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## **Data Mesh Radio Episode #60: Managing Organizational Structure in a Traditional Company: Can You Have Two Solid Lines**

Interview with Daniel Engberg

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### **Scott Hirleman**

A written transcript of this episode is provided by Starburst. More information, you can see the show notes.

### **Adrian Estala - Starburst**

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### **Scott Hirleman**

Welcome to Data Mesh Radio, produced and hosted by Scott Hirleman, the founder of the Data Mesh learning community. Data Mesh Radio is a vendor independent resource for learning more about Data Mesh. Let's jump in.

This episode is part of the Data Innovation Summit, takeover a week of Data Mesh radio. The Summit takes place May 5th and 6th in Stockholm. The Hyperight team who is running the summit is giving away an in person and three online tickets, as well as providing a 20% discount code for Data Mesh Radio listeners. Please see the show notes for more details about how to enter to win tickets or for the discount code. Thanks.

### **Vera Serafimovska - Hyperight**

Hi, this is Vera from Data Innovation Summit. Join us on the largest and most influential annual enterprise data analytics and AI event in the world, bringing together the most innovative minds, enterprise practitioners, technology providers, startup innovators and academics, in one place to discuss ways to accelerate AI driven transformation throughout companies, industries and public organizations. With over 200 international speakers in this seventh edition spread across nine stages, six workshop rooms, 140 TIP sessions, and plenty of learning and networking activities in the exhibition area. The Data Innovation Summit is the place to be for all



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professionals and organizations working with utilization of data and AI innovation for enhancing customer experience, improve operational processes, enable future sustainability, reinventing business models or developing data driven products and services. May 5th and 6th, all data analytics and AI roads lead to Stockholm. See you there.

### **Scott Hirleman**

Bottom line up front, what are you going to hear about and learn about in this episode? As part of the Data Innovation Summit, takeover week, I interviewed Daniel Engberg, Head of AI, Data, and Platform at Scandinavian Airlines. Daniel will be presenting on structuring an enterprise wide data organization on May 6th in track and/or at the Data Innovation Summit. While we didn't preempt his talk, we did discuss a lot about organization structure, not just for the data org but across the entire broader organization. A key point Daniel made right away was that organizational structure should be tailored to accomplishing your goals. So we have to know what those goals are first. What are the capabilities we need to meet those goals? "Traditional companies" are often locked into their silos that are structured by competence, so data engineering is in one silo, marketing in another, sales in another, and so on.

Daniel is interested in figuring out how we can split up the competencies to create cross functional, cross competency teams, but not cause chaos to the organization as a whole, that if you tried to split all of them out that way, that would cause that chaos. Daniel gave an example of creating a cross functional team early in the pandemic as there were some very big threats to the business. Being an airline when no flights are happening is a scary place. The team was able to move so much more quickly than the way the company had tackled challenges previously, achieving their goals in just a few days instead of what typically might have taken a couple of months. This cross functional work also created new information sharing connections across the entire company that continue on to this day. What Daniel learned from that experience, he is trying to replicate as best as he can to make it business as usual instead of a one off. As the head of AI data and platforms, he is working to infuse members from his team directly into more projects, so they can be part of the teams, and decisions instead of handling requests after decisions are made. It also gives his team members the ability to rationalize goals. So there is a better ability to do maybe 80% of what would be requested with only 20% of the work in a month instead of the whole 100% in six plus months. Where is that value cut off where it costs more for every additional bit of value than that value's actual work? This way they can negotiate instead of just take requests.

For Daniel, product owners must start working to gather the competencies they need on their own cross functional teams, but that can cause issues when those



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domains actually start to hire when they lack strong knowledge in that competency. Such as domains, hiring data scientists when they have no idea how to find a good data scientist whose capabilities match their needs and goals. Or do they even want a data scientist instead of a data analyst? Then the career growth aspect gets scary too. Does a product owner need to know how to grow the career of ten different types of widely varying roles? Or does the person that's embedded into that cross functional team not really have the career growth aspects of people knowing what they really are supposed to be doing and where is a good career path and trajectory for them? So then they leave.

We talked about the challenges of dotted lines versus solid lines between a functional manager and a competency manager. Who do you listen to? Can we have two solid lines for reporting structure? Daniel believes and I agree, people want managers who understand their day to day work. As stated, hiring into domain teams directly is very tough. Competency leads need to ensure the company has the right talent and the right amount of talent, and then work with the domains to place resources into those domains, is a great point of Daniel. Per Daniel, there is also the natural resistance to change with changing responsibilities, employees end up worried, a new way of working always causes some amount of fear and obviously some amount of change in turn and things like that. Daniel and Scandinavian Airlines are currently trying to do this with some of their competencies, one tip Daniel gave for making change a little easier to accept is to very explicitly lay out expectations, heavily communicate, in fact, over communicate and clarify. So we can take the fear of change head on.

