

PUBLIC

## Podcast: Process Transformers

Episode 36: Team Topologies in the Age of AI | Feat. Matthew Skelton



**Fig. 1 – Cover art of Process Transformers podcast**

Figure description – A square cover image with decorative geometric designs representing workflows and connections with blocks, circles, and arrows in varying shades of blue. The title “Process Transformers” is featured at the top of the image, and logos for “SAP” and “SAP Signavio” are featured underneath the image



## Transcript

### **Lukas Egger:**

Hello and welcome to Process Transformers, the podcast that talks about business, transformation at the intersection of processes and AI. For those of you who have listened before, welcome back. And if you're new to the show, thanks for tuning in.

My name is Lukas Egger. I'm the head of innovation at SAP Signavio, and I'll be a host for today's episode, titled *Team Topologies in the Age of AI*. My guest today is Matthew Skelton, the co-author of *Team Topologies*. He's one of the most influential voices in modern organizational design. Matthew's work has shaped how companies worldwide think about team boundaries, cognitive load, engineering, and the structures necessary for fast and sustainable value creation.

Matthew, welcome to the show.

### **Matthew Skelton:**

Thanks, Lukas. It's great to be here. Thanks for inviting me.

### **Lukas Egger:**

Well, it's our pleasure. Matthew, the original problem that you tackled, that you wanted to solve for people who are maybe not very familiar with your work, what was it? And maybe if I can ask, why do you think it had such an impact and it resonated like the work in the book you published?

### **Matthew Skelton:**

It's a great question. So, the *Teams for All Use* book, since publication in 2019, has sold over 200,000 copies across five languages and different formats,



**Matthew Skelton:**

which is kind of close to unheard of for a business book. There's clearly something there as you say that we we're meeting a need and looking back both at the motivation that i had with my co-author Manuel Pais and listening to the comments and questions and observations that individuals and organizations come to us with so they found the Team Topologies book and they're going ah can you help us with this or oh what about this the common theme that's underline both of those, like our author's intent and the problems that people are trying to solve is this. Many organizations are incredibly ineffective at value delivery. Often it's kind of an accidental ineffectiveness. Like no one's trying to be ineffective, right? Well, sometimes it looks like it, but generally speaking, people are not trying to be ineffective. It turns out that for modern knowledge work, which includes software delivery, but other things too, It can be marketing, it can be legal services, it can be like running procurement or the monthly accounts or whatever.

**Matthew Skelton:**

The really effective ways of doing this kind of knowledge work are not obvious all the time. And they're not obvious to many people at all. People who have been through like a business school or just through traditional kind of like 20th century training, where tasks were separated based on function and this kind of thing. It turns out that the very different way of approaching knowledge work that is outlined in the Team Topologies is something that people are hungry for. They're hungry for organizational effectiveness that is humane. That respect the individual and respect teams, that provides joy in work, that allows us to have autonomy, but also autonomy mastery purpose, the Dan Pink trio of things that help individuals to feel fulfilled and do great work. And there's a real hunger for that. I'd like to say it was a really fully formed idea about what we were trying to achieve with Team Topologies. I would probably say that there were some emotional drivers there.

**Matthew Skelton:**

I think we're much clearer now about how and where Team Topologies can be used. And it is in this space, helping organizations to become more effective in working men.

**Lukas Egger:**

I think what I find very alluring or appealing is that very often when you see a new problem approaching, the first reaction is, all right, I need better technology. I need better ways of solving the problem. Yet, I would say, I hope it's fair to stipulate that you looked from the other side, cognitive load. How are people dealing in that space, solving with the problem and making that, let's say, the most important point of analysis, right, and building on top of that, where did that come from? And do you think that this is changing now, especially because we're factoring in even more technology and technology that maybe to some extent will have agency?

**Matthew Skelton:**

It's a great question. So what I've realized since writing the book in 2018, it was published in 2019. The second edition, by the way, came out in September 2025. There's new stuff in there, there's case studies, there's commentary and so on. And that really kind of provides an additional boost to the ideas and real evidence, ROI and outcomes from all different parts of the world. The key thing about team support is really it's not just one concept, it's two paired together. It's the cognitive load, as you mentioned, thinking about where cognitive load sits in the organization and who should have what type of cognitive load what makes sense but joining that together with a real focus on fast flow value it's almost like the 3D spectacles you get with a red and a blue lens for looking at like old films or all those kind of 3D pictures it's like putting those on and then you see something very different it's actually the pair of those two cognitive load together with fast flow value because one or the other doesn't lead to kind of a good balance but when you've got them together, it actually ends up being a useful mental model for thinking through things very, very quickly. I think this combination, you can see it like this.

