

Business Technology Symposium

SPEAKER 1: Audio visual person.

KD JOSHI: Good afternoon. Excited? Welcome to the 2018 Business Tech Symposium. I'm KD Joshi. I'm the Department Chair of Management, Information Systems, and Entrepreneurship in the Carson College of Business.

And the Business Tech Symposium is sponsored by the MIS program within the Carson College of Business. It convenes a panel of awesome technology executives. And the objective is to make you all aware of the IT careers and inspire you to join the IT career profession, which has awesome opportunities. Hopefully, when you hear their stories, you can visualize who you can become. Are you ready to be inspired? OK.

Well, before we start the symposium, I'd like to thank our sponsors, Steve and Cyndie Tarr, Mike and Amy Dreyer. Without their endowment, this event will not materialize. So thank you, Steve, Cyndie, Mike, and Amy. They will hopefully be able to see the show live. And welcome to our Global Campus students as well who are watching this live, as we are live streaming this event.

Next I'll introduce you, the master of ceremonies for today, Cameron Schwartz. He's a systems engineering manager at Dell. He has been in multiple roles within the IT industry. And you can read his bio on the program that you received when you entered.

What I want to recognize is his commitment and devotion to our MIS program. He's one of our own. He graduated in 2005. And as a member of the MIS Advisory Board, he co-leads a mentoring program, which mentors our junior and senior MIS students.

He also was very instrumental in organizing Dell Day. Without his commitment to the MIS program, the Dell Day would not have materialized on the Pullman campus. So thank you, Cameron, for your loyalty. You're a loyal alum, and thank you for giving back.

[APPLAUSE]

CAMERON SCHWARTZ: Good afternoon, everybody. Welcome to the Business Technology Symposium 2018. Thank you, KD, very much for the opportunity to host this event. Obviously, any time I get a chance to come back to Pullman-- Cougar, my heart. Always endearing, especially every time I come over the top of that hill and see campus.

Thank you again, everybody, for coming today. Thank you to our presenters for coming as well. I wanted to introduce them now. So first off, we have Kashif Ansari. Kashif's vice president, the Americas Presales organization at Dell EMC.

He leads a 600-plus member team in Canada and the United States, responsible for the alignment of all of our go-to-market functions, coordinating between our sales teams, responding to industry trends, competitive positioning, and things of that nature. He's been with EMC and now Dell EMC for over 18 years, and has held a number of positions in Dell in addition to earning a BS, bachelor science, computer science from the Rochester Institute of Technology.

Next we have Megan Bigelow. So Megan is the Founder and President of the Board of the Portland Women in Tech group, which empowers women and other underrepresented groups to help fulfill and advance their careers in technology. In addition, Megan is also the Director of Customer Reliability Engineering at HEPTIO, which she'll be talking about during her presentation as well.

And then we have Frank Harrill. So Frank has a law enforcement background, in addition to serving in the military. Frank spent over 20 years with the FBI, retiring in 2016. Previous to that, he spent 10 years as a pilot on an aircraft carrier, and now is the Director of Security here locally at Schweitzer Engineering Laboratories. So thank all them. And with that, going to turn it over to Kash for him to present his--

KASHIF ANSARI: Thanks. Do you have the clicker over there?

CAMERON SCHWARTZ: What's that?

KASHIF ANSARI: Clicker.

CAMERON SCHWARTZ: Clicker. Yes. I'm sorry.

KASHIF ANSARI: Thank you. All right. So how's everybody doing today? Are we all awake after lunch? How many people are here for the points? I heard about the points. All right. OK.

CAMERON SCHWARTZ: Just be honest.

KASHIF ANSARI: Now we know why we're both here. That's totally fine.

[LAUGH]

What I'll do as I figured I'd walk through who I am, where I came from, kind of a quick history in my personal life and my career, and kind of talk about presales and what it means to be a presales person.

So as you can see behind me, these are pictures of my wife. This is the first selfie in 1997. We were not married yet. That's the webcam on a \$25,000 Silicon Graphics workstation. That's 21 years later. That's my wife and my kids. My son's out in college. So you know, I would kind of walk through who I am and what I'm about.

So I know Cam talked about this a little bit. So I run presales for Dell EMC. It's about 600 people. We're all presales engineers. That title in our industry is commonly called system engineer or sales engineer or solution consultant. So you'll see that word. I mean, the engineering term kind of at times gets taken literally. We don't actually make stuff. We help sell things. We help architect solutions and sell to our customers.

So I'm based in Stoney Creek, Ontario, Canada. Any Canadians in the audience? All right. I've got a few. So it's near Toronto, about an hour and a half west of Toronto.

So a quick story on me and how I got to where I am. So my dad was from India, right? And he ended up in Canada, a better job offer. He was an orthopedic surgeon. Needed a job. He didn't want to stay in India. Went to England. From England, he applied for a role in Canada or in US. This is in the '60s.

And Canada gave him a better job offer, and I was born in Canada. So I am born in Canada because of a better job offer. My point is, you can plan your life and do all these things, but certain things are out of your control, right? So take what you can get.

So I was born in Hamilton, which is a steel town. It's like the Pittsburgh of Ontario. Lot of steel mills, lot of factories, manufacturing heavy metal kind of stuff. I was moved to Port Colborne. I was actually raised in a small little cute town that is a port city from the Welland Canal. It feeds into Lake Erie. And that's where I grew up.

It's in the Niagara Peninsula, so near Niagara Falls. We're 20 minutes from Niagara Falls. And because of that, I'm a Buffalo Bills fan and a Buffalo Sabres fan, because it was closer to go to Buffalo than it was to go to Toronto. Don't hold that against me.

So in between these two cities, I ended up going to school in the US. I worked in three different cities, and then went back to Canada in 2009. And I ended up going back to Hamilton. So I was born there, and I'm back there. So the circle of life continues.

This is my family. It's my siblings. This is my spouse. My siblings and their wives and kids. So like, you can see we're big-- very central on family. And that is important to me, and that should be important to you as you go through life, you're going to have different waves of what's important. So when I was in the small town of Port Colborne, biggest goal I had was get out of Port Colborne and go somewhere bigger, right?

And so I did. I went to university in the US, and I got that out of my system. And then when I got married and had kids, I'm like, man, I really need some help with my family. So I moved back to Canada, right? So depending where you are in your life, you're going to make different decisions. So you know, never rule anything out.

So back to this. So my father's a physician. In my family, a lot of doctors. And for any who have-- any in the audience who have Indian background, you know what I'm talking about. So in our

family, basically, either you're a doctor or you're a lawyer or you're a dentist or you're nothing, OK?

So beta means son. So of course, you know, I wanted to go into comp sci, but my dad was a physician, so I'm like, all right. I'll do it too. No problem. I had good grades. I was good at science. I liked tech, but so, OK. I'll focus on being a-- I'll go in the premed. I'll follow in my dad's footsteps. Make him proud, all that kind of thing.

So I went to Philadelphia, enrolled in Philadelphia College of Pharmacy and Science. For anybody who doesn't understand this reference, this is West Philly, born and raised. It's part of the Fresh Prince of Bel-Air song. So I was a premed student, majoring in microbiology, minoring in computer science, because I loved tech. But that became my secret passion hobby. And you know, I was focusing on microbiology.

After a couple years, I realized, this isn't working out. I really, really want to make my hobby my passion and my future. So I flipped majors, and I moved to Rochester. I joined the RIT, and I became a comp sci major and a microbiology minor, [INAUDIBLE] the system. I also learned what a garbage plate was. And if you've ever been to Rochester and you've had a garbage plate, you know what I'm talking about. It's the best thing ever.

So I graduated, come sci grad. Now what do you do, right? I'm in my last year of comp sci. And of course, what you think about is, I want to become a software developer. I'm going to code. And the part that was kind of tricky was, I didn't love it.

So you may be going through your programs, and you're going to say, that's what I want to do. And so after four years of software coding in a lab and with my colleagues and my classmates and stuff, I realized, I don't love this. If this is my career, I'm in trouble.

So you know, I talked to my grandmother. She lived with us at the time. And my grandmother was very disappointed that I was not a doctor, to the point where I said, Mom-- my grandma, I said, you know, CEO of apple or a doctor? And she said, you should be a doctor. So she didn't talk to me for two months when I told her I was not going to be a doctor, so you know, there's a lot of pressure there.

So what happened, my tech background was basically I started out with a Mac in 1984, and that exposed me to running a bulletin board system. I'm not going to ask for a survey, but if you've heard of a BBS, this is pre-internet. I ran it out of my bedroom. And it's all text-based, ASCII-based, file sharing, and gaming and stuff with a very, very slow dial-up modem.

