Actuaries Institute Podcast
Driven by Data: Insights from an actuarial entrepreneur

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Interviewer: Meg Yang
Guest: Sam Zheng
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Meg Yang: **Hello and welcome to the Driven by Data Podcast, an initiative of the Actuaries Institute's Data Analytics Practice Committee, also known as DAPC. My name is Meg Yang and I'm a member of the DAPC's Young Data Analytics Working Group. Joining me today on episode five of Driven by Data is Sam Zheng. Sam is a serial tech entrepreneur, data scientist, and an actuary. He's currently the CEO and co-founder of Curious Thing AI, which is a Sydney based voice artificial intelligence startup for business to consumer communications. Before Curious Thing, Sam was the chief technology officer and co-founder of Hyper Anna, which was acquired by large US firm Alteryx last year. Welcome to the podcast, Sam.**

Sam Zheng: Thank you, Meg.

Meg Yang: **Let's start with telling us a bit about yourself.**

Sam Zheng: Yeah, absolutely. As you've mentioned, I was trained as an actuary and I finished uni in 2009 and I started working as a pricing actuary for insurance companies. I was spending time building all different types of models. I spent quite a few years on natural hazard in particular. Now, I'm moving to consultancy. I was working at Quantium for two years then realised that actually I want to do something different. So in 2016, I started my first company together with a co-founder. The company's called Hyper Anna. So that's basically my background. Curious Thing, the current company I'm running, we started in 2018. Currently we have 23, 24 people, mainly in Australia. We also have a presence the US. I'm the CEO co-founder of the company.

Meg Yang: **Wow. Yeah, that's interesting. So you qualified as an actuarial fellow and then you decided to quit your comfortable and probably pretty well paid job at Quantium to start your own business. Could you maybe tell us what triggered that and how you made that decision?**

Sam Zheng: Firstly, I wouldn't call that comfortable because actually working as actuary, it was quite difficult. Lots of challenge, especially when you have to deliver the project within the timeline. But I would say life was relatively easy compared to the work life I'm doing right now. I think that there was no particular trigger point, right? I love my job back then. I think what I was doing is quite interesting. People I work with were smart.

Sam Zheng: I would say it's a mix of few things. Firstly, it's the desire to do something different or maybe I'll make it more particular. The desire to actually build something from scratch, I think I always had this desire. At the same time, it's more like try to somehow, I don't know whether the other people would feel the same way, sometimes you'll feel you want to tap into the uncertainty a little bit more. That's kind of the mix of different things and at the time we had some thoughts and there were some ideas. I was younger. I felt okay, maybe it's the time for me to really just do something. So, there was no particular reason. It's a mix of lots of different things. But the main thing is the desire to build something.

Meg Yang: That's the passion that you have followed.

Sam Zheng: So, kind of a passion without a particular direction, I'll put it this way.

Meg Yang: Yeah, I love that. Obviously after Hyper Anna, you started Curious Thing AI. So both of them are pretty successful to my point of view, at least. So, can you maybe share with us how you start a tech startup and maybe give us a sneak peek into your day-to-day life as an entrepreneur?

Sam Zheng: Usually today, lots of people are kind of like saying this is a startup. But this is not a startup. Actually startup is just a company, right? And you know, if you want to do a company, now you need to know basically the problem you are solving or what kind of a mission you have. And I would say the first step is just to make sure that you are truly passionate about this, define your mission, define the problem space and make sure that you actually can operate well in this problem space. The difference between that versus "oh you have to know all the answers", it's different. You don't have to know all the answers, but you have to feel comfortable that okay, I can figure out how to operate in this particular space. But the important thing is actually you truly believe on what you're building and what you're doing is something you want to do because pretty much everyone in the startup ecosystem will say, "Hey, running a startup is actually like a marathon", right?

Sam Zheng: It's not a sprint. It's not something it's like, oh, I'll do this for one year and then something will happen. Likely, your life will be more difficult after one year or after you raise the fund. So, just be prepared to deal with this problem 24/7 for a few years and still be passionate about it. I think that's a key thing. All the other operational side, I wouldn't talk too much, but of course, you will need to ask yourself, do you need co-founders? How do you find your co-founders? How do you raise money? How do you build a team? How do you find your first customer, second customer? How do you find your product market fit? But that's another one-hour conversation. However, to start it, I think the key thing is define your mission, define your problem space and really understand, okay, this is going to be a marathon. You need to live with this problem you are solving 24/7 for few years at least. I'll be honest. I'm not early person, so usually I start my day at nine. Sorry, I start working at nine.

