1:33

Alexey

**This week we'll talk about data science career development. We have a special guest today, Katie. Am I pronouncing it correctly? Katie?**

1:43

Katie

Yeah, Katie. Katie Bauer.

1:45

Alexey

**[chuckles] Hi, Katie. Katie is a data science leader known for her writing and thinking about data careers and managing effective data teams. She is currently the head of data at GlossGenius. [cross-talk]**

1:59

Katie

There’s another tongue twister. [chuckles]

2:03

Alexey

**GlossGenius [chuckles] Katie is leading software platforms for beauty professionals in the US salon and studio space. Previously, she was on Twitter's infrastructure team and responsible for the analytics organization. I think you also worked at Twitter and a bunch of other places. Welcome.**

2:23

Katie

Thank you for having me. I’m very excited about this conversation today.

# Katie’s background

2:27

Alexey

**Before we go into our main topic of developing a data science career, let's start with your background. Can you tell us about your career journey so far?**

2:39

Katie

Sure. Like a lot of people who ended up working in data science in the early 20-teens, I originally got into the field because I was looking for a way to not have an academic career. [chuckles] I was going to be a linguist for a while, and then decided that I would rather do something different for a little bit. I thought maybe I would go back but I ended up not doing it. I came out to the Bay Area after finishing school to work in tech and the role I ended up in, ended up being very data-centric. Over time, I just kind of became an all-purpose data person.

I started off as a business analyst, did a lot of report building and automation, improved my coding skills and eventually became a data scientist. I’ve worked on production ad targeting algorithms and then eventually made my way over to social media for a large part of my career. I was one of the first data scientists at Reddit. I was there for a long time as an individual contributor and eventually became a manager, working mostly on consumer product concerns there. Then, I eventually moved over to Twitter, where I ran a small organization focused on the infrastructure organization, and really kind of measuring the ROI on the company's technology decisions.

Throughout all of that I've been very self-reflective, I guess [chuckles] spent a lot of time thinking about careers and all the different forms and shapes they can take. I've watched my peers make a lot of choices that were different from me as well. I have really come to believe that data is its own distinct career path and it has a lot of different ways in and a lot of different ways out that are unique to it. You don't really see the same sorts of things in PM careers or software engineering careers.

4:33

Alexey

**Right now, you're not in social media anymore? Or are you?**

4:36

Katie

No. [laughs]

4:38

Alexey

**GlossGenius is not in social media.**

4:41

Katie

No, it's a B2B SaaS company – sort of a mixture of B2B SaaS and payments. It is software that helps individual (and I guess now teams) salon owners to run their business. It does a lot of back office stuff, helps them manage appointments, schedules, take payments – it's something that really allows them to focus on the artistry of what they do and not have to worry about the admin. It's something that actually gives people a lot of social mobility, too. It's a really good company from a social standpoint.

5:16

Alexey

**It's interesting to see how SaaS businesses develop. There is some very generic software, but it's not really well-tailored to the needs of a specific niche, like beauty salons. So then there are companies like yours that appear and help in this industry. That's really cool. And what do you do there as the head of data? It's the head of data, right?**

5:40

Katie

Yeah. That is my title – the head of data. Broadly, my job is making sure that the company is getting the most out of its data. Data is a strategically valuable asset and it's something that can both be used to improve the operation of the company, and also to potentially deliver value directly to the company's customers. Right now, I am in the process of building a best-in-class data team. I am hiring, so if anyone is interested in coming to work for this company, you should let me know. But the main focus right now is really kind of getting the team stood up, maturing our operations, and then figuring out how we would grow and scale and make GlossGenius a better company.

6:22

Alexey

**Who are you hiring? What kind of roles?**

6:25

Katie

Product analysts, marketing scientists and analysts, and analytics engineers. So lots of different things.

6:31

Alexey

**How many was it? You said them quite fast? I understood product analysts, analytics engineers and marketers – marketing analysts. Right?**

6:45

Katie

Yeah, someone who's going to mostly work on data problems related to marketing and go-to-market. But statistical skills are especially important in that role. For anyone who's involved in this space, attribution has gotten more complicated over the past couple of years because of iOS tracking changes. So we definitely need someone with good statistical jobs for that role.

# What is a data scientist?

7:08

Alexey

**You don't have any data scientists yet, do you?**

7:11

Katie

Yeah, we're not using that title for now, no. I mean, this is something that I could go on about – what exactly “data scientist” means is always an interesting question.

7:22

Alexey

**So what does it mean to you?**

7:26

Katie

For me, it's a bit more of a term like “software engineer”. It's kind of a broad cover term that can describe a lot of different roles. I've had “data science” in my title for most of my career and it's been completely different at every company I've worked for. At one point, I was productionizing ML algorithms – I have done what a lot of people call “analyst work” under that title. I have written data pipelines and done a lot of data engineering under that title.

To me, it's more of a description of a broad category of things, and it gives you a good idea of what someone is *not* doing. But it doesn't necessarily tell you the specifics. A lot of times, you have to get that more contextually from understanding the company, its maturity, the stage of the team – there are a lot of other things that give you better ideas of what specifically you will be doing.