And then I got exposed to General Electric. They had an online internet kind of a portal. This was a competitor, CompuServe. This is, again, back in the late '80s. And then that was all text, right? And then American Online showed up as a GUI-based interface where you can actually click on a graphical user interface and communicate with people online, which totally blew the doors off of everybody. Then the internet showed up, and you know the rest, right?

When I graduated, I ended up co-oping at Silicon Graphics. So SGI at the time was a premier 3D graphics hardware accelerator company. They were big on open GL. A lot of the movies in the '90s like Twister and Jurassic Park, they were all rendered on these very expensive systems.

So they actually introduced me to-- they have an internship program they call a co-op, and that's where I found about presales. Because they interviewed me and they were like, hey, we want you to help us sell technology to our customers. I was like, wow. This sounds pretty awesome.

So I totally fell into it by mistake, and that's something that we're trying to do a better job of is expose what presales is to people and students, because nobody goes to school and says, I'm going to be a presales person when I go to school. It's not a major. It's not a concept.

So that was my exposure to how to help take business challenges that customers have, and love the technology and like people. You have to like people in this gig. And align their requirements with technology and solve their issues.

After that, I joined EMC. That was in 2000. Been there ever since. Dell acquired us two years ago, so now we're Dell EMC. Other parts of what I do, which I am very proud of is charity work. We always try to give back. That's a very important part of being in our space. We touch a lot of things. You look at technology, it touches every aspect, every industry.

So this kind of slide's half and half. I take my colleagues and my teammates, we go and do a lot of charity events through Dell. Dell has a big give back program. And then I take my kids. We do a lot of things. Hand Over Hand's an autistic charity. It's a personal, thing for me.

We do a lot of work. It's always good to make sure you give good role models or doing things for the community. And tech is an amazing enabler when it comes to underprivileged areas that don't have the access that you would think.

This is the closest thing I have to a cougar. This is my cat. His name is Luca. And you can see him sprawled across my office desk at home. He's passed out. But it's very important-- you know, I work from home, and he's always there, just hanging out. So there might be a quiz later, so just remember my cat's name.

This is my team. There's a double-edged-- there's a two-edged-- double-edged sword in this picture. So this is my direct team. These are people that report to me that run the business. Great team. Amazing team.

But if you can see here, we have a problem. There's no diversity on this team. We have some blondes and some brunettes, but they're all men. And so we're actively trying to do in STEM is try to get more diverse folks into STEM. I mean, it's a statistical challenge we have is that tech, especially in comp sci and engineering, they're hard sciences. It's generally male-dominated, especially in IT, and we're trying to do a better job of fixing that.

So we launched a program called Launch. Some of the audience are a part of Launch. Millie and Christina, they're in the picture here. So Scott, my counterpart in the audience, we created this program last year where basically we take college graduates. We put them through an internship program. We seek out diverse-- kind of gender-diverse thoughts in different parts of the country and the world, and expose them to presales as a career, as a profession.

So we're very excited. We had year 1 last year. We had 30 students through it. Now we're doing it again this year. We were interviewing today, this morning. So I'm very excited about this. That's why we're back here. We had great success last year. We want to do it again.

And this is our way of moving the needle and getting a broader audience, broader thinking. Because technology and solving customers' problems is not just about the fastest, shiniest widget that we have in our portfolio. It's about thinking differently.

So back to some of the highlights of Dell in terms of what we do, in terms of legacy of good. I'm not going to drain this slide. But the idea is we want to be able to take the things we do and give back to the community. So there's a branding called legacy of good. You can go to our website and read about it. Some things that we're doing that are probably fascinating.

We have mobile data centers we park into like countries that have very low IT connectivity for kids. It's a container like a shipping container. We create it into a mobile data center. And it's powered by solar, so it's self-contained. It lets kids play with technology and get exposure to it.

We have a big program around ocean plastics. We're taking plastic from the ocean, recycling it, and then putting it into the bottom of laptops and packing cases. Our goal is to reduce putting plastics in the ocean and repurposing that whole industry into a self-- so that's self-contained. So you're using a laptop. You know that you're using stuff that's not landing in a landfill. That's not good for anybody.

So you know, Dell is, as you guys may or may not know, it's a powerhouse company. It's very large. It's about a \$90 billion business. Business that I manage is about \$15 and a half billion.

We have scale. We have multiple technologies in the company. So one thing about here is that you can't get bored. If you like having structure, you like security, you like VMware, we have all the portfolio you can imagine.

And the idea here is that look at what's happening with technology. And this is generic. This is not a Dell-centric slide. This is about the industry. This is where I'm getting close to closing, so I'll make sure that you guys understand where this is at.

IT is now part of every business conversation, not just in the IT department. Before you go to a company, the IT department would have the email and the billing and all those. You know, the process thing, the very generic services. But now it's in everything, right? Banking, industry, security, finance, making toilet paper. I mean, IT is involved in all aspects of that.

On your phones, you have so many applications. And you think about the-- you know, you have an app on your phone. You use it for a week, and you delete it because you didn't like it. Somebody spent a lot of time making that app, and now we're so transient in our consumption of IT. It's like, oh, that app was pretty cool, but eh. There's a better one out there. Buzz, delete it. Some poor person just spent, like, hours and weeks and months making it, and you just kind of tossed it out, right?

And that's OK. That's the new norm. We don't lock into something for years at a time. And so software is allowing us to do all these things. Before there was a big infrastructure, purchase was a big commitment. Now you can download an app right now and delete it tomorrow, and no impact to you.

So if you take anything away, software is kind of eating the world, right? Software is a key component of what we're doing. And I would implore you to take a look at not just being a coder, but understanding how it's being used in driving industry. And that falls in that artificial intelligence and machine learning. All these new buzzwords that are out there. They're not that new, but the barriers to get into that is a lot easier now than it used to be.

So that's kind of a quick story on who I am and where I came from. And hopefully, it was interesting for you guys. And I will be doing Q&A later, but that's it. I'll hand it over to you or Megan. I'll give it to you.

CAMERON SCHWARTZ: Thank you very much, Kash. Appreciate it.

[APPLAUSE]

Really quick, before Megan gets started, I want to remind everybody. So there is an intermission break at the 2 o'clock mark. Out of respect to all our presenters here, if you could please wait until the intermission to get up and leave and go to your next class out of respect to everybody. We'd really appreciate it. So without further ado, Megan Bigelow.

MEGAN BIGELOW: Hi. Can y'all hear me? All right. I usually have a hand-held mic, so this is a little different for me. And I've decided I'm going to stand right in front of you, because I really like that shirt. It reminds me of being a kid from the '80s. It's '80s-inspired, right? All right. So my talk is, I'm a woman in tech, and I'm in it for the money. Yeah. Thank you. I appreciate that.

[LAUGH]

All right. I have spent most of my life feeling like I wasn't good enough. I didn't hail from the right ZIP Code. I didn't go to the right schools or even wear the right clothes. And I did not have any of the advantages that come from having the proper DNA. Oops. That was a giveaway. Sorry.

I come from a working class family in a rural town in Washington State. My dad, he was a cement mason. He had to work 80 hours a week. My mom drove school buses and cleaned houses just to help make ends meet.

In my town, most people worked in construction or on farms, and the highlight of the year was showing off your cow at the county fair. I actually heard that you could sell your cow for \$400 there, and that felt like a million bucks to me.

The only people who talked about going away to college were the rich kids. The rest of us, we would just dream of one day being able to afford a car payment for a Honda Accord, maybe if we sold a cow or two.

But I wanted a bigger life. And most importantly, I wanted financial independence, because I lived in fear of being poor. I was always nervously on the edge about money. I've learned that when you have money, you don't think about it. But when you don't have money, it's all you think about. In fact, a wise man once said, "Having money is not everything, but not having it is."

So I came of age in the pre-Instagram, pre-Kardashian 1990s, way before all of you. This is the era of Beverly Hills 90210. Who remembers that? Some people? OK. Hip hop and the Spice Girls.

But I could not have been further removed from anything cool or fashionable. I would long for the Thursday night TV lineup. And I swear, I would sit as close to the TV as my parents would allow.

Seriously, if I could have crawled inside of that TV, I would have, because I wanted so badly to turn myself into Beverly Hills 90210's power pair-- ah, I got behind-- Brenda and Kelly, the trifecta of rich, aspirational, and gorgeous. Oh my gosh. If I could only just not have to think about money again.