What will it mean for your job security? How are people gonna work together? What's really gonna change? Be clear how you want it to work so people can adjust to meet the goals, not the implied structure you know say, "Okay, this is the way it's gonna work on paper and people try and follow the letter of what that is on paper instead of, "What are you actually trying to achieve." Daniel finished up by talking about how data governance is still a major challenge in traditional organizations they're looking to make the data cover governance as close to the product teams as possible at Scandinavian Airlines. The decisions should be owned by the product teams wherever possible. When turning over those responsibilities to the domains, it is important to give them good decision frameworks and also let them know they have a backstop in a centralized governance team if they need help. So with all that I think you're really gonna get a lot out of this conversation about how to manage your organizational structure and how to think about change within that especially in a more traditional company. With that bottom line upfront done, let's go ahead and jump into this interview.

Very, very excited for this episode here today I've got Daniel Engberg who is the head



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of AI, Data, and Platforms at Scandinavian Airlines this is part of the Data Innovation Summit 2022 takeover, so we're going to be talking about some things that not necessarily relative to his exact presentation, but his presentation sparked some ideas around a really good topic for what people really have to focus on or really have to make sure they think about when you're doing data mesh and and just data projects in general data, change data, transformation you know all of that of like, How do we really think about maintaining our ability to change our organizational structure and the way that we build out teams but that we're not kind of overrotating towards that let's be so agile that it's actually not agile at all it's just thrash. It's just changing everything every day.

And how do we think about the centralization decentralization kind of slider that that we've talked about in some episodes as to a lot of things around the organizational structure you know that's part of the concept around governance within data mesh of kind of the federated computational governance, but also how do you think about, where do you put people like data engineers or analytics engineers are they in the teams are they in a central kind of a central team versus the domains and how do you then you know attract and retain and grow your people if you're trying to decentralize them and put them in all the different teams and just a lot of these different questions I don't think we're going to come up with the answers here. I think it's about how we think about this and how do we look at this. So I'm very excited I think this is going to be very useful for a lot of folks because this is one of those hidden challenges that people are like am I the only one that that's not seeing this like no no this is is important and it's and it's difficult so Daniel if you don't mind with that as kind of background if you could give people a bit of an introduction to yourself and we can jump into the topic at hand.

### **Daniel Engberg**

Yeah sure. So Daniel Engberg, the Head of AI Data Platforms which means that here at Scandinavian Airlines I'm responsible for you know centralized capabilities when it comes to automation machine learning or data platforms you know centralized data lakes analytical tools then I'm also responsible for the cloud platform which we're not really gonna discuss here. I've been at SAS for five years right now and before that I used to work at Accenture as a strategy consultant.

### **Scott Hirleman**

Awesome and so you've got a whole wide range of all data and everything that you're doing with that so I think let's start to talk about what you've seen that has worked or maybe some things that you've seen especially you know having worked at Accenture you've worked with a lot of different clients about how people have approached this question like what when people are starting to think about should I centralize or decentralize or should I how should I organize my team like what do you



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think is the best way to kind of step back and not answer, yes this is the exact format but like what do you think about as kind of a rubric or a grading score or whatever about how people should even think about making those decisions not answering that that specific set of questions?

### **Daniel Engberg**

I mean of course I think first we should think about you know what are the type of capabilities we want to build and you know where do we want to place those capabilities I mean that's when it comes back to an organizational structure is just for me a way to produce certain capabilities and run specific processes or whatever you want to call it so I mean for me the organization should just be you know the way we decide to kind of map our people to realize what we actually want to realize. So that's all it has to start. And then the organization journey, we should always start to know what our capabilities we want to be and what our type of services and things we want to deliver, and then the organization should follow based on that.

But I think right now as well... Mostly traditional companies, Scandinavian Airlines has been around for about 75 years, and then as more traditional companies, where we looked into hierarchical structures. And I think that's another challenge we need to be mindful of, because that decides so much in these types of companies, and I think that's where my entire view is that can we break up those hierarchical structures? Not saying that everything should reflect and everyone can do what they want, but then we should think more about how can we split up the competence from the delivery, and how can we create the teams more dynamically. Then we're talking more about matrix organizations where we typically bad at.

### **Scott Hirleman**

Yeah, I think it's... We see the challenge of having this... Like you said, splitting up the competence from the delivery of... We see as Zhamak talked about, and as everybody's seen over the years of... If we just have everybody that... If we have these constant boundaries between what are we trying to accomplish at the business level and how do we actually do that at the technology level, or the capabilities level. It creates these hard boundaries where there's just a mismatch of communication and context across those boundaries, and so the more boundaries we have, the harder it gets to actually accomplish what we want, but exactly what you said of those matrix organizations.