8:14

Alexey

**There's already a question, “How do we apply for a role in your company?” I guess you have a ‘careers’ page, right?**

8:20

Katie

We do. If you Google, “GlossGenius careers” you'll probably find it. You can also send me a message on Twitter or you can send me a DM on LinkedIn.

# What is a data science manager?

8:33

Alexey

**Well, we just talked about data scientists and you said that this is quite an ambiguous term – it can mean anything. Or maybe not ambiguous, but broad, as you said. It can mean anything and it usually describes what people *don't* do rather than what they do. But what do data science managers do in this case?**

8:58

Katie

That is a very good question. In some ways, being a data science manager is not that different from being a manager for a technical role of any sort. You're responsible for building a team that is able to meet your organization's needs and solve certain types of problems. A lot of advice that you hear for engineering managers can apply to data science management, or data management, analytics management, whatever term you want to use. I'm probably going to use the term “data science management” for the rest of this conversation.

There are particular aspects of the way data teams are organized and the way people add value as data scientists that mean you have to approach things differently as a data science manager. One of those is – I think one of the biggest constraints, really, for people who are running data science teams is that the details in the domain context matter a ton. It is really hard to give good specific advice to a cross-functional person if you don't really understand their domain, or if you're a manager. It's really hard to give someone good specific feedback on their work if you're not familiar with the domain. That is a constraint that I think impacts data science teams more than almost any other type of technical team. You usually have to know the business – you need to have good context for how things work, how the company makes money, what you need users to do to make money.

That ends up creating an unusual structure on data teams, where you have what is often referred to as an “embedded model,” where someone on your data team might report to a data science manager or some other kind of data leader, but their day-to-day decisions are very informed by who they're working with cross-functionally. You may have analysts or data scientists go sit with a product team and essentially be a part of that team – a lot of what they do day-to-day is determined by a “dotted line manager”. That's someone who is probably a product manager or an engineering manager, or like a person in marketing or something – who assigns them tasks, or helps negotiate tasks with them.

Then the data science manager is someone who is broadly responsible for the quality of the craft of data science, and the career growth of a data scientist. Another term for this that you hear a lot is a “matrix organization,” where you have, essentially, a horizontal team that then goes and sits with certain verticals. Another complicated part of this [chuckles] is that if you are a data science manager whose team spans many verticals, it can be kind of hard for you to know all the details of what everyone is doing. But there are ways of getting around that, I suppose.

# Quality of the craft

11:58

Alexey

**In summary – we have, usually, let's say there is a data scientist, or just a data professional, embedded in the team. You mentioned this matrix structure where this person has a data leader/data science manager and then there is a “dotted line manager” – some other manager, usually a product manager or engineering manager. And the role of a data leader/data science manager is to help with the quality of the craft and career growth. I think we will probably spend most of the interview today talking about career growth.**

**But before that, I wanted to ask you about the first thing – the quality of the craft. What does that mean?**

12:40

Katie

This is something I encounter every now and then, working with maybe a product manager. They mostly care about having something they can use as a basis for a decision. For them, data is some sort of end product – maybe it's a dashboard, it's a report, a model – they receive something. And for them, they don't really care how it was created. That's not important to them. But as a data science manager, *it is* your job to make sure it's made well, it's made in a way that's maintainable, and it's made in a way that will scale. Those are things that you, as a data science manager, are probably responsible for more than almost anyone else.

Let's say, the person that you're managing builds a bunch of stuff, they work in a domain for a while, and then they go do something else – maybe they leave the company, maybe they get promoted into a higher role, maybe they change to a different domain. As the manager, you're then responsible for whatever they’ve built and you better hope that it was made well [chuckles] because you're going to have to either take it over yourself or find someone else to take it over who doesn't necessarily have context. Making sure that things are done well and documented well, that's also a responsibility for a data science manager that you probably should take pretty seriously. But it's not something that other people necessarily have the job of thinking about.

14:06

Alexey

**So it's more like quality control rather than actually going there and making sure it's scalable. It's more like, “Okay, I think here this thing will not scale.” Or “You might be missing a piece of documentation there.” Things like this, right? You might have some sort of a checklist and you go through each point “Okay, we're missing this line here. How do we go about fixing that?” Is that right?**

14:32

Katie

Yeah, just a kind of oversight. You can do it in a lot of different ways. Maybe sometimes it's a checklist, maybe sometimes it's setting up a process of peer review so that other people have context or can give feedback on something – it could be a teammate of that person. But you are responsible for making sure that things are done well.

14:53

Alexey

**Okay, so it's more like establishing a process and then as a part of this process, it could be a checklist, it could be a review or any other way of getting there. So the job of the manager in this case is making sure that the process is there and people follow this process. Right?**

15:07

Katie

Yeah. Doing things to ensure a high level of quality.

# How data leaders promote career growth

15:12

Alexey

**The second point in the responsibilities of data leaders was career growth. A big chunk of the responsibilities is to make sure people grow. How do the managers usually do this? What kind of tools and processes…? There are probably processes for that as well, right? What do they usually do to help people grow?**

15:38

Katie

Well, I think the first thing that you should think about when you're a manager trying to support someone in career growth is taking inventory of where they are at that point in their career. The first dimension you should think about is whether they are junior or senior. “Junior” and “senior” might be a literal title that your company has, but I'm not going to use it that way in this conversation, just because it may mean different things at different companies.