But since fantasizing about the cars and the clothes and the lives of Brenda and Kelly made me feel so sad, I needed a distraction, and I found relief a 10-pound, beige, rectangular box with a floppy drive and a dial-up connection, similarly to-- I connected to the bulletin board system that he had, maybe. That was long distance. I couldn't. It was my grandfather's computer.

And on the weekends, I would opt out of the softball games and the slumber parties with the girls in my town, because the pain of being a have not was so great. And instead, I would geek out to computer manuals. I had found my calling. The computer was actually super magical. And the beeping noise that it would make when it would connect to the internet was gorgeous and gratifying.

I'd also found that the friends that I met online had no idea that I was a poor country girl. So for the first time in my entire life, I stopped thinking about money. So while I clearly wasn't fitting

in with the girls in my town, and being a girl into STEM wasn't even remotely celebrated or trendy at the time, I started not to care.

And I especially didn't care when I discovered that that 10-pound, beige, rectangular box was teaching me a skill I could monetize. This became clear when I landed my very first job actually working for Stephens Hall as the tech help desk for my all-female dorm. In exchange for getting all the girls in my dorm connected to the internet, I got free room and board. That is the perk I needed to make it possible for me to go away to school.

All right. So we're going to have to skip ahead five years. I've graduated. I got a job. I'm working in tech. I am so totally pumped. And while I don't have a 90210 salary, I don't live in 90210, I can pay rent, get a car, and take care of myself. That thing called financial independence, that was happening to me.

Now I also felt like a radical pioneer of sorts. I mean, I realize that it wasn't the 1950s or '60s or even the '70s. But being a woman in tech in the early 2000s, that did make me feel a little exotic. I mean, there weren't many of us, at least not where I worked.

And I'm sure it doesn't surprise you all to hear that being young and female meant that I experienced the full menu of sexist innuendo and comments. And I have to admit to all of you here that I just shrugged it off. Sometimes I played along, because speaking up was not an option.

But you know, I just kind of carried on. And I actually moved up the ranks, and I was doing well professionally, feeling a little badass about myself because I was a systems administrator.

Until one day, I overheard a conversation in the cubicle next to me. It was my boss, quietly discussing the salary of a colleague on our team. It was a man with the exact same job title as me. Professionally, we were equals. You could have put our resumes right next to each other and taken our names off. They would have looked exactly the same. We had the same credentials. We were even the same age.

But when I overheard the salary, I gasped, because he was making 30% more than me, doing the same job. 30%. I was livid. I bet you-- I mean, if I could remember-- I mean, I wanted to scream. I probably walked into the bathroom and cried my eyeballs out.

But I could not-- I was so upset at the fact that that earlier confidence that I had from that adult financial freedom-- because that felt 100% naive and hopeless. I felt incredibly alone, taken advantage of, even violated. I was so ashamed that my boss did not think I deserved that bigger salary, and I was even more ashamed that I had no idea how to fight for it.

So I could not shake that feeling of defeat and I was super depressed. So instead of going to my boss and HR and demanding equal pay, I channeled my depression into working my ass off. So let me catch up with my slides here. Nope. There we go. OK.

So over the next five years, I kicked myself into overdrive. I just thought that I had to work and hustle harder than anyone else to prove that I was worth that extra 30%. And I was like, after all, I've worked my entire life just to avoid being poor. How is this any different?

So I ended up getting my MBA while I worked full time. I signed up for every opportunity that had traces of leadership, and I said yes to every special project. I joined a board of directors. I stopped drinking alcohol, because I needed to really super focus, and I started doing yoga. I also was not sleeping at all, but I just assumed that my newfound yoga practice would compensate for my otherwise total lack of self-care.

So I also got married during this time. And even though our income doubled and I could have easily focused on other things like maybe starting a family, I refused, because I did not want to lose my ability to earn. So I carried on while my husband reminded me to get some sleep.

The truth was, I was completely exhausted, but I managed to take some time out. I even remember this moment where I was like, I need to go do some kind of conference and take a break from all this. I managed to break out of that unhealthy cycle of overdrive, and I attended the Grace Hopper Women in Computing Conference.

So Grace, for those who may not know, is an early programmer pioneer from the 1940s. She is the female tech boss that created an early programming language called COBOL. I actually took that class here.

And while I was at that conference, an amazing thing happened. I discovered I was not alone. I was not the only young woman who was struggling to be seen, heard, and paid fairly. I was not the only one who was being talked over, stepped on, and pushed aside. There were others, hundreds of others. And in that ballroom in Portland, Oregon, I had found my tribe. It was the sisterhood that until then, I never knew existed.

And so as this conference is coming to an end, I have a new mission. I will bring to Portland what this conference has provided to me, a supportive community of women in tech. So in 2012, I created Portland Women in Technology. All right. So I already spoiled it for you, because I also had a baby.

[LAUGH]

So my life didn't slow down at all. So at this time, I gave birth to my first daughter or my first child, my daughter Jette. So let me tell you. If you think you are marginalized as a woman in tech, just wait until you've had a baby. To be fair, the struggle for working moms everywhere is 100% real, but it is clear that there are some industries that are less subtle in their hostility towards mothers, and tech is one of those industries.

From being told that I looked like I was going to explode when I was eight months pregnant-- all of this happened-- to being questioned about my desire to return to work full time after having

a child, to arriving to a new job with no mother's room, and instead being handed a cardboard box to cover the conference room window, I think I've seen and heard it all.

But all of this has given me a new sense of purpose, because by then, I have already put 10 years into this career. I had also been fortunate to find myself in a financially stable situation where being poor was no longer a concern.

So I decided that it was time for me to not only figure out a way to survive this mess, but I wanted to become a boss so I could be a part of fixing that problem. So it was at that time that I transitioned my career into management, and I decided to continue to lead and grow PDX Women in Tech as a way to speed up the learning curve.

So in six years-- in six years-- Portland Women in Technology has grown from 15 people-- we used to meet at a bar-- to over 5,000 people. We make up 30% of Portland's tech workforce. We have created a voice and a presence for women in tech. We have created a network, a support structure, and arguably, a strong and growing pipeline of talented women for tech companies. And most importantly, we have created a community of people who know what it's like to be ignored, who knows what it's like to not be paid fairly, and we empower and support those people to speak up.

So let's talk about right now. So I work for a company called HEPTIO. It's based in Seattle. It's a 100-person company. And I got this job because of the network I created with PDX Women in Tech. And this is where my story comes full circle, because I get to use all of that experience that I learned along the way at this job, including all the leadership skills that I picked up through leading PDX Women in Tech.

So I also get to do this and work for two male founders who encouraged me to speak up and speak out. And I get to be a part of my company's diversity and inclusion programs and initiatives.

So very recently, someone asked me, why do you work so hard for PDX Women in Tech? That was an extremely hard question to answer, because I had never actually thought of why. It takes a lot of time. That was a really good question.

And as I was scrolling through all the reasons in my head, none of them felt just right. I mean, of course, I care about promoting equity, inclusion, safety, and community, but those were not the reasons for years of hard work.

And as I was actually preparing for this talk, I was just taking inventory of my entire life, I realized that every single thing I've been doing was to achieve financial independence. So there it is. Financial freedom. Financial freedom from my partner, financial freedom from my job, financial freedom from the shares that my company gives me. That is my driving force.

Because if we look at tech, the main issue is about money. Let's be clear. Money is power. And if we expect our future to be equal, then how do we expect that to happen if the companies that are creating our future are not treating people with equity? I mean, just look at this. In 2017, only 2% female founders got VC funding. That's not very equal. It's not even close.

So I am here today to tell you very proudly that it is the money that got me into this industry. It is the money that's going to keep me in this industry. And it is my purpose to use any power and influence I have to bring all y'all with me. And then when you get out there, I would like you to join me to help create a more equitable tech industry. Thank you.

[APPLAUSE]

CAMERON SCHWARTZ: Thank you, Megan. Appreciate it. Frank, I think we're going to wait until after the intermission to get started. We are running a little bit ahead of time. So I did want to ask the panel now, if I could, just to kind of get things going a little bit.

So first off, so being that our industry, all of our industries-- and technology changes so quickly-- what are some practical ways that all of you find yourselves trying to keep up to date? The outlets, the mechanisms. I mean, is it Twitter? Is it-- do you have any examples of how best you do that? Frank, maybe we'll start with you.