**Matthew Skelton:**



Organizations want fast flow of value to their value consumer, whether it's a citizen for a public service or whether it's someone who's buying something or whatever. It turns out though that there's a whole lot of practices and things that we need to do to enable that fast flow of value. One of those things, clearly, is the use of technology.

### **Matthew Skelton:**

If we use technology in a particular way, then we can improve that flow of value. I mean, we're talking about a flow of value that is sustainable and is not causing adverse side effects, particularly when you're doing it at scale. The phrase I'm talking about now is speed at scale, safely and sustainably, four S's in there. But if you ignore the cognitive load angle, then a whole lot of stuff just gets really messy. And it turns out that by combining those two concepts, fast flow value with cognitive load, it's not everything in Teams. There's a whole lot of other stuff too, but just those two concepts really helps to zoom into the dynamics around this stuff. Because those two concepts work with whatever technology we've got. They work as technology is changing. For example, AI or kind of some technology starts to develop agency of some form. So agentic AI or whatever comes after that. for two interesting reasons. One is that the humans in the picture will still have an aspect of cognitive load. There'll still be stuff that makes sense for them to focus on. That's a good kind of cognitive load, if you like. We want them thinking about that problem and trying to solve that problem in creatively and new ways and looking at it from a different angle, all that stuff. That's good. But there'll be a bunch of cognitive load, which is extraneous. They shouldn't have to think about how to configure this or how that thing works, whatever. Great. We've got some technology which is removing that kind of extraneous cognitive load that extraneous burden somewhere else brilliant what's really interesting just recently is the potential

### **Matthew Skelton:**

Not equivalence but similarity between human cognitive load and artificial intelligence say context or token size or something like that whereby they're not exactly the same but they're potentially start to feel a little bit similar I've seen plenty of evidence that small language

**Matthew Skelton:**

models actually work better than large language models for many domains. And we've seen that back into the 60s with expert systems and stuff like this for diagnosing cancer and bone breakages and whatever.

**Matthew Skelton:**

I think there's probably something underneath that, which is to do with information. Information in the original sense of the words from Claude Shannon and information theory and all that kind of stuff, like communication of actual meaning and message. This is just guesswork for me. But I did study cybernetics at university. I went on to study neuroscience, so brain science, as a master's degree. So I've got some insight into the nature of information processing in general, although I'm not an expert, I guess. But I'm thinking now, information, there's a density to it. It's like gravity, if you like. You can't just throw it around, and it has a meaning. The meaning of this word over here in this part of the organization has a particular meaning. There's the use of the same word in this other part of the organization. It actually means something different. So the word customer, it means two different things in the organization. You can't just assume that they're the same thing, because then you're coupling it together. You need understanding to understand that these two things are separate.

**Matthew Skelton:**

When in Team Topologies, we're talking about teams having quite an ongoing focus around one particular domain or service or something like that and that relates to cognitive load then there's maybe an equivalence where you think about smaller language models or the context size or number of tokens needed to kind of process a thing. Is that the same thing? Or is it related to the same underlying concept around information like quality or information coherence or something like that? And I don't know the answer to that, but I think there's something deeper than just a surface level property of human beings thinking about stuff. There's something underneath, which is quite important. I think that's why Team Topologies probably feels like we can continue to apply these kind of ideas, even though we might need to expand them a little bit as Agentic AI comes along.

**Lukas Egger:**

I think what also really resonates with me is that in your work, you're explicitly mentioning, for instance, Dunbar's number, right? So about how can we scale up groups of people, because there are certain limits in which we feel comfortable, humans that is, operating with other people. And to me, it feels like there is like this North Star, the biggest problems that we face as a society or as corporations, the bigger the problem you can tackle, the better, right? The more valuable, but we need to align the information flows and the complexity we can deal with. So I think that's super fantastic in a way like how you're framing it also with context in AI, because then that would be another puzzle piece. How can we create an environment where like all these parts can manage and wrangle information? And so I feel like it's a very graceful way of having a nice perspective on what ultimately wants to be achieved.

