



Dr. Brian Fugate
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Bio:

Dr. Brian Fugate is the Chair of the Department of Supply Chain Management, and the Oren Harris Endowed Chair in Transportation at the University of Arkansas Sam M. Walton College of Business. He serves on the World Food Logistics Organization SAC and is a co-author of The Blockchain Toolkit: A Supply Chain Manager's Guide to Understanding and Implementing Blockchain and Operations and Supply Chain Management: Enhancing Competitiveness and Customer Value. Brian is a former MIT Fulbright Senior Research Scholar, Co-Editor-in-Chief of the Journal of Supply Chain Management, and recipient of multiple awards for innovations in teaching, including AACSB's Innovations That Inspire Award. Brian previously worked in supply chain management and industrial engineering in the airline, consumer packaged goods, and automotive industries.

Intro:

In this episode of the Supply Chain Careers Podcast, Brian Fugate, Department Chair of Gartner's currently #1 ranked undergraduate supply chain department will talk with us about how he got started in supply chain, how collaboration with industry helped them achieve that #1 ranking, the value of internships and student clubs, plus the hard skills and soft skills they are emphasizing for their students.

Mike Ogle: [00:01:11] We are happy to have with us today, Dr. Brian Fugate, department chair of the Supply Chain Management Department within the University of Arkansas Walton College of Business. Welcome Brian.

Brian Fugate: [00:01:14] I'm excited to be here and I'm real excited for the platform and the messages that you guys are working on. So thank you for doing that. Thank you for having me.

Mike Ogle: [00:01:23] We definitely appreciate your time, particularly after we'd learned that you had the number one undergraduate supply chain program, according to Gartner's recent rankings. We'd like to start with asking you about how you started on your supply chain path, what were your greatest influences as well?

Brian Fugate: [00:01:39] So that's a good question. I came into this field probably from a little different path. I grew up on a farm up in Appalachia, up in East Tennessee, primarily a pig farm. And during that time, I gained a passion for figuring out how systems work, how we make the whole organization run well. And we had lots of fun things that we dealt with and challenges both on people and processes. I didn't know that's what you called it at the time, but I eventually found myself in industrial engineering as an undergraduate. Then I had some experiences in the auto industry, in the airline industry. And found myself when supply chain was really exciting and starting off, this whole idea of managing an entire supply chain was taking off, when I was exposed to that idea, that to me was like industrial engineering on steroids. Beyond the four walls of the manufacturing firm that I'd worked in and had experiences in. And, some of my experiences in implementing things like lean and the Toyota production system, I had experience running into the challenges, going outside the four walls of working with suppliers, we did a great job inside the organization, but working with suppliers became the challenge. And so, when I had the opportunity to get into supply chain, I jumped at it because I just thought it was exciting.

I then found my passion to teach and research, and pursued a PhD eventually.

Mike Ogle: [00:03:12] Were there any influences along the way as far as professors or mentors in your life?

Brian Fugate: [00:03:18] Absolutely. So, there were two that come to mind. One was an industrial engineering professor who helped me understand systems thinking. I actually went back and pursued a dual degree MBA and a master's in industrial engineering. And I was in a graduate course with this professor who I greatly respect. He really made a big impact on me and my career, but we were in a class running Arena simulation with a company and simulating the flows within the organization and making some recommendations for improvements. I remember sitting there in the class saying, but the customers, we can make all these improvements, but the customers aren't going to buy more. Why are we doing this? Why don't we go try to understand the customer? I kept bringing the word customer up, and this professor took the manual for the simulation and threw it across the room at me and said, if you want to understand the customer, go over to the college of business. And so, that's effectively what I did. Then when I was in my MBA, Dr. Tom Mentzer, who is one of the big names in supply chain management, the late Tom Mentzer now he's the guy that influenced me the most. He was a real good mentor of mine.

Mike Ogle: [00:04:32] So Brian, would like to know a little bit more about that your students as well. How do they typically hear about and become interested in supply chain?

Brian Fugate: [00:04:41] It's an interesting question because in a college of business or in engineering, everybody knows what accounting is, what marketing is, what finance is,

most do not understand what supply chain management is. They hadn't heard of it and until recently, they thought it was either just transportation or just manufacturing. So we have a lot bigger challenge at least relative to other disciplines and explaining to students what supply chain management is.