FRANK HARRILL: Sure. You know, if there's one constant, everything changes. And so staying abreast is important. And I'll throw out some granular things that I use. One is, how many of you have ever read-- oops. I'm going to stand up a little bit. Too near that speaker.

How many of you have read the Hacker News blog Y Combinator? There's several out there. If you haven't, I would suggest you-- some hands up back there. It sounds more edgy than it is. It's a wide spectrum of technology. And again, it's by the Y Combinator VC--

[MICROPHONE FEEDBACK]

OK, I'm not sure-- Thank you. And I would encourage us all to be lifelong learners. And so the problem isn't what you consume. There's too much to consume. And so choose carefully, and do it often. And stay abreast of things every day. Otherwise, it's easy to be left in the dust. Thank you.

CAMERON SCHWARTZ: Megan, do you have any tips, tricks, things that you use?

MEGAN BIGELOW: Yeah. I better stand up too, because I'll have that same problem. So I don't have a lot of time, so I hardly ever get to read anything. I do scroll through Twitter, but that just keeps me posted on sort of social issues, not tech issues.

So what I've done is kind of a shortcut. I just pick a job that's going to keep me abreast of the new tech stuff, and then I just have to go to work every day. So then you don't have to-- you

know, you can read when you have time, but you're not, like, spending a bunch more time reading, because I just don't have any time.

CAMERON SCHWARTZ: Thank you. Kash?

KASHIF ANSARI: Hang on. Make sure it's working. So a couple things. One is, of course, reading. So you always have to be a student in the industry you're in, whatever your hobbies are. So I read a lot on Twitter. I read on social media. I have my favorite websites. I have them bookmarked. That's traditional stuff.

What I'd also recommend is go to Meetup. Some of you guys used the Meetup app. And could be a hobby. Doesn't matter what it is. But Meetup is an app, right? You go there, and it could be on board games, right?

But I find the cutting edge scene of what is being done is done through these Meetups. And these are social events you go to. You kind of hang out, listen to what they're talking about. It could be on big data, analytics, AI, machine learning, these kind of things.

Other one is read what Gartner's doing, read what IDC's talking about. The beginning of every year, there's always a big tech conference, and there's a lot of dump that comes out of that that kind of talks about what's coming, what's hot, what's not. And those are kind of the places I go just to kind of scan it.

And then in our world, what's the competition doing and our customers? So we're in the sales business, the organization that I'm in. So our customer is always our leading indicator of what they're looking for, what they're trying to solve, what they're trying to do. And then that helps us as well.

CAMERON SCHWARTZ: Thank you. Megan, if I may direct a question to you. So kind of dovetailing off your presentation here. So in your work through the Portland Women in Technology group, in the last couple years that you've been working, do you find any kind of common themes or any kind of blanket recommendations or strategies that you would say to empower women? And/or recommendations, both men and women, to make sure that they can achieve that equality in the workforce that you've been striving for?

MEGAN BIGELOW: Yeah. So I guess I would say my recommendations are to everyone, right? Because I think it's important that everyone has this mindset, because it can't just be women trying to make it better for women or LGBTQ making it better for LGBTQ, right? We've got to make it better for everyone.

So my suggestion would be to learn empathy. Know that the struggle that someone had to get there is different than yours. You had your own struggle, but leave room for the fact that theirs could have been monumental or whatever. Like, we're not comparing, but just leave room for that.

Implicit bias. So understand the biases that you bring into whatever you're doing. Whether it's your interviewing, whether you're interacting with colleagues, recognize that implicit bias is something that all of us have, and we need to recognize that as we're engaging with other people.

And then I would say, borrowing from TSA, see something, say something. So all of us have a duty in all parts of our life, but especially when we're working that if we see behaviors that are not acceptable-- and sometimes these can be very minor, subtle-- I shouldn't say minor, but subtle or microaggressions-- you need to point them out.

Point them out safely. Ask your company to have a code of conduct so that you can say, this behavior's not acceptable, because it's going to take all of us. Because if we don't do that, then what's happening is the people that are experiencing the harassment or the people that are experiencing whatever it is are further and further isolated, because no one else is paying attention and speaking up for them. [INAUDIBLE]?

CAMERON SCHWARTZ: That's great. Thank you very much. So segueing a little bit here-- this will be a question for all of you-- but mentoring is a real passionate subject of mine, and I feel very confidently I wouldn't be where I am in my career, and as I continue to develop going forward, without the mentoring opportunities as both a mentor and a mentee that I've had.

Maybe each of you, if you could talk about some experiences that you've had that have helped you in your career, in your progression, and how you foster that type of relationship with others. Frank, maybe I'll start with you.

FRANK HARRILL: It is extremely important, and it's something that has to be a continuing-- here's what I would suggest to all of you, and that is don't pick one mentor. Look at every person as a mentor that you can learn from. And try to do that every day. People have an innate want to teach. It's part of our core values at SEL. And to an extent, teaching is selling too down the road.

So ask the questions. If you don't understand, you're probably asking questions others, your peers have as well. So look to your superiors and your peers and your colleagues and those that you work with as potential sources of information. We all have strong suits. And so always be inquisitive. Ask the question. Don't assume that-- don't suffer in silence. You likely are answering or asking a question that others have.

And again, I come back to, especially in this field that you've chosen, it is incredibly in demand and you're really in the driver's seat for the next millennia. But part of that means staying up to speed, and you have to constantly learn. You have to constantly develop the passion for what you're doing. It won't be fun and enjoyable every day, but it is definitely going to be interesting.

And pass it along. Do not be-- find time to instruct others and explain how you learned, and explain the things that you know in a consumable fashion. So I would just say that it's integral to your success and the success of the company you choose and the success of others.

CAMERON SCHWARTZ: Thank you. Kash?

KASHIF ANSARI: So when it comes to mentoring, I kind of follow the philosophy of having one mentor in the business that I'm in, and then one outside the business that's not in the industry, so they have an unbiased opinion. Because if you're in tech and your mentors are in tech, then you're going to have a very techie-- no pun intended-- conversation. Right?

And it'd be very biased. It comes across with preconceived notions. But talking to somebody who has no idea what you do for a living is actually very helpful, because they're going to take it from a very different objective angle.

And then also, I recommend-- and I'm doing it myself-- is reverse mentoring. So I speak to a lot of younger college kids. They're kind of like, what are you guys doing? Because I can't keep up with it either. I mean, I have three kids, and they look at me like they have no idea what I do for a living.

And sometimes I'm asking them, like, how do you guys communicate? How do you guys talk to your friends? And they look at me and they go, Facebook? Like, who uses that, right? So it's helpful, but you need that kind of both ways.

But my recommendation is whenever you're looking at your career, looking at making a decision, it's a chess game. You've got to look two steps ahead. So if you're looking at opportunity and it's a [INAUDIBLE] job, financial benefits aside, what's the job after that one? Always keep that in the back of your mind.

Because you may have a big plan that's five years out. Like, I want to do this. I want to do my MBA. Whatever the case may be. And the job in front of you, always look at, OK. Will this job prepare me for that next job that I want?

Because sometimes what happens is you have an idea of your trajectory, and then you take a job that may be a hard left or a hard right. And now you're like, oh, OK. I was actually trying to get in that direction. This job slid me over a little bit. It may be OK, but just keep that in mind when you're assessing where you're going.

But like Frank said earlier, two or three mentors is, I think, ideal. And make sure they're diverse mentors. Don't pick the same. If you all took an exercise and wrote down the people you trust, the people you talk to for personal reasons, professional reasons, and then look at, are they gender diverse? Are they ethnically diverse? Are they financially diverse?

You'll be surprised. Most of us talk to people that look like us. They came from our same background and think like us. If you're a man, you probably have man mentors. Force yourself to change. Go get a female mentor. If you're a woman, get a male one. You'll be surprised at the different ways people come about solving a problem and helping you guys. That's my recommendation.

CAMERON SCHWARTZ: Awesome. Thank you, Kash. You know, I'd add to that really quick, you know, it seems like as a society, as we have more and more information at our fingertips anymore, it's kind of this interesting dichotomy, because I think we are getting into a position where we are finding ourselves looking more for affirmation than information. And to Kash's point, diversity of thought, diversity of backgrounds, diversity of education, even if it means Huskies, having that kind of input and that kind of perspective from others I think is monumentally important.

In looking at my own experience, again, as I've continued to grow in my career, getting those perspectives from other people that don't look like me, that don't talk like me, all those kinds of things, helps build me as a person in kind of that 360-degree frame of thought. Megan, want to give you a chance.