We haven't really found a great way of doing that, I think Team Topologies is one that keeps coming up as a good way, but Team Topologies is also super, super agile around changing and having agents of change, where you have domains that have what they're trying to accomplish, and you might have a change agent type team that comes in and helps them move forward on that and then moves on and moves



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on. But getting buy in when... This is the way we've been doing it. We're a 75year old company, like you said. 75year old company, why are we having to throw out absolutely everything? And I just recorded an episode about differentiating the baby and the bath water. You don't wanna throw out the baby with the bath water, you wanna get rid of the bath water when you're done with it, but you don't wanna get rid of the baby.

And exactly what you said of the organizational structure is about achieving business goals, it's... I think we lose this site in a lot of things around data and technology of... What are we actually trying to achieve? We're not trying to achieve playing with fun technology or building cool things, we're trying to achieve business outcomes. So you are talking about breaking up these hierarchical structures, what have you seen that is a good way to start that conversation? Not necessarily, how do you just achieve it, how do you move that? How do you start to... Are you tackling it one hierarchical structure at a time, or do you carve it out where you say, "I'm gonna take out... I'm thinking about hierarchical structures being a very vertical type of thing. Are you trying to break that vertical and take some of the shards from that and put them in the other verticals, or are you trying to take out a thin slice and go, I'm gonna go with this use case and I'm gonna take people from this team, Team A, Team B, Team C, Team D within that structure, and I'm gonna create a thin slice of those people to achieve that one thing, and we're gonna peel them out from those monolithic structures. You see either of those work well or...

### **Daniel Engberg**

I think what we have seen work well, and also during the pandemic, and also in the airline is... Airline industry, we've had a lot of crises recently. And what's been really interesting is that we actually formed this really, again, across functional teams, where we gather people from different parts of the organization to solve a single goal. And it's extremely powerful, and those teams can move so fast and achieve so much value in a short time, which we're not able to do a run back to normal operations. Because when we put all the people there from... We had the team from finance, we had from a commercial organization, we had from data engineers, we had software developers, we had the data scientists, we had RPA developers, everyone sitting in the same room and, "How do we tackle this problem in the best way?"

Then there was no focus on hierarchical structures or how do we allocate the resources prioritization, because then the prioritization was clear, "We need to solve this for the survival of the company, more or less. And we managed to achieve great things in a couple of days, which otherwise would have taken probably months or years. So I think that's also where my belief is so strong that working in a different way will enable us to unlock real business value.



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### **Scott Hirleman**

And so were you finding that that is something that then is stable or was it that that was a team that was there to achieve that short term goal, and then everybody moved back to what they were doing, or have they stayed together?

### **Daniel Engberg**

They more or less moved back and then of course what it did was to create a new kind of a... How can I explain? New friends across the organization, the people started to know each other and distance is still closer within that... Between those people are very well. I think what we are trying to achieve now is basically from our departments, it's about supporting the other parts of our technology organization, but also the business and how do we actually bring this competence to them. So I'm trying to kinda infuse my resources into their teams for a specific while to solve the question, rather than, with the traditional someone comes to a demand to us, and then deliver on this, we need this KPI or we need this structure, instead of trying to infuse them into teams to actually report that the discussions and then also work with those teams to create the best possible solution, so kind of minimize the distance between the product teams and our centralized teams.

### **Scott Hirleman**

Yeah, I think that... So Tim Tischler on his episode talked about, he wants to completely get rid of those kind of request based cultures and one is either you have something that's fully automated. So it's all the communication is via API. And it's the machines talking to machines, or it's the people talking to the people, it's not the people right now on a ticket, right? It's that they're embedded in those conversations and that, that context, sharing is high context sharing, instead of, "Oh, I wrote a one page ticket for this thing that is gonna take you three months to do." Versus if we short circuited it and had the actual conversation and had the people in the room, it would take instead of one month of work and one month of time, it would take one hour for everybody to be in the meeting, another hour for two more updates and it would take 20 hours of time to achieve. But like, we're just so allergic when it comes to these projects of having meetings.

### **Daniel Engberg**

No, I agree with you. And I also think, the challenge sometimes is that, maybe we can find something that we can do in a day that is 80% of the value, versus the reading requests that might take a month to get the extra 20%. But if we don't have those discussions, we will end up doing the 100%, that takes a month, rather than 80%, that takes a day.

### **Scott Hirleman**



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Yeah, you don't have those intervals of this is what I need, this is what I want, this is like pie in the sky. We would love if we could get to this, but like, here's what we need, "Oh, well, base level, I can get you that now." So you can not just get to that value, but you can get to that value faster. And so then that value has more business impact, depending on timing and things like that. And so I really like that concept. I talk a lot about that kind of Pareto principle of 80/20 of, do we need to go absolutely for the full request. And people aren't all that able to fully write out their request all that well, versus somebody going, "Well, this is the... What's the art of possible?" Here's my picture of what I want to exist. Well, that's not possible. So should I just deliver you something that kind of matches that, or that's my own picture of that, or should we have that person to person conversation?