There are probably levels within junior and senior that would be meaningful, potentially. But those are the two buckets I'm probably going to speak about in this conversation. When I say junior, I really mean someone who is still learning how to be a data scientist, whereas a senior person has reached what is called a “career level” or a “terminal level” – these are terms that are sometimes used in management circles to refer to someone who has learned… level.

16:37

Alexey

**Terminal level… Sounds very strange. [chuckles]**

16:39

Katie

Yeah, [chuckle] that one sounds a little dangerous, or lethal. But it's really where someone has reached a level that – they know how to be a data scientist. They can mostly operate autonomously and make good decisions – you don't have to necessarily be too involved in their day-to-day work. Once you reach that level, at a lot of companies, they're fine with you staying there forever. You can still get raises every year for merit or cost of living adjustments, but you're not required to grow to a new level. Whereas a lot of times… [cross-talk]

17:13

Alexey

**That’s what “terminal” usually means, right?**

17:16

Katie

Yes, that's what I mean. It's kind of the “end of the ladder”. There may be levels… [cross-talk]

17:20

Alexey

**So they’re no longer expecting you to grow. For example, a junior is expected to grow. If a junior is not growing, then maybe there is a problem. But for a senior, it's fine to stay a senior forever.**

17:33

Katie

Yeah. There are lots of levels that you could go beyond senior. One of the things that's very interesting about reaching a senior point in your career is that you really start getting forking paths at the senior level. There's kind of only one way to grow as a junior – it's to become a senior. But when you're a senior, you have so many other options. You could become a people manager, you could start growing into kind of a technical leadership track role – a staff senior, staff principle, distinguished – these mean particular things at different companies. But they're often something that becomes leadership, but specifically through a technical lens.

Another thing that happens a lot for people who hit their career level, or their terminal level, is that they end up going and exploring adjacent careers. They might go and be a PM, they might become some kind of software engineer, they could be a TPM – there are other things that people often branch into. But at any rate, the first thing you should think about when you're a manager trying to work with someone on career growth is, “Where are they?” Because people need very different things, depending on where they are.

# Supporting senior data professionals

18:50

Alexey

**I guess for a senior, as you mentioned, they're quite independent, they’re at the “terminal level” – we are no longer expecting them to grow. But I guess people still… they do this data science thing quite well and maybe they have been doing this for a couple of years already. And maybe it becomes boring, right? The job of a manager is also to keep an eye on this and also help seniors develop. Is that right? [Katie agrees]**

**So what kind of support do seniors need? From what I see, seniors are technical experts on a project – they know everything, they know how to do everything, how to fix anything, they help juniors, they talk to product managers. But still, even they require some support. Right?**

19:46

Katie

Yeah. There are a couple of different ways you can think about it. There is the path of a generalist versus a specialist. That's one type of growth that you could start thinking about once you hit a senior point in your career. Generalists, of course, will be broadly knowledgeable of a lot of different things in the company, or maybe a lot of different techniques that are relevant. Specialists, maybe deep dive on a particular type of modeling, for example. At a company that does a lot of experimentation, or as complicated things like network effects that they need to factor in, you could become a causal inference specialist, for example, as a form of career growth. That is a thing that you can go very, very deep on.

If I had to give a general purpose piece of advice about growing the career of a senior person – very frequently, the thing that you need to do as a manager is help them move up levels of abstraction and thinking, and help them see bigger picture things a bit more. This has certainly been true of me at different points in my career. I also think it's true for management careers – it can be very easy to get focused on your day-to-day, be very immersed in the details and not remember to take a step back and think about, “Why are we doing this in the first place?” Or, “What is the next step of this?” Or, “What are three steps ahead?” Or even trying to understand organizationally where what you're doing fits in.

This is something that, if you are trying to grow the career of a senior person, is very important to focus on. It can be very easy to just go and do stuff that you know and one of the hardest things to do is step back and realize that there's a bunch of stuff happening just slightly outside of your space that you might be able to add value in that arena or you might have a perspective that's useful, or it's just something that you should be aware of because it might impact what you're doing right now.

21:50

Alexey

**As a manager, how do you help seniors take a step back? What you mentioned is that we need to help seniors ask themselves, “Why are they doing what they're doing? How does it affect the business in general?” So how do we help them do this?**

22:13

Katie

The two biggest tools I see in a manager's toolkit, in this case, is to increase their exposure to leadership and to delegate things to them, whether they think they're ready or not. In terms of exposing them to higher levels of leadership, or just bigger scope problems, sometimes that is just… Well, before I get into this, I'll say that there is definitely a phenomenon that you experience a lot as a manager, where something is happening broadly in the company that is not quite decided yet and because it is not decided, the thing that people are talking about maybe doing – they may reverse their thinking.

Sometimes if a manager seems like they're not talking about something that you know is going on, but you can't really figure out what it is, it's probably because there's a decision that needs to be made that hasn't been made yet. You don't want to tell someone that the decision has been made because then you might have to backtrack, and then it's just stressful for no reason. One type of way that you start growing senior people is exposing them to some of this ambiguity and complexity and helping them learn how to understand it, sit with it, and navigate it. Which a lot of times, it's just actually bringing them into situations that they've not been in before – making sure you give them a lot of context so they understand it constructively, and asking them what they think. Asking them to weigh in and preparing them to participate constructively in those environments. Some people would think of this as getting people involved in politics, maybe.