MEGAN BIGELOW: Like, three points to make about this. So the first one is in terms of mentorship, just know that you all can be mentors to other people. So remember that throughout your life too. Just because you haven't been in an industry for 20 years doesn't mean you're not a good mentor. You could mentor someone right now, so don't forget that part.

Mentorship, I would suggest finding mentors inside of your company when you're working, or inside of your school and outside of your school, or inside of your company or outside of your company, because those perspectives are going to be really important.

But absolutely inside of your company when you're working, find sponsors. And what I mean by sponsors are these are the people that are going to talk about you in the really important meetings and suggest you to do that project. You need those people. I would actually prioritize that one first, and then you can get the other stuff. Cool?

SPEAKER 7: Cam, I think we have time for one question from the audience before we take a break.

CAMERON SCHWARTZ: Yeah, please. That's be wonderful.

SPEAKER 7: Raise your hand if you have a question. Right here.

AUDIENCE: So big data is becoming an increasingly large thing, and I feel like our generation has bigger access to big data, and technology has definitely enabled this. How do you guys, I guess,

recommend that we-- or give us advice of how to capitalize on big data, or how to access it in a way that will benefit us.

CAMERON SCHWARTZ: Who wants to take that one first?

FRANK HARRILL: Yeah, I'll take that. And data sciences is very math-intensive, but you don't have to be a mathematician or a data scientist to exploit or take advantage of big data. It's first to understand where it's available, and then how to manipulate and visualize it. And I think for the broader audience, the ability to understand where to go, whether it's geospatial data, whether it's shapefiles, but realizing where these big repositories of data are, how it applies to your particular use case.

And generally today, you can find it, and it's usually free. You don't have to pay for it. It's generated by the government, by county states, or nation states. And there are many tools out there that are either open source or low cost or available to us all that can enhance any problems that you have. And that's something that I'm currently engaged in.

As a company grows, depicting the company's growth and customer base geospatially. Opportunity, sales opportunities geospatially is incredibly important. And so understanding that, understanding how you can do it without having a data science PhD, which you read about-- it is not impenetrable. And it's something that we can all do and all access at whatever level. So that's the advice I would give.

CAMERON SCHWARTZ: Kash, really quick?

KASHIF ANSARI: So on the big data thing, I mean, so it's the big, hairy animal in the room for every company out there. Because everyone's saving everything, and they don't know how to monetize it. So I mean, if you can crack that code, you'll make a lot of money and be very, very important.

So the thing is, it's a broad topic, and there's a lot of issues on privacy, especially with all the social media stuff we all do. And you know, that's all available to the Googles and stuff to go figure out what they want to sell you.

So taking all the commercialization out of it, people are capturing data, devices are capturing data. It's not just human-generated information. It's information coming from a thermostat if you have a Nest thermostat at home. Or if you're a jet engine, it's generating about five to 25 terabytes of flight data per hour as it's flying across the Atlantic. What do we do with that information, and how do we capture it?

My best recommendation is understand from a big data perspective, it's a little bit of math. It's a little bit of statistics. It's a little bit of heuristics of what this information is. The best thing to do is go to a Meetup on big data and hear what the local companies are trying to solve, and join one, and just try to help them out.

It is not just about mathematics. It is not just about-- it's an intersection of human interactions and interaction of data and math. So if you have a bunch of math people doing the crunching and the algorithms, you have a bunch of people actually trying to figure out what this actually means. Because without human interaction, it's just data. It's just ones and zeros, and there's no relevance to it. So that's really important. All right?

CAMERON SCHWARTZ: Thank you, Kash. And yeah, you know, I'll echo that sentiment. I mean, frankly, if you can figure out how to harness big data, that is literally the billion dollar question in our industry right now, and amongst a lot of different industries. I think each one of them has different contexts in how they would apply it, the kind of data that's available to them from that perspective.

So you know, you being the youth and the energy and the innovation that's going to be coming in to the workforce going forward, I would encourage all you to think about that. Because again, if you can monetize that, if you can put [INAUDIBLE] to that problem, you're bound to be very successful going forward.

So it's 1:59. At this time for the students that will be leaving us, thank you for joining us. Feel free to get up. And make sure you swipe out on the way out. Again, thank you for coming. We're going to take a 10-minute intermission, and we'll be back with you in 10. Thank you.

[MUSIC PLAYING]

All right. Welcome, everybody, to the second half of the Business Technology Symposium 2018. Thank you all for joining us. For those of you that have been able to stay the entire time, much appreciated. For those just joining now, welcome.

So we're going to pick right back up where we left off and introduce our third speaker here. So Frank Harrill is the Director of Security for Schweitzer Engineering Laboratories. Without further ado, Frank.

FRANK HARRILL: Thank you. Thank you. You know, what I want to start out with-- and what I want to talk about really is opportunity, and how you have chosen-- and I just mentioned it if you heard the Q&A or the Q&A that preceded the break-- with how you're in a career field that is incredibly in demand, and will be for your lifetime. Certainly mine. And you're really in the driver's seat in a lot of ways, and you're in demand in a way that no other generation has been from information technology, just overall opportunity.

What I want to talk about is less about me and more about what WSU gives a rise to. And SEL is a success story in that regard, and I'll talk about that. But I came from, prior to my career with Schweitzer Engineering from the FBI, and I want to talk about briefly that. It's a great career path, and something-- we talked about diversity earlier.

And something you may not know about the FBI is it's now harder to get into the FBI from a percentage standpoint from applicant to acceptance as an agent than it is an Ivy League school. You know, it's less than 4% of applicants are accepted into the agent pipeline.

But what the FBI has always been after is diversity. Not only gender and ethnic diversity, but also career path diversity. You can't become an agent without entering the commercial workforce for at least three years first. And you're in an extremely competitive career field, MIS and computer science.

So I'm not going to talk any more about that, but I would always encourage that as a career path early on. But again, it requires three years of work experience, but you're in a degree path for a career field that is heavily sought after, both in the private sector and the government sector too.

But what you may not know about SEL, which is the big company on the hill in Pullman, is that it sprang from WSU, from really kind of a remarkable beginning. That was Ed Schweitzer, who was an instructor, a professor here at the time who had an idea for disruptive technology. And it was, you know, the world's first digital protective relay.

What I want to talk about here for a few minutes is what SEL is, and how this high-tech manufacturer is literally walking distance from campus. And one of the most significant career-- and it today went from a handful of employees in Ed's garage to over 5,000 employees spanning the world. And I want to talk about that because most of our hiring or a lot of our hiring is done from interns. So I'd like for you all to consider that at WSU and U of I and other colleges.

But we find-- I've got a colleague here in the audience, and he'll reinforce what I'm saying here. Most of our better hires, our best hires are interns from right here. We are a technology company, but this spans majors from accountants to journalism majors to marketing majors. So if you're interested or anyone's interested, I would encourage you to take a look at the opportunity that is literally right here in Pullman, and then you can walk to work.

So the challenge back in the '80s when the company was founded in the early '80s with Ed was electricity. And by the way, this is an interesting factoid. How many people-- this is too big of an audience to actually get an answer.

Well, there are about 1.2 billion people-- billion people-- think about that in percentage of the world population-- that have yet to be connected to the electrical grid. That's roughly the same number without electricity that walked the face of the Earth when Edison invented the light bulb, which is a pretty staggering statistic. So it really is about making people's lives better.

But at the time, it was very difficult when there was a fault in a power line to find that fault. And it required-- what you're going to see here-- a helicopter trip, generally. And it just happened to cost about \$6,000 at the time in the early '80s when a line was disrupted, when a

fault was present in a transmission or distribution line for the electrical companies to find the fault.

So what now Dr. Schweitzer, Ed-- he was a PC student here at the time-- had the temerity to do was to invent the first digital relay. At the time, this was an industry dominated GEs and large, multinational corporations.

So what he invented was this, the SEL 21 in a garage here in Pullman in the early '80s, working at WSU, and grew that into a company, into something that truly revolutionized the way utilities and power companies can find faults. It made it a lot safer too than people having to walk wilderness corridors and flying helicopters to find these faults. It could measure where that fault was, and at the same time, trip faster and make electrical power much more economical and more reliable for all of us.

And it's a great company to work for, and I suggest you consider it. Again, it's here in Pullman. The lights that we see in here today, the electricity certainly in the US and much of the world that powers the Dell servers and everything else is controlled and protected by SEL equipment that is made here in Pullman or Lewiston or in the Chicago area. The devices are all manufactured in the US, which is something else that has largely been viewed as less possible than it was in years past.