So one question I would ask, though, is if people are returning back to their kind of hierarchical structures, how do you maintain what you've built? Or was it something that was more of a one off, that was about doing that kind of delivery and that it wasn't something that was persistent, because I think in those hierarchical structures, you at least do have an ownership and a team that is clear owners, versus if you don't have that hierarchical structure as you and I talked about, it becomes difficult to hire and retain people, because they don't have that clear career path, they don't have that clear growth. They're really, really delivering value. They're really doing a lot of great work. But!

### **Daniel Engberg**

No, I think I mean, for that case, I think it's a bit divided on the technology side, as well as, it's also that all the people that's not technologists that were involved as well, have gone back to their normal and not being as involved anymore. And they may be a bit, going back to that 80/20 they also stop thinking about 80/20 and start thinking about, all we need is a perfect solution that will be good for all eternity. And let's not discuss, we can solve 80% of this in a short while the other 20% we might still have to do manually or in some other way, because it will cost us too much to actually deliver on.

But what I think is this type of cross functional work has let me down to thinking that, we should organize ourselves into competences where we can grow our people, where we can assure the way is working and how we actually want to do things, if we talk about machine learning or data engineering there are some commonalities we should want to adhere to, to be able to be scalable in the future as well and not having too wide varieties, but at the same time, we need kind of the product owner, so to say, you can kind of gather these teams that will be intact for a while, kind of gathering all of these competencies to deliver a certain goal, then they want you to be part of the same team.



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So that's what I came in to kind of the matrix structure where an individual might have competence lead than a competence group that they belong to and that plans their career development, their personal development, how do they want to evolve as a person, but on a day to day basis they work in a product team together with a lot of other different competencies, which controls what are the value they're bringing to the company and the products they deliver. And, it's the balance with that and I think, going down that structure needs to be clear on a management level as well, what are the different responsibilities between the managers, if you're a capability manager what is your role, versus if you're a product owner, what's your role and how do they collaborate, to make it as best as possible to ensure that we have the right... Get the right results and have the right talent on board.

Because I think as you mentioned earlier, if we go down the hierarchy structure, we only set up the product teams. Once we hire a lot of people into that product team, and then we have one data engineer in each team, and so who's gonna ensure that they can progress in their career, and how can we ensure that they can take larger responsibility and within their field of interest?

### **Scott Hirleman**

Yeah, yeah, I think Wannes Rosiers in his Meetup presentation, talked about the different cultures with this, and he and I had an offline conversation about this of it's dotted line versus firm line of who reports to what and how does this really work and all of that. When you think about that kind of career growth, do you think that somebody within a competency, let's say, data engineering, do they have to report to somebody who is a data engineering manager because they know the competency well? Do you think that the competency is the thing that matters most versus that if they report to the product owner but have strong... Their strong career trajectory and definitions at the overall organizational level, but they're not directly reporting into a competency manager. Have you seen that work? Or what do you think are the big challenges there? Is it that people really become very isolated or... And that it's every single one is completely one off or?

### **Daniel Engberg**

Yeah, man, I think it comes a little bit like that when we talk about solid line versus dotted line, who should you listen to most. How much should I actually spend with this dotted line? My solid line is telling me to do something else. And so I think that's... What I'm warranting is can we look more at... Can we have two solid lines? But it's a clear differentiation between the solid lines on the purpose of those lines. One is the kind of focusing on your personal development, you as a person, how do you grow that? Then kind of your long term career development. While the other one is focusing on kind of your day to day work and assuring that you function well in the team. And then, of course, we need to ensure we have performance



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management structures and everything around it, and that these two different solid lines have great communication on the individuals as well.

### **Scott Hirleman**

Yeah, I've heard of certain places that have a manager that is specifically only there for managing retention, career growth and knowledge share back into the company and things like that, so that would be the competency manager. And that person is there to manage their career. And so that's the person that you're having your one on ones with, it's much more about what are you as the employee trying to achieve and how are you feeling and that kind of thing. And then there's a solid line into your day to day for the manager, but it does create a... Or it can create a rather large layer of management, which then, if the company has any issues or whatever, then all of a sudden... No offense to you in your past life of being a consultant, but the consultants come in and go, "You've got way too many managers, cut all of the managers." And then it throws everything into chaos. And it does feel like any time there are challenges, people try to shake that up, instead of think about what do we... Again, we talked about business objectives, what are we trying to achieve? We're trying to make it so that our people feel valued enough and that they've got enough career trajectory and growth that they wanna stay with the company. And then we wanna make sure that they're also delivering day to day value in doing that so it's difficult.