Meg Yang: That's pretty early.

Sam Zheng: No, it's not like I wake up at nine, but I start working at nine. Because a lot of founders I know, they got up really early, but not me. But from time to time, I have like a super early meeting with overseas clients. But usually, my workday starts from nine and I work for the whole day. Then I'll have dinner. Then I work till usually 10:30, 11:00. Then I will watch YouTube or read a little bit, then go to sleep and I work six days per week. That's pretty much my work life. There is no such a thing called work life balance if you want to do a company. So yeah.

Meg Yang: You're your own boss.

Sam Zheng: Yeah. It's not that. Sometimes you really need the evening time, even the weekend to do a certain task where you need to basically dedicate few hours to just focus on one problem.

Meg Yang: Yeah. So I'm guessing your day to day may look quite different in depending on the different problems that you're trying to solve, isn't it?

Sam Zheng: Yeah. I have lots of meetings, but from time to time, I would block the whole afternoon or whole morning to focus on one thing. Because you have to deal with lots of different parties, internal, external clients, investors, customers, your team. It's quite difficult to say my typical day looks like this. Maybe because my company's not mature enough yet. I'm pretty sure if you are running a mature company, I think, it would be a very different story if you are the CEO/founder. Yeah.

Meg Yang: I see. Yeah, thanks Sam. Now, you are an angel investor as well. So what do you value most when assessing whether to invest into a startup?

Sam Zheng: Well, I'm not a professionally angel investor. I wouldn't even say I'm investor.

Meg Yang: Self trained?

Sam Zheng: But no. There's no such a training, right? No one's running any training course for people to become angel investor, but there are people doing this on more active way. I basically just do this not like a hobby. I see this as a partnership with the other founders. I mainly do this for early-stage companies where I see really good alignment in terms of the problem they are solving. And I think that's kind of how I see this. But I think the second part of your question is very interesting, which is like what you would value the most because I'm not a professional investor. So, I'm more like a passive. I'm doing this from time to time, occasionally. However, I did have some advice from some other people.

One of my own investors once told me this. I think, it's very interesting. So, he told me in the past they found had the thesis, which is if you invest at least well at a stage company like seed round, it's 90% about people, 10% about other stuff, their technology, their current solution, etcetera, etcetera. Now he said, after a few years, they realise that they're wrong. It's not 90%. It's actually 99%.

Meg Yang: **Wow.**

Sam Zheng: I personally find that very interesting and also I think it's quite accurate. I don't think it works if you are investing like Series A, Series B or later stage company, but for super early-stage company, it's actually about people. Because very likely, the company will go through pivot, go through stage of growth, scale, different problems. How do you actually handle this is like going to determine where the company is going to end. So, I would say that's the piece of device I find most interesting and most valuable so far.

Meg Yang: **Would you have a few meetings with the startup founders and trying to assess whether their personality or their personal traits would meet your criteria?**

Sam Zheng: Yeah. It's not really personality, maybe traits. If you're building a startup, you have to be adaptive. You have to really be able to figure out how to solve your problem. Though at the beginning, it might look like it's not really solvable. I would say it's more like how you approach a problem, your way of thinking, are you kind of like a pragmatic person or you are more like, I basically do things based on my instinct and by the way, there's no right or wrong. It's because every person is like a package of all the things he or she has to offer. Usually, you will find people who are pragmatic. They are from time to time, not able to think out of the box and for people who are very quantitative data driven from time to time, they are conservative.

So, I would say it's not about which one is better. It's about whether this package as an individual, including you and me is suitable for this particular problem space they are operating at. That's kind of like how I feel. I don't think I would say I can't really judge people based on one or two conversations, but to answer your question, yes, I would have conversations with them and build my own thesis around. However, I don't really spend lots of time on investing. So, I'm more like taking these as is. If there's opportunity to connect with other people, I would. If there is opportunity for me to participate a certain round, I would. That's it.

Meg Yang: **That's interesting. So, do you think your actuarial training actually helped you to get to where you are today?**

Sam Zheng: I think that's a great question because I think about this a lot. I've got a friend, his name is Luke. He's working at Atlassian at the moment. We used to work at Quantium together. This is what I feel, right. My actual friend definitely defined who I am today compared to most of the founders. I am pragmatic and I am more, I will say, data driven. Every time I have meeting with my marketing team, I always ask them, hey, give me the data before the meeting. I benefited a lot from this. Don't take me wrong because I can think about things in a different way.