“Politics” is also kind of a bad word for what is really just having good relationships at the company. Getting senior people to invest in relationships with cross-functional peers, with data scientists on other teams who are senior – this is a big way to start exposing people to different concerns and different levels of abstraction in problems that the company is trying to solve. When it comes to delegation – and this one is scary sometimes to do to people on your team [chuckles] – a lot of times, as a manager, you are told that your team needs to solve a problem. And it can be *very* vaguely stated, to the point where you, as a manager, are not even sure where to start. Even with your context, even with your experience. It can be tempting to try and “shield” the team, for lack of a better word, by trying to do a lot of that scoping yourself.

One of the best things you can do as a manager is give that to a senior person and ask them to start solving that problem. You're giving them responsibility. And there are constructive ways to give them responsibility. [chuckles] You don't want to just give them some completely open-ended thing that they're not prepared for at all. But by giving them responsibility, you are giving them a gift. You are giving them the opportunity to be the owner of something that is important. It's also important for you, as a manager, to delegate more because that is part of how *you* grow – by growing leaders beneath you.

Even if it feels like you're dumping something at someone's feet that they're not ready for, they often surprise you. They often rise to the challenge. Make sure you're supporting them [chuckles] as they go through something that may be new for them. But a lot of times people really like having big things delegated to them.

# Choosing the IC route vs the management route

25:54

Alexey

**I was about to ask you about juniors, but I noticed that we have had a highly upvoted question about choosing the next step for a senior. The question is, “As a senior data scientist, how should they think about my future career path? Choosing the IC route – lead or staff – versus the management route (data science manager)?” What would you suggest? How can you decide if management is for me, or I want to be a technical person?**

26:27

Katie

Well, one thing I'll say is, a lot of career choices at the senior level are reversible. So it's okay to go and try something for a little bit. You could go try being a manager for a couple of years and if it turns out that it's not for you, you can very easily go back to being a senior data scientist, and you be a better senior data scientist for having for having been a manager because you'll understand a bit more about how organizations work. There is a really good article about this phenomenon by Charity Majors of HoneyComb. She's an engineer rather than a data scientist, but I think this concept applies. It's called the IC Manager Pendulum. I highly recommend it – a very, very good article on this subject.

All of this is to say, if you choose to try management, it is not like a permanent decision – you can always go back. But if you want to try out management before you actually make that jump, I highly recommend finding ways to essentially be responsible for other people and seeing how much you like it. A very common form of this is mentorship. Maybe it is an intern that you are responsible for a summer, or a more junior person on your team that you lead on a project. And in general, leading big projects with more than one contributor is a very good way for you to try out being responsible for other people's productivity. This is a thing that people don't always think about when they're thinking about becoming a manager – sometimes you tell people what to do and they don't listen to you [chuckles] and learning how to deal with that constructively.

Not even that you give people orders… It maybe sounds like that's what I'm saying – but it's more like “How do you get people excited about work that needs to be done and see it as the opportunity that it hopefully actually is?” Or I guess if it's just boilerplate work that needs to get done, help them understand the value of it, even if it's not exciting and help them feel appreciated for having done it. That's really good experience if you're considering people management, because there's a lot of things about people management that aren't fun. [chuckles] Sometimes it's project management – it's something you're going to have to do a lot if you go on the management track so you should definitely explore it if you have the opportunity to, at your company.

28:58

Alexey

**I think we spent a bit of time talking about delegation. I also think for a senior person to learn how to delegate what they're working on to a junior is a really good experience.**

29:09

Katie

Very much so.

29:12

Alexey

**I think this article that you mentioned, IC Management Pendulum, the summary there is (as far as I remember) you join a company as a senior, you grow to a manager, then you leave the company, you join another company as a senior you grow to a manager and you keep doing this until you get tired. Right?**

29:31

Katie

Yeah, it can be at the same company, too. I've seen people that I've worked with step into a management role, they do it for a couple years, and then maybe for whatever reason, they decide they want to go back to doing IC work. It might be that they have a kid, they want to have a little less responsibility while they're sorting out their personal life, it may just be that they have an itch to get back to doing hands-on work, and that's a great reason too. There are lots of different reasons why you would switch but between the two. It's good to do – it keeps your technical skills sharp but you're never too far away from understanding how managers think either.

# Managing junior data professionals

30:10

Alexey

**I guess most of the time managers spend not managing seniors, but rather managing juniors, right? From my experience, juniors usually need more support. Seniors are pretty independent and we need to help them grow, but juniors require more support. Maybe let’s start with juniors – how can we manage them? What does it actually require for a manager to manage a junior?**

30:46

Katie

Well, I do think you're right to say they require more support. That support doesn't always need to come from the manager. I actually think sometimes it's good when it comes from other people on the team.

30:59

Alexey

**Like a senior, right?**

31:00

Katie

Yeah, pretty much. This is a great org design technique if you have the option at your company – you spin up a new domain for data scientists to work in, you put a senior person there first, and then you add a junior person second, because then the senior person can grow from mentoring the junior person and the junior person gets a lot of day-to-day support from the senior person. *But* juniors need more support, as you're saying, and thinking about the types of support, I think, is maybe a good way to start digging into working with junior people. Since they're still learning the craft, there will be a lot of skills-based support that they need.