Most of the time until I came to Northwest Arkansas, when I ran into somebody and I told them what I did, they had no idea what that meant. Now in Northwest Arkansas, that's different because we're kind of in supply chain heaven here. But, we have your typical intro to supply chain course, we have a fantastic set of professors that all of our students have to take it's in the core. So, we're lucky with that. A lot of programs don't have that. We have clubs that are real exciting, and lots of things going on in the local area that influence students' understanding and awareness of supply chain.

We also have a set of high school teachers who teach supply chain management at the high school level. I think that's happening in other States as well, but I know it's happening here locally. One of our high schools has two courses in supply chain. I never would have imagined that 10, 20 years ago when I started this. And so, it's exciting. It's an exciting time. And then right now that's becoming much easier with the pandemic, everybody's talking supply chain. We'll see how that impacts the next five years.

Rodney Apple: [00:06:15] If there is a silver lining from the pandemic, people now know what supply chain means. Back in the day people would ask me, what do you do? I recruit in supply chain. Just the deer in the headlights look just about every time. So now when I say it, everybody's like, Oh cool. That's how you get the product to the customer.

Brian Fugate: [00:06:31] Yeah. That's why you weren't able to buy what you wanted right. During this time. And so, they're very well aware, right? When there's a pain point, they pay attention.

Mike Ogle: [00:06:39] So Brian, when students leave your program, what kind of characteristics do you think are most valuable to the employers?

Brian Fugate: [00:06:46] The traditional things that are important to employers are still important. So, communication, verbal and written are still important. Integrity and all of those soft skills are still just as important as they were. I think what's shifting on the hard skills, it's analytics, it's becoming more analytical. We were always analytical in supply chain. We just now have more data. We now have more tools available that we can apply. And so, we're working on which tools and techniques are most important, what kind of hard skills that students need to learn and how do we train them in that. So, things like some coding, so our students learn some Python. They learn data, visualization techniques, Power BI, Tableau and some other things. And then awareness of technologies. Our students have the opportunity to learn blockchain and actually code some blockchain and build blockchain and awareness of machine learning, awareness of internet of things, et cetera, et cetera, through projects and things.

On the soft side, what started building a few years ago and I know others do, but it's becoming overwhelmingly apparent in today's environment is the ability to deal with

ambiguity and agile thinking. So, traditionally we may teach project management, planned something out for six months, a year or five years. Today it's more things like agile thinking where we're learning today, what we're going to apply tomorrow. And we're going to go run experiments today and make hypothesis about what we think is going to help us learn tomorrow, and then that's going to adjust our thinking. And so we've got to be agile. We're building that into our program. Our students learn routines that teach them how to think that way, how to think scientifically, systems thinking, convergent, divergent thinking. I think those are becoming more and more important in today's environment. And I think that's different than what I learned when I was a student. Things are so rapidly changing, students need to come out ready for that environment and ready to thrive.

Rodney Apple: [00:09:04] And then that's a common thing I've heard from employers, is there's been that gap. And it sounds like you guys have done a really good job with closing it.

What would you consider some of the top things that makes your program different and unique, that led to receiving that number one ranking from Gartner for the top undergraduate program in supply chain?

Brian Fugate: [00:09:22] It's been fun to look back and try to understand that question ourselves. We didn't set out to impress Gartner. We set out to align our program with what industry needs. That's probably the best thing we have here, long, deep relationships with industry and it was relational. It wasn't transactional. Those industry relationships allowed us to understand what students needed. We have an amazing set of faculty who have previous industry experience, who had been there and done that. And so, they can work closely with industry and allow us to revise our curriculum and continuously update it and to be innovative and to think differently. That's the overarching reason.

I think the other is that we are in the hotbed of economic activity here in Northwest Arkansas in supply chain. The companies here, the influencers here believe that this is the Silicon Valley of supply chain management and the world. There's a lot of opportunities for students to learn, whether it's working with a local entrepreneur on some supply chain startup or working with Walmart, JB Hunt, Tyson, et cetera. And, so our students can learn by doing a lot easier than some other places where there's not as much businesses right there locally. So, we have that big advantage of location.

Rodney Apple: [00:10:50] And I would imagine a lot of your internships happen right there in the backyard?

