped on it and my career kinda took off.

I love the fact that I can get up every day and say, "This is gonna be unique. This is gonna be a different day." I'm not gonna go in and do the same thing over and over over again. And I went from that role, into EDS. I was working with Cedar managers down there to develop all sorts of new technologies in the internet space, as a matter fact that was one of the co-founders of their cloud activity back then, almost 15 years ago. And when I did that, I realized what a great

A stylized graphic of a DNA double helix in white, with handwritten text in various colors (blue, green, red) written along its length. The text includes words like "empowering", "data", "size", "agility", "customer", "experience", "insights", "collaboration", "innovation", "growth", "resilience", "flexibility", "scalability", "security", "compliance", "risk", "reputation", "brand", "loyalty", "retention", "churn", "conversion", "engagement", "satisfaction", "net promoter score", "customer lifetime value", "customer acquisition cost", "customer retention rate", "customer churn rate", "customer lifetime value", "customer acquisition cost", "customer retention rate", "customer churn rate", "customer lifetime value", "customer acquisition cost", "customer retention rate", "customer churn rate".

experience. Well, HP came along and bought EDS.

And so, basically HP bought us, and I continued on in my role and now I'm with IBM, three years plus, and we're the leader in AI. We're doing tremendous things. Google is trying to catch up, and we'll talk more about that.

Nichols: So, I heard something, Ed from what you were talking about - and from what you were talking about, and I hear this all the time, there's a common thread. Sometimes it's those projects that nobody else wants. And if you raise your hand and say, "I'll take that on".

Thank you, guys, I love hearing your stories and we've already kinda talked about this a little bit that I don't wanna talk about the magic of AI. Alright, I wanna talk about the magic. So you guys have all talked about it a little bit on. Kim, you're in FinTech, you're in the customer experience. Let's just start. Charles let's start with you and Ed, if you could talk about what IBM's doing with healthcare - MD Anderson is doing awesome things right now with artificial intelligence. So let's just start with you Charles and let's talk about some success stories.

Charles: Sure, well there's a lot of success stories. What's interesting is AI obviously is getting a lot of press and people are on different is the continuum of the spectrum of what does mean for us? What's it mean for humanity? We're not gonna talk about humanity, today, but there are some bigger questions with regard to AI, but what's kind of interesting though, it's just how it's really filtered into our own daily lives. So the magic of AI is when you use your phone, and you order Uber, that's all AI that's happening in the background.

For those of you that are, if you're Delta Airlines. So instead of, instead of the old days, right? You have to call in and identify who you are, what you're doing, what you wanna get accomplished. If you didn't have to go to a counter. When was the last time you actually saw on agent? You just don't have this type of interactions anymore. And the reason is because of what's happening in the background with AI, so we take that for granted this evolution, or revolution I guess in some regards, on just how much has really impacted our daily lives. So sometimes we think about AI we're thinking IBM Watson, we're thinking robots and computers and those types of things. Well, AI

is really all about automating processes taking data automating processes and having an impact on your customer experience.

So a good example is the Delta Airlines experience where they are being proactive and they're calling you or texting you or whatever mode of communication that you wanna be communicated to maybe your mobile app and informing you and making your lives just a little bit easier. One of the things that we like to do as a company with through big

branding exercise is really try to make life less hard. Life's not easy, there is no easy button, right? But it really is all about making life just a little bit less hard trying to give more time back in the day to you. So you can go to softball and so you take your kids to soccer and go on vacation. Those types of things only occur when processes are automated and technology gives you back some time. And, more importantly, can predict it can use data and predict what your next action might be.

So if you're calling in, let's say, to Delta Airlines and it knows that you've had a flight and that flights delayed there's a high likelihood you're calling it because your flight's been delayed, so why make you go through that process? Why not just go ahead and solve it and say, "Hey your flight was delayed? We've already booked you on that next flight. Does this option is still work for you?"

So those are a couple of examples I think of where the magic of AI really does work well and I think we're only gonna see huge enhancements on that than even more as before.