I strongly encourage you, if your company has a career ladder, to look at what those things are and have a conversation with the junior people about where they are on different competencies. That's a very good way to kind of give them more objective criteria. It might be, “Okay, *this* person needs to learn *this* programming language better or they need to learn how to structure a data pipeline, or maybe they need to learn some stat skills.” As a manager [cross-talk]

32:19

Alexey

**That's a bit difficult for juniors. Usually juniors come from university with a lot of the good, let's say, “modeling skills”, so they know machine learning well. But when it comes to all these data pipelines and so on, usually what universities do not prepare them to do is those tests and pipelines and so on.**

32:43

Katie

Yeah, definitely. There are a lot of boilerplate technical things that they just need to learn. And one of the best ways to help people learn that is to give them projects where it's required for them to learn that because then it's part of their job to learn that thing so it's very easy to make time for it. Another big thing that juniors often need to learn, which is kind of what you're getting at as well, is how companies work. That's a little bit harder to teach people. [chuckles]

A lot of times, actually, as you're talking about different people on a project that they're working with, like, “What is that person's role? What type of role is that? Like, if they're working with product managers, talking to them a bit about, “Well, this is the type of thing that product managers do for a company. These are the ways in which they're evaluated, like helping understand their incentives and their mental models and why they make the choices that they do.”

That's a very important thing to talk to juniors about, as well. I definitely know, early in my career, product managers would make choices that I found absolutely baffling and if someone had just explained to me, like “Product managers were trying to hit XYZ goal by this amount of time. Ultimately, the thing for them is that they need to hit this goal because it enables some other thing we need to do in a subsequent quarter.” [chuckles] I would have understood so much better how to work with product managers. But no one did that for me. So I think this is an important thing as well. [cross-talk]

# Talking to senior stakeholders and PMs as a junior

34:16

Alexey

**How do you actually do this? At the company where I work, a junior data scientist joined recently. Usually, as a part of the onboarding process, she talked to me and then one thing she asked is “How can I grow faster in this company? How can I learn better how the company works?” I got puzzled by this, like, “Okay, this is not something that juniors usually ask me.” So I was like, “Okay. Well, what should I tell her?” What I ended up telling her was something similar to what you just said, which is funny.**

**I told her to talk to product managers and learn how they work. But I didn't tell her how exactly to do this. Now I maybe have a chance to ask you, so the next time somebody asks me how to do this, I have an answer. [Katie laughs] So how should they actually talk to product managers and find out what their incentives are and how they make their decisions?**

35:14

Katie

Yeah. I mean, product managers are people, so you can just ask them to do a virtual coffee or a real-life coffee, if you have that option. Just ask them, like, “Hey, I'm new here. I'm still learning about this company and about product managers. I would love to have a chat with you to learn about your job here and learn about your career.” It's something that people usually like to talk about and they like being helpful.

Usually, if you give people that context and just say that you want to learn about them and what they're doing, they're happy to talk to you about that. You could even do a recurring meeting with someone who you work with regularly. That's a great way to build a relationship. Find a frequency that actually fits in with your schedule, make sure you've got time for deep work, and you have something to say. But just building a relationship with those people and talking to them about work can teach you a lot about how they think.

36:14

Alexey

**It’s funny that you mentioned “Have nothing to say,” because recently, my manager gave me a piece of advice that I should talk to senior leadership – senior product managers, product directors – and ask them what their problems are. And the problem that I have is, they are such important people. They're always busy. How do I even start? We have a meeting and then it's this awkward silence. What do I even tell them?**

36:50

Katie

[chuckles] It's a good question. As you work with increasingly senior stakeholders, you definitely need to use your time wisely. I recommend just thinking of a couple of questions that you want to ask them and going in with those prepared. A general way that you could start is just kind of asking them about (this sounds maybe a little aggressive) but like, “What are you trying to do at this company? What are your priorities? What are your goals? What are you worried about? What are you excited about?” You should set the context upfront in talking to a senior leader. Like, “I was told I should meet more people. I'm trying to learn more.”

37:33

Alexey

**Maybe more general – not just senior leaders. Let's say I'm a junior, and I get the same advice to talk to a product manager. In both of these cases, it's a similar situation like, “Okay. Now this person is in front of me. What should I ask them?” Then I think you said, “Do your homework,” right?**

**Think of what to ask them, ask them about their priorities, worries, and so on. But it can also be surprising. If somebody is having lunch with me and then asks, “What are you worried about?” And I just scratch my chin and go “Uhh…”**

38:04

Katie

[laughs] That's fair. Maybe that's not how you start. But as you said – do your homework. A really good way to start a conversation – look someone up on LinkedIn, ask them about particular things on their resume that they're interested in, or even just ask them a general question. You started this conversation today by talking about my career trajectory. Ask them how they got into product management. Ask them how they became interested in working for the company that you work for. That's a good way to break the ice.