Brian Fugate: [00:10:54] Absolutely. And so that's the location part. Our students can go off to Cincinnati, to P&G or wherever and have the summer internships. But a lot of our students work during the year, they work 20 hours a week. They just started working at JB Hunt when they're a sophomore and they're learning. And so, then they come into class, ask way better questions because of that. Quite frankly I think this has impact the rankings. We see industry as the labs in which our students should learn. And every course that we teach, we are working on getting it out in industry.

We have your traditional capstone courses, what are industry project based, but it

starts earlier than that. We have junior classes that have industry projects. Even our intro, we try to get that out there as best we can. And so that's what I believe the future of education in business and not just supply chain is.

Rodney Apple: [00:11:55] I would imagine that you have many of your students receiving work experience in this co-op environment. They very well could be getting offers early on in their academic career. Where do you see that happening? Is it more junior or senior or have you seen anything earlier than that?

Brian Fugate: [00:12:11] That's an interesting dynamic that's occurring. It's common that we have a conversation with a company, we tell them, you can't wait until after their junior year, you're going to have to start after their sophomore year. And even sometimes after their freshman year, because you guys know the talent gap it's a wonderful time to start in this industry because there's more jobs than we have students, even in this time. Assuming they do a good job, then they're able to secure the good students. At the end of that last intern, or a co-op or whatever it is, they'll get an offer.

Sometimes we're seeing it before then. And of course that's when we step in as faculty and we want them to think that through, you're making a decision, 18 months out that there's so many things that are coming, so many changes that are coming that, if they accept that offer early enough, they're going to be watching their friends, go do all these job interviews and they've made a commitment. So, we're real clear on that. If they accept the job, they better not back out on it. Lots of interesting dynamics there, but it's happening earlier and earlier.

Mike Ogle: [00:13:14] Tell us about how student clubs have influenced student development and how you've structured those to be able to work with industry.

Brian Fugate: [00:13:22] Our clubs are extremely important and we're fortunate to have faculty who get it, and they're phenomenal at this. When I became department chair, clubs had kind of leveled out. And we had five different student clubs. There was one for operations, there was one for sourcing, and on and on. I kind of sat back and said, okay, this doesn't make any sense. We're supply chain. The whole point is integrated. And so actually got rid of them all except there was one that was left. But it had leveled off. There weren't many students in it. So, we have two clubs now. One is Arkansas Supply Chain Association that professor Donnie Williams coordinates. And he's also the executive director of our supply chain management research center that partners with companies.

And so that club provides value added services to the students, to help them with their career for the most part and education. And so, they work with those industry partners to have things like shadow days. The companies sponsor students to go to conferences if you're in that club. They bring in guest speakers for evening functions on various topics. They come in and do career development, resume workshops and mock interviews. We're working with our marketing department on this, on doing a negotiation competition to where there's a sales and a supply chain person, there's a competition there.

The clubs allow us to do those kinds of things and other just connections with each

other so that they build a culture within the student body that they're passionate and they're learning from each other and they're developing things. We're just kind of watching them take off. Professor Donnie Williams will tell you that he's just letting them lead it now. Because they're so passionate, they're doing most of the work. We have another club that I want to talk about. That's Women in Supply Chain Excellence that's WISE. And Dr. Stephanie Thomas took that over and just has a passion for women in supply chain. She's connected with the Awesome organization and connected very closely with Shelley Simpson at JB hunt, who actually gave a gift for WISE to develop that. They connect with other universities. I think they had eight universities this last fall that came in, got together and talked about women in supply chain and things like that. And so just a phenomenal organization. I think we're at about 20% female in our undergraduate program before Dr. Stephanie Thomas took that over. And a few years later, we're approaching 50% already in a very large program. And so anyway, that's a long answer to your question. There's your professor answer.

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Rodney Apple: [00:16:27] That's incredible movement there in terms of diversifying the student population. I've seen this over the years. It's been a heavy male oriented field and it's fascinating to see everything diversify. Kudos for putting that together and making that kind of progress.

What would you consider some of the top influences you've seen that have kind of shaped things from a supply chain perspective?

Brian Fugate: [00:16:47] In terms of the biggest influences, nothing terribly insightful, it's things that we've been talking about, but they're just becoming more and more obvious and more in our face. Number one to me is a consumer centric supply chain perspective. And it's because of omni-channel and last mile, and all various forms of companies seeing the importance of the consumer. We always talked about the customer and supply chain, but that always meant the retailer historically, and I think what we're trying to move to is to think more consumer-based supply chain management and it's challenging. It's very, very challenging.