Julie: Yeah, so I think what makes me really excited to work in this space is one, the customer success stories that we see at Jane.AI, and then also just what I learned from the larger AI community. So first I'll start with Jane. I think it's great to see the immediate positive impact that a lot of customers can see when they implement Jane.AI. So for those of you who don't know Jane.AI... We build a chatbot that companies can integrate into could be their web page or their HR systems to connect to a lot of different applications and then people can ask Jane questions, that is stored in a knowledge base.

And so one of the great success stories is USA mortgage like Lisa mentioned, So loan officers at USA mortgage ask Jane for details about the loans that they're handling. And whereas in the past, they would have to take out their computer, often after hours and then log in into the system and then check all the loans and instead they can answer their customer questions right from their phone.

So I was at an HR event recruiting for Jane.AI, when someone from USA mortgage came up to me, I

was just like... We love Jane.AI it saves our loan officers so much time. There is an anecdote that David has told before, David is my CEO, has told before about a loan officer who was golfing with one of his clients and the client was like, "Oh it was asked a question about the loan, like a was the closing rate, or what's the status and in the past you would have had to been like... Oh, I'll get back to you later. But instead he was like... How about I check on my phone with Jane and she gave the answer and he was able to provide great customer service because of that. Another one is framed CAD and New Zealand, they're in the steel industry, but they put Jane.AI on their website and through that day one, they started to generate new leads because of it, people were able to find how to contact frame CAD and because of

need attention, we can't say, Oh excuse me, you have to wait 15 minutes.

They want their cards to work now, so we have to use data and use those data-driven decisions. How do we automatically restart the server based upon this criteria? So those are things that we're exploring, looking into, I'm not gonna say we're experts, by any means, but we're learning. That's ways that we're using AI with a MasterCard.

Ed: Well, let's kinda start at the beginning. Anybody know Alan Turing? Okay, it's kind of like the founder of computing. Enigma code from the Nazis and there's a movie about it. Church basic, church Turing thesis says, "Machines intelligent if a human being can't tell the difference between the machine and a human being." That happened in 1943. Fast forward to 1956. There was a conference at Barmouth College and there was Arthur Simon there who was one of the founders of AI. John McCarthy was there as well, Martin Minsky. And they figured out - We need to take these machines and make them smarter because it'll make humanity better, and we need to work together. There's always that fear of, okay, AI is gonna be like a Terminator and take over everything but there are safeguards in place, I reassure you, From our perspective, we're going to the next level of AI, where there's an actual conversation, much like 2001 Space Odyssey with AL where you can talk back and forth. He answers naturally. We had this thing called natural language processing, which allows us to do that it's similar to a lot of AI that's out there. You're probably familiar with Alexas at Echo Dot by the way, Echo Dot is listening to your conversations hate to say that it's from Amazon. Be careful with that.

That's one of the things you have to watch out for. Fom a use case perspective, I personally worked on what we call a machine learning. There's a difference between machine learning and artificial intelligence in our vernacular, machine learning is what some of the examples where you just were

talking about where you go out on a mobile phone. You tap on some things. That information comes back up. So that's really more a sophisticated data query that's going on and that's a search engine behind that, that's giving you that information. Our next level is gonna be far beyond that. We're currently working with MIT on and it's gonna be amazing, for everybody you're gonna have beyond that virtual assistant, we're talking about. And the one thing that we're seeing too is that with these companies we're dealing with, there's two areas: One is customer relations, because contact centers need help following all these information and questions to them and then medicine, we started out with that we've been working on it for 15 years is called Watson Health and Watson Health is driving decision making for doctors and medical professionals and especially focusing on cancer and trying to cure cancer with Watson Health. It's a long road, it's not easy. And for doctors to figure out your own personal treatment, that's what we want, personalized treatment for your illness. We're striving for that, but there's other areas that we're looking at that are beyond what we're thinking about right now in space, we're looking at AI and how it can help us define where the planets are where the different type of stars are located across the board, every different industry is gonna



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So you have to think about when you say AI, what is really AI and what is machine learning?