It's all made right here. It's made in your backyard, if you're watching from here in Pullman. And there are SEL offices across the US. So I think it's a remarkable story that this is possible here in the Palouse just by a WSU student really at the time who was enterprising, resourceful, and had a big, bold vision, and wasn't intimidated by the prospect of failure. And that's really a lesson for all of us.

And I'm not really trying to sell SEL here with these slides, except to say that it's really interesting to me, and I think hopefully to you, that you're living in a place where the devices that are pumped out of these big buildings just up the hill here really underpin most of the US certainly, and really, much of the world's manufacturing, industrial plants, and chemical plants in terms of the electricity that drives them. And that is, again, a success story borne by the very school that you're attending, and I think you should be very proud of that.

Also, SEL-- and you may not realize this-- is a manufacturer of ruggedized computers, all here in Pullman. Very specialized, rugged computers that are fanless, that have very sophisticated cooling systems so they can work in harsh environments, in substation environments-- substation meaning electrical control facilities. And also, software-defined networking switches, switch gear, and other very technology-driven, innovative computer hardware, again, that we need your intellectual firepower, your horsepower to infuse us as interns, and later on as full-time employees.

So again, if I say [INAUDIBLE]-- I think I've said that enough now-- but consider us for employment opportunity, for internship opportunity. I'd be happy to talk to you about that. You

can look at our website for opportunities. But again, you are our biggest source of full-time employees.

The other thing about SEL, it's now a fully employee-owned company, and has been since 2009. It's a very typical company. It's going to stay right here in Pullman and Lewiston and other places as it expands around the world, as it does.

Products are in 162 countries. Blanket most of the world. And we're trying to service those countries that you see in areas where the grid really isn't available. And so that's the next area of growth for us. Or in perhaps riskier places, but places that desperately need and deserve the industrial revolution that we've all enjoyed.

But I'll close with this, and that is several things. My really advice to you, and that is all of us, information technology and the field that you've chosen underpins each and every thing that we do. But with it comes challenges and responsibilities that I think all of us face each and every day.

And it's very important for you to keep this top of mind. We started this talk often-- I think most of you may not have been here. But the need to be a lifelong learner. You know, your parents and certainly your grandparents and the generations that precede us had a tendency to think of what you're going through now as the college years, as the years of learning, and then after that, you applied it. That's no longer really true, especially in your chosen profession, because it changes rapidly, each and every day.

And so what you have to be, you have to develop a passion-- and I'm sure you already have it-- for your chosen field of study and others. And take time every day to learn something new, whether that's via reviewing a four-second-- or I mean, a four-second-- a four or five-minute micro learning course that you're looking at on YouTube, or something more formal.

Or reviewing-- I mentioned Hacker News, the Y Combinator blog that covers a broad variety of technical material, reviewing that every day. But it's incumbent upon each and every one of us, I think, in order to make the world a better place, to stay on top of what we're doing with regard to information technology, and build this into every system that you design.

And I can tell you that-- and it's already been said in this room-- that every corporate board, every CEO, anybody in a decision making position in government or private sector, IT and IT security is top of mind. Cybersecurity is top of mind. And so understanding the systems you design and how they're going to be resilient-- how will they act? How will they gracefully fail when one component becomes unavailable? What is the backup plan? What is your disaster recovery plan?

Understand that. Be able to converse about that in an interview, a job interview. And then also understand security. And even if your specialty isn't security, if you're developing a system, if

you're designing a system, understand what it is and how it interacts with other systems, and where its weak points are. Do threat modeling. Understand, how can it be attacked?

Security is everybody's job today. It is every technical specialist's job. It cannot be the province of a security team. You design the system and it's their job to worry about how it can be attacked and how it can be preserved. It has to be yours, and you have to be able at least on some level to talk about in job interviews, et cetera, how you understand that.

And then, you know, the other big challenge today is understanding even acronyms, but it is the perimeter of a company doesn't really exist anymore. Thanks to Dell and other companies, the perimeter is everywhere. Your office can be anywhere. It can be your home, and it can be in a country thousands of kilometers away. And so all that brings challenge to you, the system architect and the system designer. How can it be used? How can it be secured? And how is it going to failover?

And then finally, complexity, which is the enemy of everything, really. Systems are becoming so complex today that it is difficult for one person to be a subject matter expert on everything about them. So fight the challenge or take on the challenge to make systems as simple and as consumable as they can be, and only then can you architect a truly seamless and secure system.

And you know, the degree to which we've talked about containerization up here earlier today, the Agile development and the degree to which you can rapidly spin up new and interesting and functional things sometimes can be a siren song in terms of designing it to be resilient and secure. So I would challenge us all as you enter the workforce to pursue and embrace making something simple and making something understandable. And I look forward to taking your questions here in just a few moments. Thanks.

[APPLAUSE]

CAMERON SCHWARTZ: Perfect. Thank you, Frank. So I'm going to start with a question here, and this one's directed specifically to you. So for college students that are interested in a technology career, but focused specifically on security and security fundamentals and things of that nature, is there a path you would recommend?

Are their certifications, classes? What's a good way to kind of get a foot in the door in that arena? I mean, with your background in law enforcement, I think it's kind of a natural segue, right? But for those that haven't had that opportunity.

FRANK HARRILL: So there are a variety of security certifications out there. First, I would understand the fundamentals. And so before I would consider someone a security specialist, they have to be conversant in all things technical in terms of a basic understanding of hardware, of software interaction, and of the protocols they're going to secure.

Credentials like CISSP can be thought of as knowing a lot-- or excuse me, knowing a little about a lot across the broad spectrum of technology. But underneath that, it has to be a more in-depth understanding. You can't simply study for a certification, take the test, pass the test, and consider yourself a security expert.

And that too often is what you see today. There's not an understanding of how these technologies are actually applied in the real world. And with that, comes peril when that starts to happen. So a certification should be the icing on the cake and should not be a substitute for what you're doing today, which is developing the fundamental understanding of technology.

CAMERON SCHWARTZ: OK. Thank you. Do we want to take some questions from the audience, please? Who wants to be first?

[LAUGH]

And I should say, for anybody that does have a question, Andy's coming around with the microphone.

AUDIENCE: Hi. My name's Alex. I'm an MIS major. I just had a question about the question they asked before the intermission. So you guys talked about big data. That was the question that was asked, was like, how is it incorporated? And you guys talked a lot about how that was kind of like the billion dollar question in your industry right now. What are some other major problems that us getting into the industry should start thinking about in terms of solutions and how to solve them and figure them out?

CAMERON SCHWARTZ: Who wants to take that one first?

KASHIF ANSARI: I'll give my perspective. So the hot things, you know, there's always buzzword soup, right? So it was containers and DevOps, and we can play the bingo game on the fun stuff. But if you look at what they're trying to solve, it's simplicity and operations and scaling out technology that may live on prem or off prem. That is a challenge, right?

So that's the issue is there was a way of doing things, which was in a data center. Very easy to find. You can walk in there, touch everything. You see it's in front of you. So then we virtualize everything. So now the server's actually in front of me, but there's actually 50 little servers running on it. How do I manage that? Now I've taken some of that workload and moving it to the cloud. How I manage that.

So in that umbrella statement, it's automation and orchestration. That is hot right now in terms of the-- in the industry. That's a hot topic, because everyone in every major company has agreed that their future is multi-cloud.

So everything's not going just into an off-prem situation. Some things will be on prem. Some will be off prem. Some things will be born digital, which means the application never existed in

my data center. I bought it as a subscription. But some of that data has to come back to my company, because I have to use it for other things. So the orchestration of all that content and the resources around it is huge.

We are in the infancy. If you actually put a slide up of all the top vendors in big data, it's about 450 companies that say they do big data. Security's even worse. I mean, security is super-- it's so specialized that it's that much more complicated, which is why it's really important to understand it and do it right

Luckily, in the infrastructure space, it's big. It's been there for a long time. Even ours is fragmented, but we're orchestrating all those things together. A lot of people are spending a lot of time and energy.

Some of it's commercial-based. Some of it's freeware. I mean, look at Kubernetes. Look at Google. I mean, these companies are creating this crazy IP and releasing it for free just because they need the help. So if I would generalize and simplify, automation orchestration of whatever, right? It could be resources on prem. It could be compute resources, security resources. That to me is a hot spot to be in.

CAMERON SCHWARTZ: Megan, if I could ask you to add to that, given that's your industry and kind of what your company does as far as the automation orchestration piece.