The two hardest areas in supply chain, in my opinion, are the consumer end and then the raw material end. The rest of it, we've got relatively humming along and we understand that's where we spend our time focusing. It's these two ends that are complicated for very different reasons. So, I think the forces that are driving that are focused on consumer, the ability technology-wise to do omni-channel the consumer drive for it. But then you throw in things like sustainability, well, with sustainability and the consumer's interest in that, we're having to understand that full supply chain, things like safety, food safety issues, just like sustainability, we've got to see the full supply chain. And so starting at the consumer, going back all the way to your suppliers, manufacturers, et cetera, we can get there. It's very hard. We have a long way to go. When you start into the farmer area. Very, very, very, very challenging. We just don't understand them enough right now.

And so those are the challenges, sustainability, transparency, safety, are driving us to think full supply chain. We have to map out and understand and be able to see that big

picture.

Rodney Apple: [00:18:43] Five to 10 years from now, what do you see evolving over that time period?

Brian Fugate: [00:18:48] Five to 10 years out is an eternity in today's world. In 2010, I used to give a talk on the future of supply chain management and I was so wrong. So that's my caveat. Just about everything I thought would happen didn't happen. And I was really convinced of it. So that's my caveat. It's hard to predict that out into the future, what's going to happen. I think we're going to in this era of analytics and data, I think we're going to make big advancements there. But I think we're going to realize that we're never going to get the data we need to have the answers that we think we're going to have. We're going to make predictions using the data that we have and we're going to feel overconfident about it, and we're going to make some big wrong decisions and learn from that and take a step back and realize it's still an art. There's still an art to this world and supply chain management.

I'm not discounting the importance of the data, and being data-driven. It's going to be way more challenging than we think to understand buying patterns, and be able to use that to predict what's going to happen next is going to be way more challenging than we think. We're going to make big advancements in technology. I just think at the end of the day, it's going to come back to the same things we've always struggled with, in supply chain management and a lot of people issues. And, a lot of the soft skills are still really, really important.

Mike Ogle: [00:20:15] How do you end up preparing students to deal with uncertainty as opposed to the one optimum best answer type of mindset and the whole idea of resilience?

Brian Fugate: [00:20:27] Yeah, that's the challenge. That's what we're working on. Toyota Kata, product management, all of those terms to get at the idea of scientific thinking, so we put them on projects in our classes, and we try to approach it from an agile perspective, meaning that they're going to plan out their next week. They're not going to plan out what's going to happen at the end of the semester. When I work with companies, I'll tell them, with our student projects, I'll tell them the best thing they can do is come in a third of the way through the semester and change everything. They set out at the beginning, this is what we want you to do, and here's all the information, but come in a third of the way and change everything and then come in two thirds of the way and change everything again. The students hate it, they hate it. If you're a teacher of that kind of a class, your student evals will be terrible.

We have to do this more often earlier on in the students' programs so that they get used to this type of thinking, to where they can pivot because they can pivot and fail and it's okay. And what we want them to do is to be ready when they go into a company to just constantly be thinking that way. I may have a plan, but I'm going to go test it every day and see, based on what I learned today, this is what I think I need to go do tomorrow. That just in time kind of scientific thinking approach. But we're still trying to figure this out. It's against human nature. I don't like it. You don't like it. We want things to be consistent, so it'll be a challenge for us all to deal with.

That's the other part of it is you need to be somebody who thrives in that kind of an environment. If you want consistency and stability, you're probably not going to enjoy supply chain. So, part of it is just filtering people who thrive in that environment.

Rodney Apple: [00:22:14] I bet you've been getting a lot of attention, when this Gartner ranking came out. Have you guys gotten together and thought about a plan on how you continue that momentum and just get better and better at what you do? And then with the programs you offer your students and so forth?

Brian Fugate: [00:22:28] No doubt, no doubt. We were surprised. Our Dean, Matt Waller says it felt like we won the national championship, in football or basketball or whatever. So, we were really excited, but it very quickly turned to what next. Now we need to adapt at a faster pace. We are not chasing rankings. We are committed to doing whatever is best for students. Turns out that Gartner's approach because they're so connected with industry aligns with what we think industry wants, so that tends to work itself out. We're using our supply chain management research center partners to have those conversations to understand what's next, how do we integrate technology better into our classroom? How do we get machine learning in there and internet of things and artificial intelligence, how do we do that in a classroom? And we're still working on that. How do we continue to get our students out in industry earlier? So they do the internships and maybe working, but how do we have more projects, more of our courses be project based. How do we integrate across the university with engineering better? We have an amazing industrial engineering department that's heavily supply chain oriented. How do we integrate with them?