It's like feeling second, but facts first and also, actual training really give me a certain discipline regarding I have to have a framework before I jump into a conclusion over certain thing.

Sam Zheng: To answer your question, yes, it is helpful. But at the same time, I also have to say, I also acknowledge because of the training I went through, not just through Uni, but also from the years I work as actuary, everything you do, you have to have reconciliation. Everything you do, you have to leave a buffer for risk. Actuaries, we hate risk, right. But-

Meg Yang: We manage them.

Sam Zheng: Yeah, exactly, because we don't like them, right? But at the same time, I think, the other side of the discipline is actually sometimes I need to ask myself, hey, am I too conservative? Am I overestimating the risk? Because I would say that the number one risk for a startup to have not able to move fast and not able to jump into an action, over analysing. So that's like what I shared earlier, right? Every particular discipline have a particular personality and education background will have the pros and cons and it's a package. But from my perspective, I really appreciate the training I went through and I find that very useful.

Meg Yang: So I'm guessing you would like to hire actuaries in your business.

Sam Zheng: Depends on the role, right? Like, so in my previous company we have hired and worked with a number of actuaries. In my current company, so far, no. I'm the only person with actuary background. It's because we are doing a relatively niche technology sector. So, most of the tech team is from software engineering background or PhD in natural process. If we take a step back and think in the way that say as a typical startup, would they hire actuaries? I would say, definitely. For analytics or data science related roles, I think the key question is, should businesses hire or especially startups hire actuaries as business leaders. Or put it this way, how do we have more actuaries become the business leaders in non-actuarial, non-insurance, non-financial services organisations.

Sam Zheng: That's a question I think I don't have answers for, by the way, but I'm keen to ask. How do we have people leading the, be the chief information officer for a tech startup? How do we have more actuaries doing that? How do we have more actuaries doing chief data officer, right? Because I know lots of actuaries are chief risk officer in different organisations, but most of the chief data officers are not from actuarial background. So that's kind of like the question I'm kind of trying to figure out, but I don't have the answers for, so yeah.

Meg Yang: Yeah. Just kind of thinking about that question. What advantages do you think actuaries might have compared to talents trained in other disciplines?

Sam Zheng: If I compare like say actuarial education against statistics or pure math education, I would say actuaries are more like, how do you apply a certain framework? A lot of things we learn is not really math. Triangle is not really Math. It's like a certain framework that we're using.

Sam Zheng: A certain framework agreed by lots of people, so we decide, okay, that's how we're going to do this. But we use this framework to solve a certain problem for this particular commercial application. That's how I would describe it. To be very frank, I think actuaries is like a super technical and quantitative education, but at the same time, it's forcing you who solve a particular problem. This kind of like framework is very valuable. And I think, this could actually make actuaries think more about the application side of a certain, I would say technical bits. It doesn't have to be a model. It could be a certain process or whatever. I think that's an advantage of the actuarial education. The disadvantage of actual education, it's just my personal, humble opinion. It's sometimes it is a little bit too particular. So how do we actually break this wall of being particular is something I'm interested in knowing more. Again, I don't have the answers for that, but it's what I'm trying to figure out.

Meg Yang: When you say particular, do you mean not so much of creativity or like jumping out of the box?

Sam Zheng: I would say yeah, kind like that. It's quite difficult to describe, but more like, how do you know when you should be flexible? How do you prioritiae and deprioritise the effort into, let's say, reconciliation? The interesting thing I find is lots of people from other tech disciplines, they usually, their default position is I'm right, right? Any kind of a technical solution that is delivered. For actuaries, our default position is I'm wrong. I assume I'm wrong that's why I do reconciliation. This is a very interesting mindset. On one side, it's actually pushing us to think without I'm right or I'm wrong, just want to run consolation and make sure that everything is accurate. But at the same time, this mindset would also give us the other side of the thing, which is it's difficult to break this certain way of working and start solving problem at a more, I would say, qualitative space. That's kind of my gut feeling.

Meg Yang: Interesting.

Sam Zheng: I could be totally wrong. Please don't criticise me for saying this. It's just my gut feeling. And most of these gut feeling is from analysing myself, not analysing other actuaries. So, that's the interesting thing I want to share. So, yeah.