We personally are seeing right now a lot of machine learning activity going on, and that really accelerated in 2015.


Nichols: Ginni Rometty is your CEO and she uses the media with all the time. When they do town halls, So IBM receives over 8000 resumes a day, making it the number one on job search site Glassdoor for gen Z applicants. But here is what Jenny says this is a quote from her. She said that's how the only way that the technology giant which employs roughly 350,000 workers knows who in the workforce is currently searching for a new position.

IBM artificial intelligence technology is now 95% accurate in predicting workers who are planning to leave their jobs so they are using artificial intelligence even to look at what they're possible attrition and we all know a workforce strategies, is the buzz right now, right? The labor market is tighter than we have ever seen it, in our world anyway, right Michelle? And so you wanna make sure that you're not just attracting people, but that you are setting up an environment and a culture where people are gonna wanna stay and retain those people, right? So they're using with 95% accuracy they are being able to predict their attrition. When I say the sky is the limit, it truly is, in what AI can be used for.

But I want to talk about the myths around AI because there are a lot of myths and Ed, you kind of alluded to it, but you know something we hear out there is well, AI is on the horizon but we're really not there, yet. Is that true, is that a myth?

Ed: No, I think that is false in one way, but true at another these are incremental type advancements in development. Especially in AI, you can see it when you use it. It it really applies to the mobile phone example, really well, because you're out there searching up comes your information quickly. So that part is true, but that vision that we have an IBM as really being an artificial next to you, helping you with your life and all phases of it, that we're still working on. We're not there yet. We're trying to get there.

Charles: I think is also a perception out there that AI is how it's Terminator as you mentioned, But that's more like a AGI. There's artificial intelligence, which is really automating data business processes and in outcomes, to help humans do to do their jobs better. AGIs are artificial general intelligence. So that's that whole other space of having machines emulate more of the emotions and things like that, from a human perspective, to as point, we're a long way away from that, if ever, there re gonna be lot control in place. So I think it's interesting as you were to query people on what AI is, is



amazing, the spectrum. But at the end of the day, I think you're absolutely right, it really is just how do we manage these masses amounts of data in a way that's uniform in the way that's predictable? And that can be then melted down into useful ways.


I've been this business for a number of years, and when I started with Smart Action, actually about five years ago, I literally went to our marketing department and I said, "I can't sell this AI stuff, it's scaring everybody", it really is just scaring them. So I said, "You gotta get rid the AI piece of that, we're natural language where everything, I mean speech recognition I said, "Go get rid of it." And then IBM actually came out on if you remember that, I think it is in 2015, it was a CBS 60 Minutes report and it talked about to your point about the medical side of that, if you're trying to get personalized care for your particular condition and you're relying on your doctor to read thousands and thousands and thousands of medical journals, it's a hit or miss, but it was because of that episode, I'm not kidding. I saw the adoption of people's willingness to allow AI and understand what it really means to them on a very personal level. So I went back in the marketing department, of course, was six months later. Are like... We go get this AI back.

Kim: I think part of it's a culture change I think we're all of us are being asked to do more with less, right? And I think just out of the forced necessity, we're having to find ways to improve our processes, how do we come more efficient? How do we become better? There is no magic wand.

And I know all of us have the pressures of society we have the pressures of our management, we have the pressures of the industry and I mean having to do more with us and we are forced to some extent to automate these processes, just to be able to do our jobs. There is no big magic button. I wish there was, but we're on a journey.

Julie: I think machine learning is far more incremental than people often think it is, especially at large companies. Sometimes you get business leader who is like... "Alright, let's do this AI thing. I wanna make a transformation!" But it's far more incremental, and more of a phase approach and it can take a really long time. I've certainly read a lot of articles about IBM consulting, various companies, and implementing their algorithms. It takes a long time because I'll take one example: When I was working at eBay, we were working on image search. The idea was that if you were shopping for something but you didn't quite know how to describe it, you take a photo, something similar to it, or you take a photo, what you do you wanna buy.