MEGAN BIGELOW: Yeah, I'm going to answer it a little differently, though, if that's OK. So he's totally right. So think about Kubernetes or anything in that ecosystem that's around containerization.

But one thing-- I mean, I'm a hiring manager, so one of the things that as I'm hiring people on my team and managers on my team, I'm finding that there is a severe lack of people with management skills. Basic leadership skills. So I would suggest if you want to get involved in some of these new and emerging things, for sure learn those technologies.

But I didn't actually know anything about Kubernetes. I didn't even know what it meant, and I got the job because I had had, like, seven years of management experience in a very related space. So my advice would be to go work wherever. Get experience managing people, giving them feedback, and you could parlay that into whatever is the new and trending tech.

CAMERON SCHWARTZ: And to be clear-- I'll come back to you here in a minute, Frank. But when you say management--

MEGAN BIGELOW: Like, people management.

CAMERON SCHWARTZ: People management but also management of resources in general.

MEGAN BIGELOW: Yeah. So there's a couple of different things. People management. So there's people management. Then there's project management or program management or product management. I mean, the common theme about all of that is taking a thing, whether it's a person or some other thing, and getting it to do something, getting it to have an outcome.

And then managing the risk, and then managing it when it doesn't work out, and recovering from that. You can learn that skill working at Burgerville, right? So I'm just saying, take any opportunity you can to learn skills like that while you're getting your degree in information systems, and then you can parlay that into whatever is the cool, trending, hot, like, most lucrative technology.

CAMERON SCHWARTZ: Perfect. Thank you. Frank, I didn't mean to cut you off there.

FRANK HARRILL: No, no, no. What I was also going to suggest is that we all focus upon also the other fundamentals. And that is not just speaking, but writing skills. How to convey an idea concisely, persuasively, with proper grammar, and document what we do. Write letters to customers.

All the things that we tend maybe to lose when communications tend to be very terse and very overly abbreviated in 140 characters or less. And sometimes that is, I think, overlook today, and something that is heavily sought after in the job market.

MEGAN BIGELOW: Add to that, like, I mean, he's not joking around. Like, if you could just compose an email that's kind and customer-facing, you will get a job very simply. Like, that skill does not exist. So just learn that part. Seriously. I hire a lot of people, and not hardly any of the people that I see in my pipeline can write.

CAMERON SCHWARTZ: You know, and it's actually kind of funny you mentioned that, because when we were meeting at lunch today, you mentioned the skill of being able to direct constructive but positive feedback. And the flip side of that is to be able to take that feedback as well and act on it, and you know, use it to enable your career. Christine? Do you have a question?

AUDIENCE: Yeah. Hi, everyone. My name's Christine. I'm a senior at MIS. I was wondering what steps or procedures you take to improve yourself. Let's focus on soft skills. Thanks.

CAMERON SCHWARTZ: Who wants to start with that one?

[LAUGH]

KASHIF ANSARI: Go ahead.

MEGAN BIGELOW: All right. So improve myself, soft skills. So I usually don't know what I don't know, and so what I've done that works is to create a persona of myself that is willing to accept

feedback. And when I get feedback, I'm really kind about it, even if it hurts really bad. Like, that happens all the time. That is how I've always been able to constantly know what I need to work on.

And then not only that, but I'm also asking for feedback. So one example is I asked your professor, one of your professors to take a survey, because I want to know what I could have done better in my talk. So it's just like, ingraining it into everything you do.

It's like, hey, prof, how could I have done my presentation better? Hey, friend. Like, how could I have delivered this bad news to you better? How could I have written that email better? And then once you've done that enough times, people will start coming forward to you, because they know that it's safe, and you're going to learn things that you never actually knew you needed to work on.

KASHIF ANSARI: Yeah. On soft skills in our space, it's always-- it's really important, because we're consulting with customers, we're talking to people, we're trying to solve their problems. And sometimes the challenges-- you don't have to be technically right. You have to be smooth about your delivery, right?

Sometimes you can really irritate somebody if you come across as abrasive and say, you know what? This is the best thing ever. And you know, if you don't buy into this, then you're dumb, right? That usually doesn't work when you're trying to sell something. No one likes to be insulted when they're trying to buy something. So soft skills in our industry is really important.

So how I keep up with that, to Megan's point is feedback is huge, right? And unsolicited feedback is even better, because you didn't ask for it, and it came anyway, which means something really went sideways, right? But practicing and watching people that you admire in terms of, why do people listen to that person? Like executive presence. That's something that it's hard to put your finger on.

I'll give you an example. So I was late for this-- when I was early in my career, and my manager at the time-- I was not a manager yet-- said that, you need work work on your executive presence. And I was like, well, what does that mean? He said, well, I'll show you.

So we were late for a meeting. We were in New Jersey. We'd gone to the meeting, and this meeting was a vice president that I had not met yet. So I didn't know who it, was what they looked like, nothing.

And she said, sit down. Let's watch. And it was a customer meeting. And she said, I want you to guess who the VP is in this room. There's, what? 10 people in the room. So I was watching them all talk and this, you know? And I kind of figured-- I guessed who it was, and I kind of said, is that the person? She said, yes. How did you guess that? Because there's no name tags.

I said, I watched how they spoke. When that person spoke, everyone listened. Their delivery was very really measured. It was precise. They weren't talking for the sake of talking. And people respected what that person was saying. That was just a guess. And she goes, that is executive presence. And I was like, OK, got to figure that out. But you know, those are things we all learn.

And it's not something you can you can take a-- you can take a course on how to present, how to use your hands, all those things. But this is a stick time thing. Like, this is stuff you'll just get over time, and it's something you'll just pick up, and you'll just learn.

FRANK HARRILL: I'll just add one last thing, and that is we all have a tendency, I think, sometimes to not take advantage of opportunities to either get feedback or take on a new responsibility or enter a new role, because you think you're not ready or you think you're not polished enough.

And I think I'm here to tell you that the answer is, don't ever turn something down unless you're absolutely confident and sure that it's an incredibly bad idea. Don't be afraid to, in most circumstances, to fail. Put yourself out there, whether that's public speaking, whether that's receiving feedback from colleagues, peers, or an executive cadre.

It's a nerve racking experience. It is unpleasant. And that's why I think I said in the last group, you won't always enjoy what you're doing at the time you're doing it, but always know that just showing up, persevering, being there early, staying late, working hard is 90% of the battle, right? And so never turn down an opportunity, even if you think you're slightly above your head, or maybe even way above your head. And again, there are limits to that.

We can all improve ourselves by taking risks. And don't be afraid to take risks. And the hardest risk to take sometimes are risks that threaten your self-esteem. Put yourself out there.

CAMERON SCHWARTZ: And actually, if I could even add to that, just from my own take, you know, soliciting feedback from others, that's tremendously important. Again, how you're viewed in your peers' eyes, in your superiors' eyes is tremendously important.

But the one thing I would caution you on is make sure that you maintain truth to yourself in that. There's a concept on my team in my organization called personal brand that we're really big on trying to help people develop. And that means weaving in the feedback that you get from others. You know, the positivity, the things that you can work on.

But do it in your way. If you try and mold yourself into a person that you're not, taking into account all this feedback and trying to do everything, it's not going to work. And that's, one, speaking from personal experience, and seeing others have to try and do that as well.

Because ultimately, you end up tripping over yourself and you're trying to figure out what's real and what's not, and it just becomes too distracting. So all of that together I think is good wisdom. Was there a question in front?

AUDIENCE: So good evening, all of you. My name is [INAUDIBLE]. I'm a sophomore here at WSU. My question's actually directed towards Megan. So respect for being an RTA. I'm an RA, and your position is definitely needed to run a residence hall.

Besides that, in your talk you mention how you had that reaction when you found out that a male counterpart who was doing the same exact position as you was making a higher income. Salary income, basically. How do you-- like, knowing myself, you talked about how you just went into overdrive mode and you started pushing yourself. But me personally, I don't shy away from confrontation. Like, if I see something that's not right, I'm definitely someone who's going to speak up.

Just from your perspective and now that you're a lot more mature and have a lot more experience and you've learned from the past, basically, how would you approach your employer or your boss and say, like, hey, without saying, oh, I overheard. But definitely like articulate your concerns and make yourself known without-- because women are often perceived as like, oh, they're way too emotional or something like that when it's clearly not right. Just like, using the right words, and then also going about the situation correctly.

MEGAN BIGELOW: Yeah. OK. So that's a really good question. I would totally handle it very differently if that happened again today. So I'll tell you about an example that did happen recently. I didn't find out that there was someone making more than me, but I'm hiring a lot of positions.