**Lukas Egger:**

I kind of want to ask something else, though, because you mentioned there's two things, fast flow and cognitive flow that you're really focusing on. You also mentioned that nobody ever gets up in the morning and wants to be bad at that stuff, right? So we all have good intentions and want to succeed. Are those two topics equally easy to explain and implement? Or in your experience, working with teams is the challenge of getting to fast flow and understanding cognitive load and optimizing for that. Is that different?

**Matthew Skelton:**

It's ultimately part of the same problem, which is effective organizations, because the organization can't be effective if we're not dealing with human cognitive load. The thing about cognitive load in Team Topologies is it becomes a fundamental design principle. We're using concepts around mental or cognitive load as a dimension of design. That's what we're really talking about. So we're saying the right size for this service, for this group of people, can't be bigger than they can handle from a conceptual point of view. Otherwise, they won't be able to deal with it



quickly. They won't be able to look after it. they won't be able to evolve it safely and sustainably.

**Matthew Skelton:**

Fundamentally, like from Team Topologies perspective, which is based on 15 years of experience in the DevOps movement and that kind of space where there's real value in Teams having ongoing stewardship of a service or a product or a thing. We're not just building some features and then moving on to the next thing. That world of kind of feature-driven, feature teams and all that stuff, that's the world of the past. There's no way in which that approach makes sense, apart from perhaps if you're building some software and then you're going to sell it straight away and you don't really care about the longevity. So maybe like you're trying to get a P private equity sale or some VC stuff and you just literally don't care about what happens to the software after you've built this and that latest feature. I mean, fair enough, you know, there's a financial dynamic there. But for more responsible situations where we've got much longer term, whether it's government services or whether it's your bank account or insurance or something else, this stuff is stuff that's going to evolve for a long period of time, pensions. We want that stuff to be there in 60 years time. We have to think about the continuous evolution. So having the right incentives for people who are building it are the ones who are going to be there on call, like dealing with the problems that inevitably arise in production and so on.

**Matthew Skelton:**

So using cognitive load as a design principle for that makes a lot of sense because we're really thinking what's actually realistic? Now, clearly, you can introduce technology to reduce some aspects of that cognitive load, like to remove the more boring aspects of that. And that can be a really, really good thing to do. Like it might be a really good choice. But the purpose of thinking about cognitive load as a design principle is in order to help with a fast flow of value. It's not just in and of itself. There's an organizational outcome, which is we're getting value into the hands of our value consumers more quickly. And more quickly is useful because we can validate it more quickly. So it's not just about like pushing stuff out the door. It's, well, let's try this thing with a small cohort. Is that what they want? Is it any good? If it is, great, let's continue. If it's not, well, let's flick to something else. It's not just about pushing loads of stuff out of the door. It's about being able to have a much

more nimble approach to product evolution, service evolution, that kind of thing. Ultimately, if we're able to get things into the hands of value consumers more quickly, we can test, we can learn, we can adapt, we can fix things more quickly. We've got a very fast feedback cycle then, which then means we're more adaptive as an organization. One of the business outcomes is an organization is more adaptive,

**Matthew Skelton:**

which is absolutely needed. The technology is changing very quickly. Climate is changing. Political allegiances are changing, and it's all related. We're going to have to have that adaptiveness, and therefore we need to have these practices and ways of working and ways of setting up teams and thinking about cognitive load that enables that stuff to happen.

**Matthew Skelton:**

Otherwise, we're just in a world of very slow handoffs and one group of people passing something to the next group of people. They have to do a load of rework. They pass it to the next people. It turns out it's really bad. It goes back up the line to the first group, and you just end up in this endless cycle of effectively passing the baton rather than having end-to-end stewardship of a service or a product or a thing that the organization is working on.

**Lukas Egger:**

Makes perfect sense but just going back a little bit in your experience what do you think or what have you seen companies struggle more with operationalizing and improving cognitive flow and right-sizing the teams or let's say the fast flow and ensuring that those aspects are adhered to and executed on what is harder for a company to achieve?

**Matthew Skelton:**



I think one of the hardest things that we've seen organizations actually try to achieve really is I mean it's the combination of these multiple different dimensions that we need to deal with effectively at the same time the nature of this work is not simple a lot of people want it to be simple but I think it's even probably beyond that

**Matthew Skelton:**

It's probably about organizations like leaders and managers unlearning a whole load of behaviors from the past where it was all about control. And if you want to achieve outcomes in a modern organization, it's going very, very quickly with lots of different teams around the world and having to adapt very quickly and do this at a sensible price and sensible speed with safety and do it sustainably. Want to achieve all these things, then the traditional top-down and hierarchical control doesn't work. That's just fundamentally, it's known not to have worked for a long, long period of time. And so in order to gain the actual control that the organization is asking for, in other words, more predictable outcomes, like better cost tracking, all this stuff, in order to gain that kind of higher level control, managers and leaders actually need to let go of the detail, empower teams, work out what they need to do to empower groups of people to look after, steward these different outcomes and services and things.