Yeah, it's on your phone and... And then it comes up with some or results, and there's a lot of pre-trained models, out there, but... And maybe that can see 50% of the way there, but it wasn't enough to make the algorithm good enough to satisfy customers. And so it requires a lot of researchers labeling the data of all the images and eBay. And then really customizing it, and then also making sure that your user experience is set up so that you can gather feedback about what's correct, and what's not and then to



continue training your algorithm sometimes, that can take years you to make your data available and ready to consume and for your data to be labeled correctly. And so it's not as quick as business leaders, often think it is, obviously with some applications, such as Jane. Als the chat bot algorithm, and it's already been developed. You can plug and play and just take a few months to get the data ready shorter if the company has already had the data ready in a consumable format, but for companies that are thinking more long term and trying to do more things in-house, the strategy is much more phase and incremental that than people expect it to be.

Nichols: Well, you guys have already kinda answered this question, but I mean, a lot of the fear out there is that, oh my gosh AI, RPA. These things are going to replace the human being. What do you guys say about that?

Ed: Well, I think your machine learning example is kind of interesting because we see a machine learning when it runs amok. We saw that it with a Microsoft example, a couple of years ago, right?

It takes humans to train the models, it takes humans to take a look at the output from that machine learning and to make decisions based on that. So I think it's just going to is not gonna automatically do these things.


I think It will do some of the downstream of the actual tasks. Some of them will actually perform we just have to retrain our labor force retrain the way people think and work with machines. So having that right mix of humans plus machines, I think is gonna be... That's gonna be the calibration. So jobs aren't going to go away, but the different types of jobs in the way that we approach our work, is certainly gonna change quite a bit.

Kim: One thing to keep in mind sometimes the automation just may helps you screw up faster.

Charles: Yeah, especially when it's all starting out, it's relatively brand new. Yeah, I could definitely see that happen. But from our perspective, we want AI to be an assistant. We're in control, we're gonna make sure that it does what it needs to do, build models that are appropriate for whatever task it is it's gonna be incremental. So as we see that evolve and keep changing, we're gonna adapt as well. And as far as like jobs, there's a threat to that for certain skill levels, but as we always say, "if you're in an organization, you have certain individuals that maybe have potential, you take them and make them do higher value type task and that's what we see in the future.

Ed: It's also powered, entire economies. Take a look at because of AI is actually create a lot of jobs. Think Uber. I would love to have been an Uber driver at 18-20 years old. You're in control of your own schedule. Can you imagine? It'd be awesome? I wanna take off an hour too. So, it's provided, I think a lot of benefits to sort of how we work.

I think we're gonna see a lot of change in the economy even at a professional level, our



biggest commodities are time, and I think it that's what we're selling to our company.

Nichols: Well, what about this - so an organization or somebody even out here may be thinking. Yeah, I don't think our organization, that would be overkill for us to have a strategy. What do you guys say that?

Ed: I think that's totally wrong because I think we really need to start there.

And what we try to do in our process is called Design Thinking. I think it's the best process ever that's gonna solve complex problems. We start there and then build it out because even if you think, Okay, my organization's too small or can't handle AI, you could start with the machine learning part of it, and we allow you to do what, it's called Watson studio go online for free for 30 days and build out some models and see if this is really gonna work for you, you'd be amazed and how you can really apply it to your organization to do things that you can think you could do, and

it'll be within your budget and target for it and that's what we look at it, we look at exactly where it's going. How could I apply to your business, but then also exactly what's gonna happen and say, five years attended in your point, Charles about being concerned about what AI is going, humanity and jobs and there's an organization called Open AI that Elon Musk started and he's kind of driving some regulation around that, so that we do have control over, think a nuclear power at World War 2, after that came about. We have nuclear conventions for it.