### **Daniel Engberg**

Yeah, and also to make sure that the highly skilled talent that we recruit and that we... They want to stay with us and they feel that someone understands their line of work. But I think we are seeing challenges, which you mentioned as well. If we have a team, you have one person as a data scientist or a data engineer and the person managing that might not actually know what the data scientist actually does, or how they best utilize that competence. We've seen that especially when we have a business unit recruiting data scientists. And then they leave after a while, because it's very... You need to be sure that you know what you want to do with each competence. And for me, I think, data scientist, this is one of those competencies that has been very hyped. There are a lot of people who mistake them for data analysts when they're trying to recruit them into the business. And they won't just say that they want to recruit data scientists because data scientist is a bit hyped, but actually they want someone to drill down in their data to be able to create great dashboards for them. Which is probably not the best use of a data scientist.

### **Scott Hirleman**

Or the horror of that they want a data scientist, and a data analyst, and a data engineer in one person, and they expect them to do all three jobs, and that they're three full time jobs, they're three 70%, 80% time jobs. And so the person just goes, "No, I'm burned out pretty quick," and leaves.



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### **Daniel Engberg**

And it's possible to recruit those roles as well.

### **Scott Hirleman**

Well, if the team is able to, or if they're honest in sharing what they're looking for, those people will run away. But if they're not... So like what have you seen that works? Let's kind of break it down into hiring on that side, do you think that the hiring... If people are hiring into the team, is it a matrix hiring type of decision? And does that then create the issue of way too long of lead time? Or a complicated process where they have to interview with the product organization when you're looking to hire them as well as the competency organization? Or are you hiring people into the competency organization and then once they're hired on, then they interview with different product teams? Or are they just placed in different product teams? Or what have you found that works, or maybe what have you found that really doesn't work? So people can avoid the anti pattern.

### **Daniel Engberg**

No, I think it's always challenging when we're trying to mix. Of course, we had both... When we're trying to hire to the business teams, so I mean the more analytical teams in the business side... We're of course trying to support that with competency in what they should hire. I think going long term, I think we should focus more on that the competency lead is actually the one responsible to ensure that we have the right competence in place needed for the company. If you wanna go down that route, I think that should be the main, I mean the main purpose of the competency structure in that type of organization would be to ensure that the company has the right talent and the right amount of talent at that specific moment, that should be their job. And not only managing the employees that are already there, it should also be to ensure there is a good supply of them, hiring the right people etc. And then internally, I think we have more been working with placing resources, like starting to do... We want to take person X and put them into team Y for a couple of months or whatever it might be, depending on of course what needs to be achieved.

### **Scott Hirleman**

Yeah, I think that makes a lot of sense because I think... Again, that competency lead can also be managing that career progression as well. And so it may be that, okay, this person really wants to learn about doing whatever X, Y, Z, and they... So we're gonna put them in a situation where they're gonna learn about that and they might be paired with somebody or it might be an amateur business organization that's just trying to figure out how to do this as well, and so it's a good match 'cause they're learning together. But that ups retention and things like that, right? Where you're listening to what other people want to do, and then you're also aware of what are



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they capable of doing, so you go to that business person and they say, "Well, we want a data scientist," and then you talk to them and it's like, "Well, you want a data analyst," but you just want... You want the data scientists 'cause you've been told you want a data scientist, but you actually want a data analyst. So let's have that conversation. I think that's...

I think that's a good way of approaching it, I think it makes a lot of sense and it prevents major preventable issues. It still obviously has challenges that you have to manage, but that it's not insurmountable challenges, it's not something that's gonna be super... So have you found that... You said the company is 75 years old, it's been a very hierarchical structure, like almost any company that's over 20, 25 years old has been, it's not kind of in that digital native type of sense. So have you found that there's a lot of pushback towards having that structure within... You don't have to talk about Scandinavian Airlines specifically, I'm talking about... You've worked with a lot, lot, lot of clients, have you found that when you're trying to put in that matrix type of organization that there's a lot of pushback? Or how have you found that you can approach that conversation in a way where there aren't people running for the axes to say, "Off with your head."?

### **Daniel Engberg**

Yeah, there are challenges too definitely. I mean it's also the challenges... People have had this certain type of responsibility and now we're gonna change that into something else. But it's also coming from the individual employees, the notion that I won't have one manager, I'm gonna have two reporting lines and how would that work and how will we work with... And pushback from HR that we don't have the right performance management tools in place to facilitate that, we don't have the structures around it to facilitate that. And so there's definitely a lot of challenges. I don't think they're... It's not impossible to overcome, but it takes time, it's a difficult transition, and I think there's good benefits on the other side. And I'm not saying that we are not there yet, we are trying with some specific competencies, especially within my area, we're talking about data engineers and data scientists, and how we can utilize those resources better across. But then we should go into more competencies as well, software development and other types of skills.