38:33

Alexey

**Yeah. That's a secret, actually. I start with this question on purpose. Then I take notes, and then based on these notes, I come up with other questions in addition to what we prepared – in addition to the homework that we prepared for this interview. Okay. So where were we? We were talking about management helping juniors, right? [Katie agrees] [cross-talk]**

39:02

Katie

I was gonna say, if I have to, summarize the thing that juniors need the most – it is practice and exposure. They need to do lots of different types of work to learn the fundamentals and you learn it best by going through the motions a couple of times and learning the typical lifecycle of a project, what techniques make sense in certain places. It's good to make mistakes and low-stakes ways as well, because you often remember mistakes better than you remember successes.

And then exposure – it's good for them to work with a lot of different types of people, see different ways that things are done. They can develop their own preferences and opinions and as they become increasingly senior, it's their job to deploy those opinions, and to use them constructively at the company. So it's good to just see a lot of different ways of doing things so people don't specialize too early. You should definitely not specialize as a junior person. Because there's still a lot of basic things to learn and you might not know what you like yet.

# The importance of hiring juniors

40:12

Alexey

**I'm just wondering. Seniors are independent, so we need to help them by delegating some of the stuff that we need to do – seems like a good deal, right? You just have the stuff you need to work on and delegate it to seniors. And then we have juniors – we need to spend a lot more time with them. We need to think about “How do we help them grow? How do you pair them with seniors? How do we make sure they're not getting stuck? How do we make sure they don’t start specializing (like you just mentioned)?”**

**So why should we even bother hiring juniors? Why don't we just hire an all senior team and then delegate all the tasks to them and go drink coffee all day? That’s what managers do, right?**

40:59

Katie

Yeah. [laughs] I mean, some people do think this way. Of course. Some people do think that way, where it's like, “We should just hire as many senior people as possible.” But it's good to hire junior people. We talk a lot about “build versus buy” in the industry broadly. And when it comes to building a team, hiring senior people is kind of like buying and hiring junior people is kind of like building. You can never hire exactly the person you want. With junior people, you're kind of growing them into the next generation of leaders that you need.

Really, one of the best advantages of having junior people is you've got people who grow up in the environment that you're in, and they have really good context for it by the time they're senior. So they end up being amazing at your particular company. But another thing that's really important about having junior people is that it helps grow senior people. A senior person can be responsible for a lot of different things. They can lead an area, they can make a lot of technological choices, but ultimately, at the end of the day, a big part for them of growing and scaling themselves is being responsible for more junior people. You get into a weird situation if you have an *only* senior team where people are trying to manufacture mentorship opportunities for themselves. They'll awkwardly try to mentor each other, or claim that they're the mentor of the other person.

It's just good to have junior people around who can learn from the seniors and who the seniors can learn by working with. It's just part of building an organization that is sustainable long term. You want to make sure there are people coming up and as your senior people do end up graduating – maybe they decide they want to go to a different company – you are ready with junior people to rise up and fill their spot.

42:58

Alexey

**Also, with juniors, they don’t have as much experience as seniors and they quite often ask things like, “Okay, but why does it work this way? Why do you do it this way and not this way?” Seniors might know but they have to explain these things to juniors and while doing this, they also learn, right? I don't know if it's a valid comparison, but it’s sort of like with kids. [laughs]**

43:27

Katie

No, I do think that's right, though. You learn a lot by having to explain something to someone. Also, like what you're saying, a junior person comes in and they have a fresh set of eyes – maybe they see something doesn't make sense and it actually doesn't and you should change it. And you wouldn't have noticed it because everyone else is just used to it. It's helpful to have people who are thinking about things differently as well.

43:54

Alexey

**You mentioned “build versus buy” but in the case of software, the software we built will not leave the company in two years, but the junior might, right? But it's still worth hiring them.**

44:07

Katie

[laughs] Yeah, definitely. [cross-talk]

44:08

Alexey

**For the reasons that we just talked about, right?**

44:12

Katie

Yeah, definitely. As a manager, another important thing to remember is that careers are long. You may work with these people again in some other context. Maybe it won't be at the same company, but it's good to have worked with people before and know what they're like – know that you can trust them and also just go in with a good relationship from the start.

44:33

Alexey

**Maybe they will be your manager at some point.**

44:35

Katie

Yeah, also true. [chuckles]

# What skills do data scientist managers need to get hired?

44:39

Alexey

**We have quite a few questions. The most upvoted question that we have is “As a head of data, what skills would you look for in a data science manager? What attributes would you use for evaluation in an interview?”**

44:57

Katie

To figure out what I would need for a data science manager, it would partly be determined by what stage of the company I'm at. If I, today, were trying to hire a data science manager, I would probably be looking for something different than I would be at an established company. So if you're a head of data at a small company, and you're looking for a data science manager, you're probably going to look for someone who has been a manager before and has a good idea of how to run projects, how to grow careers, has some sort of broader sense of the company's strategy, or seems capable of thinking about it.

If I take a moment to try to think about dimensions that I think are important for people leadership, you do need to know about the craft pretty well and have a sense of common career paths for that craft. You need to be good at growing people and you need to be able to work cross-functionally with other leads at your level. For a data science manager, I would definitely want someone who can talk to engineering managers, to product managers, all the different stakeholders that you would have to work with. Certainly, in the interview process, I would ensure that you meet some of those people so you can get a sense of your chemistry with them.