So you start to see countries and organizations even the US looking at ways to control it.

Kim: Within business operations, it's very task-driven. And so what we did, a couple of years ago, we had a transformation leader which is who I report to and feel very lucky to have her a part of Master Card. She's really the definition of how do we transform our organization from a task-driven, very task. Here's my five procedures. I do them every day, so how do we really adopt the whole mindset, the site reliability engineering mindset? So we take somebody that's used to punching keys on a keyboard every day and now, we label them a site reliability engineer. And they're like, "Wow my job just changed. Now what do I do?"

It's a culture shift and what she really strives and drives into each of us is when you wake up in the morning, what can you make better that day about the job you're doing? And that mindset, I've seen over the past year and a half really shift. People have ideas, things that you wouldn't think about and they're like, Wow.

And then we're seeing them come to implementation. So the message I'm trying to send here is you can make an own difference no matter what job what position you're in, just by waking up that more in you said, "What am I gonna do today that's gonna make a

difference?" Chances are it's gonna include automation, chances are it's gonna include data-driven decisioning and also AI.




So I mean that's the evolution of a culture.

Julie: Yeah, and to go off of that because we've talked about so many applications of AI in a wide range of industries and applications, I think that what will really distinguish businesses in the future, is if their leaders can think creatively about the applications of artificial intelligence and machine learning and that doesn't require you to be a data scientist, or a researcher, it's more about having some understanding of the mechanisms, and then be able to suggest solutions that fit within the realities of where the research is at and maybe even push the research in a direction that will help with the application of those technologies.

Charles: And I think the must of it is your competitors are gonna be doing it, so unless you dominate your industry, and you don't expect any entrants as a competitor, you'd better be thinking about these things. And I was kind of interesting as well as over the years. Computing is cheap, it really is. A computing has gotten extremely inexpensive which is why it's so widely available generally. So I think part of what we encourage our customers to do is to take a stance, go after one of the projects, right? You don't have to boil the ocean. So our CEO often says "How do you eat an elephant one bite at a time?" And I think you're part of that mantra, is you making sure that you fail fast. So if you are a nimble, agile organization to find a low-hanging fruit to find some area where you can get started. Just get started, kinda jump right on in there. Make sure you have clear defined find goals and outcomes but even if you make a mistake, it's not quite like it was years ago, where you had to actually go out and buy servers and put in the air condition for the server is a lot of infrastructure. So I think just the mentality of, of how we think and in fact, people in the gen z generation that you've just discussed, they are gonna have tools available to them that we couldn't even imagine as young adults.

Nichols: Thank you so much, 'cause we were moving into the must and the strategy. What I heard you say Charles is don't bolt the ocean. And Julie to your point it's starting to think about what are the applications? How could we use this? And start small, right? I mean, start with that low hanging fruit, but everybody needs to be thinking about it and because I guarantee your competition is thinking about it so it is really necessary for us to come up with some sort of AI strategy. So, we've already kinda discussed this just a little bit, but I want you guys just to talk real briefly, and then we're gonna do a little Q and A. Things are going to change. Jobs are gonna change. We hear all the time. There are jobs they're gonna be in the future that we don't even understand what they're gonna be yet, but for the workforce, things are going to change. AI is here to stay. So what can the workforce do to prepare themselves for these changes that are coming? What, what would you guys say to that?

Ed: For me, from what I'm seeing within our workforce, what we try to do is you've gotta



get your people trained up on these new technologies, especially AI and how these miles can help them perceive it, what they ever doing with role they're in. If you don't do that, you're gonna be left behind, so that's number one. You gotta try it. Number two is you really get the employees engaged and how it's gonna benefit them from a career standpoint because there's always a lag these technologies come out and remember technologies are there to help solve business problems. From our perspective. We're talking about business issues business-to-business, a business to consumer is a little bit different, but from what we see, it's really about that, it's really about taking that role, whatever they're in and enhancing that role using technologies combined with solving


that problem that you alluded to is we wanna make sure it really focuses on whatever that business problem is.