### **Scott Hirleman**

Yeah, well, and then there's the whole push for everybody to just be a software engineer and that you don't have specific competencies and all of that, and it's like, uh, that that gets even more challenging and stuff. So I think this is really important to talk about, what you mentioned of the employees kind of feeling anxious and things like that. Have you seen that communication work or not work? Do you have anything that you would tell people as to what has been good or maybe what you tried and it didn't go quite as well, and that you'd like to, prevent them from having



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the same challenges?

### **Daniel Engberg**

No, I think it's important to clarify early, what are the distinctions between these different dimensions and what is expected in each. I mean, also from an individual perspective, I mean what are you expected to report back on, what are you expected in types of kinda tasks that are put on you, who is deciding what, I mean, clarify all of that, that might be unclear. I think most of that comes from a bit of, I mean, security from the employees. I mean, of course, I mean, there's a big change, before I could go to one person and not do everything. So I think that needs to be, I mean, it's not something you see, you also need to do the hard work and dig into the details of what actually this means. And to ensure that your management layer is fully aligned on that journey. I mean it changed management all over again. We need to repeat, repeat, repeat, repeat the message. I mean, that's the fundamental I think. I mean, be clear about how we want it to work. I mean, quite down into the details, not on a high level, but we need to get them going. Okay, so if I need to tell someone I'm sick today, where do I do that? I mean, on a very basic level.

### **Scott Hirleman**

Yeah. I think getting that granular is important. And I think you said something there that I hadn't really thought about in the past, which is, you talked about the expectations for the individual, but you also talk about the expectations for how it's going to impact their work relative to interacting with others. Right? So there's that expectation of how you're gonna interact from a reporting standpoint and things like that. But even like, how are you expected to work with other teams? Like, there isn't a specific person that you go to answer this specific thing, like, what is my path when you run across these types of challenges, not just like you talked about the sick days, but even like, okay, you've got this question. You know, where do you go to even get this type of question or you need this type of resourcing. Where do you go? Not from just even the HR perspective. But like the day to day work that you lay that out and you make it so that people can feel like.

You know, I had this in my first stint at DataStax, I was there when we were 40 people. And, I left when we had gotten up around 500 or 600 people. But I still pretty much, if anybody had a question I knew within two hops, not necessarily this is the person who's gonna have the answer, but if this person doesn't have the answer, they'll know who has the answer. So people would come to me very often to try and figure out how do I get an answer to this. And Max Schultze has talked about this a lot with his staff at Zalando where there was somebody who was a data analyst and they went to, they said, "Okay, I need this data, and something broke in this thing. And so I'm gonna go to the producing team." And they went to the team that they thought was producing it. And it wasn't that team, or that team said, "No, this isn't



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us." And so then they spent weeks going back and forth with data engineering and poking around and what, and somebody really could, finally got the right access into the data flow and they went back and they said, "No, this is that first team you talked to." And they had no idea 'cause it had been, it had been owned by one other person on that team who left.

And so like, everybody's had that experience, like how do we prevent things from falling through or how do we create that net of making it so that it's easy or easier, easy ish, whatever you wanna call it, that it's not incredibly difficult to constantly get those answers and that you, it takes months and months to get specific answers. Like I think, but you also don't wanna over engineer because then that becomes very, very costly. So it's this constant battle between that. Have you found that people get really worried only about their own role within the company or do they, are they kind of anxious about how they're going to interact with each other and how that's going to work as well? What have you found is kind of the thing that people are the most anxious about?

### **Daniel Engberg**

I think it's a lot about their own role actually. And then of also of course, how do we ensure that we get the right resources on board that we can get the kind of commonalities we want from a larger company as well? How can we ensure that we build the right things and how can we ensure that we build it in the right way? And how can we, basically be touching on what you said as well, how can we ensure that we get the long term perspective on this as well, that things are manageable and we know who owns it, etc. But I think that's also kinda where the capability dimension comes in, within someone also to kinda work with... What are the best practices here? When we talked about data engineering or data science? Or what's the best practice for us? How do we want to build things to not make that too diversified?

### **Scott Hirleman**

Yeah. And I've talked to a couple of people who have talked about that anytime a new person comes in, that's the head of whatever, that they go, "Okay, we're gonna... My role now is to shake things up," whether they're coming in because somebody left or because somebody was asked to leave, and so, "Okay, I've gotta shake everything up and make this all mine instead." And so then, does everything change? So you talked about that longterm manageability, and it's like, "Okay, we had some kind of equilibrium. Was it working?" "Yeah." But yeah, it's very fun for a lot of people inside those companies.

Apologies, there was an audio issue here.