46:19

Alexey

**So you mean that you would get a product manager, put them in the same room with a candidate and then have them talk, and you observe that?**

46:27

Katie

Yeah. Well, I'm not watching them through a two-way mirror or something. [laughs] When I'm designing interview panels, I think it's pretty important for there to be some sort of cross-functional aspect – you talk about values, you talk about strategy for the domain, something like that – just so that the two of you can get a sense of whether you would like each other. The candidate interviewing for the position should also really care about whether they will like the people they're going to work with and use the interview as an opportunity to think about that.

47:01

Alexey

**One of the things you mentioned that you would evaluate is strategy – how they can help with defining the company's strategy and things like this. But to me, this term is ambiguous – I have problems understanding what strategy is. Can you maybe tell us how exactly you can evaluate this?**

47:21

Katie

Yeah, that's fair. It is kind of a vague word, much like data science. By “strategy,” I really mean that they're capable of reasoning about the decisions they would make in this role and the trade-offs of those decisions. It might be “Let's talk about a problem similar to what you would experience. There are two options you could choose. What would be the advantage of doing one versus the other? How would you measure that? How would you reason about the way those choices would bear out in metrics? How you might think about building a team to support that? What sort of systems would you need?” It's really trying to figure out like, “Can you plan? Can you understand the environment you're in and come up with a solution to address the problems that you see?”

48:11

Alexey

**I guess for most of these skills and dimensions that you mentioned, the best way to check if the candidates have these skills is to ask them about their past experience, right? Like, “Tell me about the time when you needed to help a junior grow.” Right?**

48:30

Katie

Yeah. That's not terrible. Where possible, I prefer to put people in a scenario where they demonstrate the skill. Because it's easy to make up a story or tell an overly nice anecdote about a time that you did this thing. It's a lot better to get someone in a situation where they have to demonstrate their critical thinking skills. For something like coding – that they're comprehending code that they see or maybe writing some. It's way more important to see how they behave than it is to hear them tell stories about how they behave. It's not always easy to do that, of course.

This is a big thing with people management interviews in general, that I'm not sure how to address. Some of the situations that people managers need to talk about in interviews, for example, “Have you ever had to put someone on a performance improvement plan?” You can't simulate that really. [chuckles] You probably have to ask them the story about it. But where possible, it's good to have them show the skills.

49:33

Alexey

**By “simulate” you mean that you would describe a situation, give some context, and then ask “How would you behave?” Like, “Imagine you have an employee who is not delivering. Describe the context and then what you would do.” Right?**

49:52

Katie

Yeah, definitely. Just kind of describe what plan you would take. If they have previous experience, it's helpful to hear about it. But I don't know. In terms of putting someone in a situation for something like a strategy discussion, that might be a case study where you talk about “The company has this problem (a fictitious company, totally not this company has this problem [chuckles]). Let's talk about potential solutions and how we would measure them.”

# How juniors that are just starting out can set themselves apart from the competition

50:21

Alexey

**There are people who are only just starting their career in data science who are also listening to this conversation. Maybe we can talk about their situation a bit, too. Let's say that they want to get hired as a junior. We talked about the juniors. Currently, the competition is quite severe. There are many juniors and not so many junior positions. Do you have any suggestions for them? How can they set themselves apart from the rest? How can they get hired? How can they get noticed?**

51:03

Katie

One thing that I strongly recommend is being open to a lot of possibilities. If you are a junior, there are some companies that would be better to work for, probably, in that they have a large team where you could learn from a lot of different people. If you have the option, you should try to go for it. But that isn't always true. A lot of times, you can't get your dream job as your first job. So be open to a lot of different possibilities, and go to a position where you can get in the door, get paid well, and learn a lot. Then you can start looking for something that you're perhaps more interested in, broadly. But in terms of standing out – if the company does not explicitly say they want someone senior and you can find the hiring manager, it's helpful to talk to them.

Don't worry about impressing them with some kind of portfolio, necessarily. Some people really like that. Some people will not read it. [chuckles] Hiring managers often have a lot of people contacting them. If you're asking them for a lot in that communication, they may not have time to respond. Even if they want to, they may not have the ability to give you detailed feedback. Basically, be friendly, be professional, do your homework in terms of understanding what the opportunity is and just be bold in reaching out.

52:43

Alexey

**Let's say I got hired to a company and I started as a junior. How do I go about my first month? Who should I talk to make sure that when I grow my career, I get as much as possible from this company? Hopefully there is a manager who is doing what we just described. But how can I, as a junior, help this manager help me?**

53:09

Katie

A very good thing to do is to just be very open and honest about how things are going. There's a common mode – and this is even worse in remote environments – where if you are a junior person and you get stuck on something, you don't want to talk about it because you feel like you should be able to prove yourself or you should know better or you should be able to solve it yourself. Don't do that. Just tell people if you're stuck. It's their job to help you. It's better for you to tell them proactively, because they might otherwise wonder like, “Well, what are they doing?”

They're there to help you and it's a lot faster to solve it just by asking someone. Maybe it's not your manager, maybe it's a senior person on the team who you feel comfortable asking or just another junior or a teammate. At any point in your career, really, but especially when you're junior – just talk to people a lot, especially when you feel stuck. It's a lot easier to grow if you are getting help from a lot of people.