Nichols: So what I heard you just say is problem-solving skills and consultancy right? The moving from the order taker more to the consultative mindset. A lot of it's about mindset, right?

Kim: I wanna approach it more from a new thinking. You need new blood when you go hire people don't hire people like you. I call it "the witches brew". The best teams that I've seen work is, that come from different backgrounds that offer something unique and individual because that's where the innovation happens, that's where the training, the cross-training, and that's how you advance our organization. If you keep hiring like people, you're gonna be stuck in the same mindset.

Ed: That's what design thinking does methodology, it brings in people from different disciplines within an organization to solve a problem, and the more diverse it is, the more beneficial it's gonna be, for the company.

Julie: Yeah, I love what you just said about building more diverse teams or at least whether it's mindset or background. Because one point I wanted to bring up, is that a must-for organizations is to make sure that your application of artificial intelligence helps build teams like that, or helps build results that are fair. And so, a really hot topic that people like to talk about, and we've seen the news, which is a real problem is bias, and there's two types, one is algorithmic bias and the second is bias in the usage of these algorithms and so as we're implementing more artificial intelligence machine learning algorithms would really have to understand where the pitfalls are. And so, with algorithmic bias, one common example is if your training data is not representative of your customers, or who you're trying to evaluate, it's not going to work well. There have been studies about how facial recognition algorithms do better on one subset especially particularly white males and they're more accurate and identifying individuals. Yeah, so it's... 'cause the training set is built off of those examples and those that's what the label data examples are when they were trained algorithm. And so, when police departments like NYPD or SFPD uses it to identify suspects? You take a photo, and then you try out of a line of individual is supposed to pick the right person. It's like five to 10% worse on



African-Americans. So you could be in a situation where you're over using the algorithm on the people that it underperformed for the most. That was back in 2012 but even in 2018, A study from the MIT media lab came out where the error rate for identifying gender of any other ethnicity that was not white male was 20 to 30% error rate, whereas for white males it was less than one percent in identifying.

Ed: I mean you bring up a really great topic of bias because that's one of the keys were trying to work on too. But with AI is very not exactly how to make that better, because once you start building out these model algorithms, you gotta look at exactly how these things could impact decisions and if you have bad data, you're gonna get bad decisions, right?

Julie: Garbage in, garbage out. And then the segment when I really wanted to bring up, which there are news articles about IBM has a facial recognition algorithm, that can identify someone's ethnicity and gender, etcetera, and those put in the wrong hands can be used to single out or screen out especially in an HR scenario applicants. And so if we are putting an algorithm in the hands of other people because we're a third party, it's also our responsibility to make sure, that it's being used fairly.

Charles: Not an HR expert but I can tell you that you mentioned earlier, being able to predict attrition with an organization... Well, you can use that same skill to identify the right people that you want to work for your company. So a lot of what we do is hire for profile so it's not profile. We try not to bias it from some of the social stuff, but really for behaviors and a lot of what we look for probably the number one thing we look for is curiosity. So you think about sort of the way Southwest Airlines has hired over the years. In fact, the interview has nothing to do about whether that you can do the job. It's "What do you do when you're in stress situation, and do you exhibit good customer behavior skills?" So I think it's really important to understand of who you are as a company, culturally, and I make sure you put together a good mix of people and technology can actually help with that. And part of what we... We went through a whole personality assessment. It's really interesting, it wasn't so much about yours, but it was understanding the other people's assessment. So that it's been fascinating. So to understand what drives them, what motivates them, if there is a conflict or you want to be persuasive what are the triggers, what are the things that you need to exhibit or to do in order to be successful with that team?

Nichols: Definitely can improve communication when you understand people... Alright, very good. Well, you know what, we are right at 9:30, but I do wanna open it up for just a couple of questions if anybody has a question for the panel.?

Question 1: Inaudible

Julie: Just sure to have question your right. I think I heard the second question, which

is, How do you combine these data sources, and then mine it to draw out the information then what was the first one?