And one of the positions I'm hiring is a manager position, and I'm a director position. And all the roles that are-- all the people that we are hiring are wanting to-- like, you know, we're interviewing are asking for a salary that's extremely close to mine. So that's another thing that can happen in your career.

And so at first I was like, gosh. That doesn't feel right. I'll be managing these people, and I have, like, 10 more years of experience than them. And so what I have done in this case is I went and talked to my HR team, and I said, hey. I just wanted you to know that I noticed this. And same thing if I had found out someone was making more. Like, hey. I found this out. I noticed this. Can you help me understand why this discrepancy exists?

And then if there's a good, clear answer, like, OK. Cool. Well, now I know why, right? If there's not, just keep asking more and more questions. Like, I want to understand what it is I need to do. What's different about what I'm doing versus what this person is doing?

Now that requires that you have a safe environment at work to go and talk to HR. She was great. She told me I needed to go talk to my boss, which I plan to. But not everyone feels safe

doing that. They're afraid of retaliation or that they could be-- whatever. That it would just not have a good outcome for them.

So I guess to summarize, my suggestion would be to make sure that it's a safe situation so that you're not going to experience retaliation, and then ask a lot of why questions until you get the answer that makes sense to you, and you can move on and feel good about it, right?

And if you continue to get answers that don't feel good about it, I think what you have to do is figure out, what is next for me? Because working here in a situation in which I don't feel valued is not a good place for you. And so that's where for me I'd be like, all right. Now my resume's getting fixed up, and I'm going to start looking for another job.

Because ultimately, you vote with your feet, right? The skill that you're all building here is the skill that's going to be extremely lucrative, and you'll be able to find lots of jobs. You don't have to stay one place if they're not treating you well.

But I definitely encourage, if you can-- it sounds like you feel confident speaking up-- do so. And know that you're doing it not only for yourself, but for all the other people who don't feel comfortable doing it. Did that answer your question? OK. OK.

CAMERON SCHWARTZ: We have any other questions from the audience?

AUDIENCE: Howdy. My name's Cameron Church, and I'm a senior MIS student here. First of all, I just want to thank you so much for coming here today and speaking. And I just had a question. So especially with me being a senior-- and I'm pretty sure there's a lot of us out here-- we're about to graduate, and we're looking for jobs.

And so I wanted to know, just from your experiences from going from school to the work world, you know, what did your education really prepare you for going into the real world, and then what did it not really prepare you for? And then how did you kind of go from-- how did you go from not being aware, being not sure about how to act in certain situations or anything to being confident and understanding more of the norms in the business world?

KASHIF ANSARI: OK. I'll go first, I guess. So OK, I've got to be careful what I answer here, because might make a lot of people angry. So when it comes to-- so I was a computer science graduate, so I learned how to software develop, right? I could write code-- CDs, C++, all that stuff.

I ended up in presales engineering where I'm not really writing code, OK? So the short answer is what university taught me was how to time manage and how to think analytically and problem solve. Now the finite math courses I took did not help me at all in my day job, right? There's that joke about parallelograms and, you know, the tax season. There's no parallelogram season. I need to [?look at my ?] tax season. Or is that in university, right?

So it's about analytics and understanding problem solving. That part I got from my curriculum and just being able to break things down to do simple chunks. What I didn't have was people skills, right? Like in terms of working with a team, understanding what my manager wants, how to interact with people. A little bit in team projects, but they're all students with you. They're your buddies, so they're not going to fire you. They might give you a hard time, which is a different dynamic.

So the blessing in disguise for me was the co-op I did during my last two years of school. I had a co-op at SGI. So when they hired me, that was a comfort zone, because I already knew them. When I graduated, I went back there, and I started full time. So that was the best kind of runway kind of preparation was I did co-op there before I became full time.

And that's where I understood what it means to wake up, get ready, go to work, and have a list of things to do, and feel good about accomplishing them. And focus on the right things, prioritization. Those things you learn on the job, because you may feel like, I just did the craziest thing in the world. Check this out. And your boss is like, yeah, that was not very important. And you're like, oh.

So then those things you learn on the job. I mean, that's kind of my opinion. I mean, from that perspective-- now depending on your courseload and how much more of it's applied here, it could vary, but all depend on the school, right? You want to chime in there?

MEGAN BIGELOW: The thing that I discovered were the things I didn't learn or not the things I'm going to share with you, because they don't really apply anymore. So what my suggestion would be to-- and we've talked a lot about this, actually, while we've been here preparing for this. Do some remote projects. Learn how to work remotely.

Like I said, I hire a lot. One of the things that immediately gets people out of the pipeline in our hiring process is if they've never worked remote or do not have a sort of mature perspective of working remotely. So even if it's just some one project, to say that you've done that, that's a good one.

I would also-- just knowing how to conduct yourself in a meeting is something that everyone just generally needs to do. Like, listening, being on time, and do what you say you're going to do. 100%.

That is the one thing-- people fail on that all the time. If you say you're going to do something, you need to do it, and you need to do it on time. And if you can't do it on time, you need to say why you're not going to do it on time, but when you're going to get it done. If you can do those things, you are super far ahead.

FRANK HARRILL: So my path is a bit different I went from college to the military, so it was a different experience. At the same time, I would say this. I worked all through college, and I

think the co-op or internships are invaluable experiences. They don't have to be at SEL. They don't even have to be in MIS. But learning work ethic.

And just to echo, learn to listen. Watch your co-workers, watch your superiors, and learn the company culture. Fit in. Develop. Again, you won't always love what you're doing. And I don't care what the career field is. You won't always love it. Develop a passion.

For the first few years, I would suggest this. Individual circumstances vary, but forget work-life balance. Dive into this first job, this first career. Stick with it for a while or forever. And learn, be a sponge, and be helpful, and look for other ways outside your primary assigned job task, within limits, within the company tolerance, to be able to add value to your team and other teams. And that will always serve you well doing that.

CAMERON SCHWARTZ: I'll just add my quick commentary. You know, the piece about being able to work remotely, I think in today's day and age is monumentally important.

You know, you all have the opportunity in your classrooms to have kind of more intimate interactions with your peers when you're working on group projects or whatever it ends up being, right? As you're doing that, I would encourage you to think about how you would go about meeting those same expectations, doing the same deliverables that you're expected to do, but in more of kind of a disconnected type of mentality, right?

You know, for instance, the team that I run is spread across three or four different states, and we rarely have the chance to get together in person. And when we do, we make the most of it, obviously.

But you know, there's kind of this time and place issue now in today's world with the velocity at which we have to work in, the expectations of us. We're always on the run. I know you guys as college students and the way that everybody got out of here to get to their next class or whatever they needed to do, you know, that doesn't change once you leave university. And in fact, I'd say with all the life things that we have going on, that only starts to pick up.

The other thing I would say as well, to the point that Frank just made as far as the first job that you get into out of school, I can say pretty confidently-- and I think the three of you would echo this-- the most time you're going to have to throw yourself into a job and really hit the ground running is that first one. Because as you proceed in your life, whether it's family, whether it's extracurricular things, you don't ever get more time. There's always less time. And yeah.

[LAUGH]

I can't say that one strongly enough. So we're almost at the top of the hour here. I want to welcome Dr. Joshi back to the stage. Thank you, again, everybody that's been here today. We've had a great time. Much appreciated.

[APPLAUSE]

KD JOSHI: It's on. Come back to that slide in a minute. Now you're inspired. What do you do next? It doesn't stop. Like you heard, you continually improve. So go to that website if you want to know more about IS jobs, join the MIS club. Any MIS club members here? Hey. OK. So we [? are ?] 144 majors. And hopefully, 144 members in the MIS club.

Talk to your MIS faculty. Not only the ones who teach you, but everyone. Talk to your Carson Center advisors. And talk to me. Come s to me, and see if you are, not capable, but if you are the ones who are going to change and solve the wicked problems that we all are leaving out for you. You will be the one solving those, and technology can help.

I have gifts for our speakers. I'll have to put this phone-- It may look like a strange gift, [INAUDIBLE] a cookbook. But when you scratch the surface, you'll know that it is from Jamie Callison. He is our celebrity chef, part of our top hospitality program. And you'll get to taste his creative creations at our reception. And hopefully with this book, you'll be able to recreate them in your kitchen.

[LAUGH]

[APPLAUSE]

[INAUDIBLE] shake your hand.

[INAUDIBLE].

So give a Cougar applause to all our guest speakers.

[APPLAUSE]