# Asking senior colleagues for help and the rubber duck channel

54:11

Alexey

**One of the concerns I heard from juniors is that they are afraid of interrupting other people (seniors). The seniors are busy, “This is a very senior person, they have a lot of stuff to work on.” They don't feel that they should be interrupting them every two hours with more and more questions. What do you think they should do? I think it's totally okay to interrupt, right? Do you have some suggestions?**

54:47

Katie

Yeah. If you're worried about that, one thing you could do is ask them for some kind of regular check-in and then that's your questions. As you come up with stuff throughout the day, write it down in a doc somewhere – a note – and then when you have another check-in with that person, ask a bunch of stuff then. It's also potentially worthwhile to ask the person, “When are good times for me to interrupt you (or to reach out)?” A lot of companies also have some sort of… it has all sorts of different names – sometimes it's “the rubber duck channel,” where you go… [cross-talk]

55:25

Alexey

**Rubber duck channel? That’s like support, right?**

55:29

Katie

Yeah. In software engineering, you're supposed to talk to the rubber duck on your desk, because just talking through a problem helps you solve it. Usually, there's some kind of channel – Slack channel or whatever, Microsoft Teams, maybe? [laughs]

55:43

Alexey

**#venting**

55:44

Katie

Yeah. There's usually some kind of support mechanism at a lot of companies to go and describe a problem. Even just describing it can sometimes help you figure it out. But then other people may see it, and respond. That's also a good place to potentially seek out help.

56:00

Alexey

**Yeah, it sometimes feels awkward. I sometimes find myself in the situation when I go to the support channel, I just type the problem and then I hit enter and then one minute after that, I realize how to solve this problem. Then people already start answering, but I already know how to solve it. [laughs]**

56:17

Katie

[laughs] Yeah, definitely.

# The challenges of the head of data

56:20

Alexey

**I feel that we’re jumping a little bit – from head to junior and then back – but this is a very interesting question. I want to ask you that as well. I know that we don't have a lot of time, but maybe we can try to cover this too. “What are the challenges that you're currently facing as head of data? And what challenges didn't you anticipate earlier?”**

56:46

Katie

One of the big challenges you always experience in senior leadership roles is that no one is going to tell you how to do your job. [chuckles] You kind of have to figure it out on your own. You may see a lot of different problems and you're not sure where to start. That's certainly something. I wouldn't necessarily say that I see a lot of problems, but I see a lot of things that we'll need to address at some point and figuring out what order I do it is a big question for me and what I'm spending a lot of time thinking about. I wouldn't say that I've seen anything so far that I've been extremely surprised by. There are certainly genres of problems that I know will appear on any data team.

One thing, perhaps, that is top of mind for me as a senior leader in data, is “How do I change this company into a place where *my* team can be successful?” I need to make my team successful but I also need to build a culture of data literacy and excitement about data. There are a lot of different dimensions to that, like “How do I build high trust in our data? How do I make sure people know how to interpret it? How do I make sure people know where to find data? How do I make sure people are regularly engaged with it?” These are problems that I need to solve that are organizational and I can't just send an email and be like, “You all need to go look at this dashboard every day.” [laughs] Even if I did that, no one would listen (maybe someone would listen to me, I don't know). So it's a lot of building excitement and building culture and that is not easy to do. But it's also one of the things that I like most about this type of role. So I'm very excited about it.

58:36

Alexey

**I guess for any of those things that you mentioned – data literacy, data excitement, trusting data – each of these topics deserves a separate interview/separate episode, right? They're quite broad.**

58:52

Katie

[chuckles] Maybe I'll come back sometime.

# Conclusion

58:55

Alexey

**Yeah. Unfortunately, we need to wrap it up. We need to finish. Is there anything else that you wanted to say, but you didn't have a chance to? Maybe you want to say something before we finish today?**

59:09

Katie

Yeah. I guess the final bit of advice I have for managers thinking about career growth is – careers are really about direction. One of the most important things you can do for people on your team is help them feel like they have a sense of direction and that they're building towards something. If you can achieve that, you're a master of career growth.

59:33

Alexey

**Interesting. I’m wondering how to do that. Maybe you have something? You probably have a thread on Twitter about this, right?**

59:41

Katie

[laughs] If I don't, I should write one.

59:43

Alexey

**Yeah, you should, definitely. Okay, thanks. You started using Twitter when you worked with Twitter or earlier?**

59:50

Katie

I've been a longtime user and I have become more active over the past couple of years with quarantines and whatnot but… [chuckles] I’m fairly active on Twitter, so that is a good place to talk to me if you want to continue the conversation somehow.

60:06

Alexey

**I was just going to ask how to find you online, but I think you mentioned that even earlier. Twitter, LinkedIn, right?**

60:12

Katie

Yep.

60:13

Alexey

**Okay. That was a great chat. Thanks for joining us today. Thanks for answering all these questions. I also want to thank everyone who joined us today, and who asked questions. I saw that there’s a lot of discussion in the live chat. Unfortunately, I could really keep up with this because I was interviewing, but I will check it out. So hope we didn’t miss many questions. But yeah – thanks, everyone. It was great talking to you. Have a great weekend!**