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Question 1 – Follow Up: Inaudible

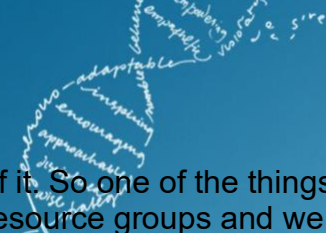
Julie: Yeah, so when it comes to identifying the customer's problem coming from my background as a product manager before I build any algorithms, or any models I have to think about like, Okay, how is this going to be used and what's the problem I'm trying to be solved. And is it a loan officer and they're trying to look at a specific system. Is it an HR team using Workday? We're trying to get data from those as sources so you have to identify the data sources based on the customer problem, and I think there are many ways to go around it, but usually our customer success team or a sales team goes out and does some problem identification to really identify the different use cases and personas that we would be serving. And then secondly, when it comes to combining data sources, depending, it could be like an application that we need to connect to, but basically we draw that information and we put it in a knowledge-base so that the information is usually stored in one centralized location. It gets a little trickier.

Question 1 – Follow Up: Inaudible

Ed: From an IBM perspective, we really have a process that does that, we use Agile. To see where data feeds are coming from that data sources are coming from and then you have to do the work you have to get in there, and so you're trying to figure out exactly what's the technical source to be able to get the taxonomy down so you know exactly where it's coming from and how that can be merged. Yeah, that really starts with whatever tool for us it's looking at the models themselves and then we build those together, we use APIs we use a variety of different technologies that'll pull those sources together in a unify them. Because it's really critical if you don't have that. We just talked about it. Garbage in, garbage out. If you don't have the right kind of data source pulled together, you're not gonna have the right result or outcome.

Julie: We have several different models, like you said, there's marketing and all these departments, so we have a document mining and we also have models that will check for, for example, conflicting information between departments or different documents? And so, it's a multi-step process and we've got models that I won't go too much into, happy to chat with you later.

Question 2: I just have a comment. First of all, I just want to thank you for all the information and I appreciate that you mention the diversity as a limiting technology of organization, the importance what I've heard recently is that we have to continue to encourage our young women to get into the field in the industry to help with those decision-making. Machine learning behavior of human interactions. I just wanted to point that again. I have heard about that lately. So I appreciate you



of it. So one of the things we've done a MasterCard, we've established the business resource groups and we have one dedicated to women, in the industry, and just the ideas that we generate from a spending behavior generates innovation. It's a curiosity and it kind of brings new ideas to play a strong... Yeah, absolutely and... And that you need more Righteous Brothers.

It's really no heroes, you're on it, everybody I... Everybody has been proved.

Question 4 – Follow Up: Inaudible

Ed: It's up to you to do that, but then you have to build your peer group like-minded people that wanna do the same thing. It's up to you to decide. Okay, I'm gonna make this difference I'm gonna show my ambition and drive a curiosity to equal whatever is happening at the top and then build your base. Like right now, you're doing at this meeting with other women to make a difference to you have something to say.

Julie: I think it's a little more nuance. I think that a lot of the opportunities I've had in my career are yes, due to my own initiative, but also because of my supporters, many of whom were male and female. Sometimes I can dream about reaching a certain position, because I see someone like me, or who looks like me. But not only that, but also that people who don't look like me, are supportive of my ambition. I think it's like a multifaceted... There's not one solution to this. It starts like creating loop teaching children, Computer Science. It starts that young, when you're under 10 years old, it starts that young about inspiring children of all races and genders that this is a cool career path to pursue.

Nichols: And we didn't even get into that, but like you teach young girls at create a loop.

Julie: Every stage of your life. When I get into college, I see 50-50 enter computer science and then by the end of four years, it's like there's two women in the really advanced computer science or math class.

Nichols: This needs to be another podcast. Alright, well guys, thank you so much and these guys will probably stick around for a few minutes, right? So if anybody wants to. Thank you.