Yeah, I think we've covered a lot of the kind of high level, especially what you've



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talked about or what you're seeing. When I think about data engineering, specifically, this is very, very, very relevant to data mesh because this has been... Kind of what you're talking about with the centralized team has become this bottleneck because we are just passing things from one team to the other, and so that competency model of, how do we embed that competency. Do we have to actually embed them as data engineers, or do we have to train our people to have more competencies? But everybody's kind of already overloaded with competencies, so we have to do that. But I wanted to maybe go into, as a specific example of, how you would think about breaking up the hierarchy of data governance. And I hate the term data governance in general because it's really 17 sub topics underneath one big banner. But how do you think about kind of even starting that, of where would you start to peel that off? Would you start to peel off... And how do you make it so that governance isn't that gatekeeper but they're that enabler, right? They're value creation instead of just protecting yourself from misuse or illegal use. If that's their only role, that's a pretty expensive overhead versus the value creation.

### **Daniel Engberg**

It's a good question. We're struggling a bit with data governance ourselves and what we should do with it. But I mean, my perspective on this is that we should ensure that most of the data governance is as close to kind of our product teams as possible and the stakeholders of those product teams, where we actually work with our products and set the definitions and our KPIs and data retention, quality etc. It needs to be owned in the end, kind of the product teams and our data engineers, and we need to ensure that they have the right tooling and the right things in place for it to make it easier. I don't really believe in these kinds of large data governance structures that should go outside the data teams or it needs to be embedded in them. Of course, we're gonna need some business stakeholders, it might be data owners and having actually setting reports or setting definitions and being clear on who does that. It should be included as part of the work that the data teams are doing.

### **Scott Hirleman**

And I think Sarita Bakst on her episode had talked about the need to flip the script on people going to governance early and involving them in the decisions when they need to be involved, like enabling teams to make decisions when they're capable of making them, right? So you need to work with them to make them capable of making those decisions, right? If somebody's got some really complicated things around GDPR or things like that or really complicated questions around, "Is this really sensitive information?" Or, "How sensitive is this?" But if it's somebody that's got like "Yes, there's email addresses in this data, that is PII, that is sensitive," the teams know that, right? And so how do you make it so that they're capable of marking it as sensitive and making it easy to mask that data or not just make that open by



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default? And how do you make it so that you hire smart people, right? If they're not smart, if they're not capable, why do you hire them? Why do you keep them around? So how do you enable them while still making sure that they're going to come and ask the questions and not just make their own choices themselves when they aren't capable of making those choices? And it's a hard line, but have you found anything that's kind of working for you to move forward on that, or?

### **Daniel Engberg**

No, not really. I think, you know, what we're discussing, I mean, to be honest, we're not that great at it. I think we give a lot of responsibility to the team to actually make those decisions. I think what we're looking at now is more is some kind of high level framework for them to hold on to so that we don't need to have the discussions on each individual case, so that we at least have the high level guidelines, you know, "This is what we have decided to adhere to in terms of..." I mean, GDPR is, of course, a lower, but the other, you know, "What do we classify as PII data or sensitive data to what level?" So I think we're looking at, "How can we create such a framework?" But we're trying to build it kind of from the... We're not trying to take the kind of overall enterprise approach and creating a large data governance process. It should go around and define it for all. It's more like now we're focusing more on, less of that, more of a data product team for a specific area to drive more of a transformation in that area, and then at the same time, they're trying to create that while they're actually working with the data.

### **Scott Hirleman**

Yeah, I think it was Ramdas Narayanan who was on, and he was talking about, they created just these five categories of sensitivity level or whatever around data, and so it was like one is just fully open, and so anybody within the company that has a right to access data in general can access it, right? Like you're not gonna necessarily, presumably, but have your security staff that are able to go in and create large scale queries or things like that, but the people that are able to access data can just have full access to it, and then two is moderately sensitive and then three... And five is like employee salary data or like very, very sensitive data, and that you just say, "Okay, if something has to fall outside of these bounds, then it's the one off, but let's create these bounds and then work with teams and tell them, and they're gonna have questions at the start as to where things fall, but they're gonna start to learn, right? Mohammad Syed said, you can't have data governance without informed governors, so if the only people who are informed are your governance team, then they're the only ones who can do the governance, right?

So how do you... Exactly what you talked about, how do you create that framework? How do you create that knowledge sharing? How do you make it so that they can easily make choices around whether this is sensitive or not? It's a lot more difficult in



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the medical space because it might be that this one piece of information is not sensitive, but if you start to say, "Okay, if you have like three moderately rare, or not even rare, but moderately uncommon diagnoses, you can get to who that person is 98% of the time, or whatever the made up statistic is, right? So if you're able to cross it with multiple other sets of data, you can back into, "Who is this person?" And it becomes PII. I think it's if you have somebody's last name, their date of birth, and... It might even be their date, not even the year of birth and their zip code in the US, you have like an 88% chance of figuring out who that person is on a one to one individualized basis. So it's like what can become PII becomes very, very difficult, and so working with your teams to do that is... I keep hearing this more and more of people saying, "This is where we wanna get to," but I'm not getting anybody who's giving me those specifics, because I think those specifics are super, super challenging.