Supply chain problems, the business problems today and in the future are interdisciplinary they're cross-functional. And so how do we do that in an environment universities are historically challenging to work across different areas. And so those are the things that we're having discussions on. The other side we have been working on and we're making, I think some big inroads on is diversity and inclusion of our undergraduate program and our graduate program. We don't have the answers yet, but those are the areas that we're going to be working on.

Mike Ogle: [00:24:20] When you talked about continuous improvement of the program, supply chain careers themselves, of course require their own continuous improvement. We see all kinds of training and credentialing that's going on. How do you see that changing over say the next coming decade?

Brian Fugate: [00:24:37] It's kind of the theme that we've been on and the rapidly changing business environment and supply chains. Skill development, I think companies are going to need it more often and more frequently. The technology skills are going to change much more rapidly. And then the next thing is going to happen faster and faster and faster. And so, I think companies are looking for ways to do that more frequently and update a manager's skill more frequently.

Rodney Apple: [00:25:06] What would you tell students, let's say they're in high school and obviously they're seeing and hearing more about supply chain and the careers and that they're so broad. They're so diverse. But, there is that talent gap. What would you say to the folks coming up through the K through 12 ranks, why should they pursue a

career in supply chain?

Brian Fugate: [00:25:26] I have young children and I have yet to figure out how to explain to them what I do, other than what they purchase, and why they don't get what they want when they want it and those kinds of things. In terms of how to tell them and how to get the message across, that's a different story.

I would try to hit on supply chain being the career that is like a puzzle. You have all these different puzzle pieces and your job is to put them together in a way that makes sense. And that puzzle is constantly changing too, by the way. And, if you want to go into a technology type space, you can do that in supply chain. If you're more relational and people person, you can do that in supply chain. Some people say supply chain is all about relationship management. If you want to see the big picture, you can do that in supply chain, if you want to dive in and you can do that in supply chain management. I try to hit on those things. I really try to not sell it. It kind of sells itself. It truly is just a fascinating place to be.

Mike Ogle: [00:26:25] Imagine if every student had a required meeting with Brian before it was a time for graduation. And you have your five minutes to give them the speech about pursuing their career, what do you think you'd tell them?

Brian Fugate: [00:26:41] If I had my five minutes, I'd spend two of it, at least getting to know the student. I think it depends on the student. That's my disclaimer, but in general, I would try to encourage them to continuously learn, to try to find ways to continuously stay up to date on their skill development, their thinking, their awareness of the business world and supply chain management.

A specific way to do that is something that they don't think naturally enough is ask for feedback from their supervisor. Asked them for real feedback. That doesn't always occur. A supervisor will tell them they're doing a great job. But that doesn't help them get better. I try to encourage them to really dig in and ask for feedback, specific feedback on how they can get better, do the same thing with their peers. Volunteer if they see something exciting, raise their hand and say, let me go try. Let me go try to do that. So that's the big areas I'd probably have them focus on.

Mike Ogle: [00:27:41] Have you had somebody come back to the university as a graduate who's had a story that really just kind of touched you with their experience, gratitude or whatever it may be, maybe one or two stories that you could share that made all this worthwhile?

Brian Fugate: [00:28:01] Yes, those are the stories that make you come back and, you know, from teaching, you may not get much of that during a semester. But two or three years later, when they come back and they remember something that you talked about. So, there's an individual and she talks about how she didn't necessarily believe in herself when she was a student and she comes back and talks about how me and other faculty encouraged her and let her know that she was great and she just needed to believe in herself and be confident. For her to come back and to let you know that, it makes you come back, right. It's just like hitting that wonderful drive on the golf course. You do it once in a blue moon and it makes you come back.

Rodney Apple: [00:28:45] Thanks again, Brian. We appreciate it so much.

Brian Fugate: [00:28:47] Thanks guys. I just want to thank you guys again for doing this and developing this podcast. This is a gap and you guys are helping to fill that gap. It's an important one. It's gonna help the whole industry.

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