Meg Yang: Yeah. Thank you. Thank you so much for sharing such personal experience and views with us. So now let's come back to your business. You mentioned your current business focuses on voice and conversational AI, and those are probably unfamiliar terms to many actuaries. Do you mind helping us understand what they are and maybe give us a few examples?

Sam Zheng: Yeah, absolutely. To be very frank with everyone, I haven't been doing any actuarial related work for maybe four or five years. What we do now is pretty much a software engineering data science, artificial intelligence.

Sam Zheng: To answer your question, what does it mean is conversational AI is basically for machine, which is AI to understand what people are saying and interpret that and also try to have a conversation with people. Of course, the purpose of the conversation could be simply delivering certain message, have a chit chat or collecting a certain information, et cetera, et cetera. Voice AI is basically saying, hey, this conversation, no matter from human side or AI side is voice, which is talk, not chat, not text. That's basically what we do. What the Curious Thing do is we are basically the conversational AI that is dealing with all the phone calls.

Businesses can reach out to all their customers through proactive phone calls. And just to clarify, we don't do any cold calling. All the AI human conversations we deal with are existing business to customer relationship. Two examples I can give you with real customer. The first example is we work with Quit line. It's a very large not-for-profit organisation. Our AI is supporting them to reengage with the past participants. So, for people who went through the program, our AI will be calling them after few months just to check whether they went back to smokey. How did they feel? Do they need any further help, et cetera, et cetera? The reason is because simply we don't have enough human agents or experts to call them, so AI will handle the volume.

The second example I can give is we work with foodpanda in Singapore. So foodpanda is one for the largest food delivery organisation in the region. So just think about Uber Eats and DoorDash for Australia. Our AI is basically calling the merchants who are not active in the platform, try to understand why and try to solve that online with them. The unique thing is, if you think about restaurants, restaurant owners usually are only free to have a conversation between 10:00 AM and 11:00 AM. All the other time they're busy cooking or serving. So if you think about you running a call center, you can't just have the call center working for one hour. Our AI can handle the massive volume for them. That's the conversations we usually do, re-engagement, reach out, etcetera, etcetera, and the last 12 months we did 1.5 million human AI conversations. Yeah.

Meg Yang: Wow. That's huge. I'm guessing, I can see a lot more applications of voice AI.

Sam Zheng: Oh, thank you.

Meg Yang: Especially after COVID and so many people are just kind of contacting each other virtually rather than face to face services. And I guess my last question is, what advice can you give to actuaries who want to work in tech or maybe follow your leads and become a startup owner?

Sam Zheng: I really hope there are more actuaries doing things in other industry, right? Because when I was a student, when people talk about non-traditional actuarial practice, it's actually something like investment was non-traditional. But you know, actually it would be great to see more actuaries going to tech because all the other industries I don't know much about, right? And advice I would give is firstly, just do actuarial education. It's very useful. And it's giving you a certain framework of thinking that is, I can't say 100%, but largely transferable.

Sam Zheng: By the same time, just be curious about the other stuff, right? Be curious about what's happening in the market. Be curious about what are the new technology being discussed, try to learn and more about it. We went through extensive statistics trying to pick up a certain data science topic or certain machine topic. It's not that difficult. Just be curious about it.

At the same time, be curious about business. I think as actuaries, what we do is important for business, but we never start from thinking, okay, what is the business. Be curious about the business models, right? Any business model. I think that's important. If you want to be an entrepreneur, I think be curious about business model because in the end, you build a startup, you want to sell it to people and you need to understand why people purchase this certain thing from you. And usually that's directly linked to their business model. That's my advice. Yeah, just open up and try to read more and be curious about other things.

Meg Yang: Thank you, Sam. Now that's all we have time for today. Listeners, we hope you enjoy this discussion. You can listen to more Actuaries Institute podcasts by visiting the podcast section of Actuaries digital or via all mainstream podcast apps. If you'd like to continue the conversation with us on social media, please follow us on Facebook and LinkedIn at @ActuariesInstitute and our Instagram and Twitter at @ActuariesInst. Please write in with your questions and comments on the show. We'd love to hear from you. Thanks for joining the podcast today, Sam.

Sam Zheng: Thank you Meg. Thank you for having me.

Meg Yang: I'm Meg Yang. Bye for now.

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