Have you had success in breaking down any of those... Or maybe even thinking about the data enablement of creating standards for data sharing or things like that that go through governance teams. Have you had any things where you'd say, "Hey, we're having some successes in the access control and the... Like what we think of as traditional governance is still really difficult, but where we're thinking about collaboration or anything like that, is there anything that you've had some positive wins on there, or?

### **Daniel Engberg**

I think it's an extremely difficult topic, especially around this, what should be classified as PII data, and I don't think really... We haven't really cracked the nut on that one, I have to say. We're still trying to figure out how exactly we should do it, because it is difficult. I mean, also for us, what is PII data? If I have your booking reference as an airline customer, of course, if I have access to our reservation system, I can know who it is. Is that data classified as PII data?

### **Scott Hirleman**

Yeah, that's the medical thing, like if you've got that joint access, it becomes PII, but if not, you don't and... Yeah, it becomes... Yeah, it's such a difficult challenge, and...

### **Daniel Engberg**

But if you can't get any other data, you know, what the data actually tell us, it's...

### **Scott Hirleman**

There is a really interesting use case that Emily Gorcenski had talked about from Thoughtworks in a webinar last year, where they actually have a GDPR service where you're able to keep data about somebody for GDPR purposes, where you can keep that this person should not be in any of your system. And so they created a system



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that other people could check their systems against and say, if you have any of these things that are returning, as you've got this data, you need to purge it. So every other system could purge, you know, could check against this and go, "I'm gonna do this check to see if I've got any of the people in this in my systems and purge it." So there are those like really interesting use cases around that stuff, but exactly what you talked about of...

### **Daniel Engberg**

But then it's the same, I mean, we have the same. I mean, of course we're in the EU, so we have the GDPR, people have to give consent to share the data at the same time. You know, it's some people's PII data we need to keep as well for legal purposes. I mean, we can't purge all passenger data, that's not legal either. And then those kinds of laws trump GDPR in terms of, you know, we are being... We have to be able to state, you know, which passengers flew with which flight, etc.

### **Scott Hirleman**

Yeah. Legitimate business purpose overrides the right, like it's not marketing purpose, it's legitimate business purpose where you have to... Yeah it. Makes total sense.

So well Daniel, this has been really, really helpful. I think you know, I think people will probably hear this and say, "well, I've got more questions than answers," but I think there's that feeling of, "okay, I'm not alone in this," right? Like that these are the challenges that people are seeing. And like, I think we covered a lot of good frameworks and good ways to think about these challenges, but everybody still has to answer the questions themselves. We don't have the answers, but we have a good set of questions. Is there anything we didn't cover or is there any kind of summation that you'd wanna kind of share with folks, you know, this stuff is really challenging and that, but is there anything that you'd wanna kind of share with folks about that?

### **Daniel Engberg**

No, nothing in addition, I think.

### **Scott Hirleman**

Okay, well this, like I said, this has been very helpful and I'm sure there are gonna be people who wanna follow up with you about this, where's the best place to follow up. And what do you want people kind of reaching out to you about?

### **Daniel Engberg**

I think LinkedIn would be best.

### **Scott Hirleman**



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Okay. I'll drop that in the show notes for folks. Is there any specific topic or anything that you really wanna, if people have whether more questions or if they have the answers for you? Is there anything that you want?

### **Daniel Engberg**

No, but I think about this, you know, how do we organize ourselves? But I also think the data governance topic is very... What is it? Very top of mind here right now as well.

### **Scott Hirleman**

I think it is for everybody.

### **Daniel Engberg**

Yeah.

### **Scott Hirleman**

I think it's something that's just been that we've put off more and more. We keep saying we're doing these huge advances in data, and yet it's kind of the thing that's been sitting there in front of everybody, that we haven't solved.

### **Daniel Engberg**

Yeah. And the more data we have, the more difficult it becomes to solve it.

### **Scott Hirleman**

Yeah, exactly. Well Daniel, thank you so much for spending the time here today. And thank you everyone for listening. I'd again like to thank my guest today. Daniel Engberg, head of AI data and platforms at Scandinavian Airlines, as per usual, you can find his contact information in the show notes. Thank you.

As mentioned, this episode was part of the Data Innovation Summit takeover week of Data Mesh Radio, the takeover week featured three people presenting at the conference, sharing their insights related to their focus areas that are also useful to those implementing Data Mesh. I chose to promote the Data Innovation Summit as the Hyperright team who is running the summit has been one of the best in terms of discussing data mesh in a practical way around a lot of their content. The Summit takes place May 5th and 6th in Stockholm, Sweden, and online.

The Data Innovation Summit team has graciously offered up three free online attendance tickets as well as one in person ticket. Please see the show notes for information on how to enter your name, to win free tickets, and also to use the 20% discount code, if you aren't one of the lucky ones who win. In person, tickets are about \$465 after the discount code and online tickets are about \$200.



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