**Matthew Skelton:**

That's ultimately one of the biggest challenges because there's a lot of unlearning, coaching needed, reframing things. A lot of the work that we're doing at the moment with my consultancy conflicts is to work at how effectively we empower leaders, which might sound strange because you think they're already empowered, but it turns out many leaders are not empowered because they don't have the controls. They don't have the driver's dashboard, if you like. They're in a vehicle and they don't have anything to drive this vehicle with, or they don't understand what's in front of them. They think, oh, I can just turn this dial or turn this steering wheel or turn this lever here, and it does something really wild, and they go, oh, they don't feel like they're in control. Not the work that we're doing in the public sector and private sector is building sort of dashboards or equivalents of dashboards in terms of metrics and ways of approaching problems that actually kind of empower leaders to have the right kind of control so they don't accidentally incentivize the wrong thing.



**Lukas Egger:**

Yeah. And then on top of that, there is the tyranny of the urgent bearing down on them, like the zeitgeist of if you're not doing something right now,

**Lukas Egger:**

you might as well, you're dead in the water, right? So there's this additional layer. Now, talking about the tyranny of the urgent, everybody now is very focused on understanding and including AI, agentic AI, whatever you want to call it, into their workflows, into their organization, because it promises immense opportunities for improvement and even maybe differentiation. How does that factor in? I know we're early, but I'm sure you have already seen like teams and organizations to try to be early adopters and also work with AI. How does that change the way of conceiving and improving organizations and teams?

**Matthew Skelton:**

That's a good question. So the organizations that really get it, that are going to succeed in this space, are being careful. They're making sure they're avoiding just creating big mountains of new content. The generative AI tools make it really easy to generate content. The content can be code, it can be text, it can be articles, all kinds of things. But just generating content of dubious quality potentially makes things way worse. It just creates extra work for people and potentially slow things down.

**Matthew Skelton:**

So the switched on organizations are being careful not to incentivize people just to create like mountains and mountains of content. They're not being measured on a number of lines of article or code they've written. Some organizations are still doing that. Clearly, there's a real need for genuine kind of safety, product safety considerations. Like earlier this week, I saw an article about several kids toy makers, but there's one in particular that was like a plush teddy bear. They used GPT



something, I think it was 04. And this teddy bear was giving advice to kids on how to like matches and then sexual kinks and weird stuff like that. It's just like that level of lack of testing and lack of care for the user, the value consumer is abhorrent, basically. You know, you could say it's accidental or we didn't know, but like clearly they hadn't taken the time to test those scenarios out properly at all. Otherwise it wouldn't have got released. And the organizations that actually genuinely want to succeed and genuinely make sure that their products are safe to use are going to take the time to explore the edges of what it means to have generative AI embedded. In this case, it was literally inside a product, inside the teddy bear, but like embedded in the product in some form like that. And actually don't just rely on the happy path, like test out the unhappy path for these scenarios. Otherwise, there's going to be lawsuits, some crazy lawsuits coming in with people potentially dying or hurting themselves or being very badly affected by some of these products.

**Lukas Egger:**

Do you think that this will coincide with a certain type of skill set or certain roles that need to level up? Just as we, let's say, DevOps really needed to come into its own in order to empower SaaS applications and make this world possible, right? The transition from on-prem to cloud-enabled and DevOps and closing feedback loops and so forth, do you see there will be another role or an organizational part that needs that kind of extra attention or will expand in unexpected ways?

**Matthew Skelton:**

I think that if we start to see some lawsuits in this space, there's going to be a huge cry for people who understand how to test generative AI, like infused applications or products in a way which is tractable. So there'll be tools in this space that come out and help with that kind of testing. But there'll be people who are then a bit like with the huge explosion of kind of infosec roles with the internet over the last 25 years. Maybe there'll be a big explosion in kind of product safety roles in this space.

**Matthew Skelton:**



I'm not saying it's a prediction. I'm saying it would probably be anything that's needed. I'm not putting any money on it right now, but like you can certainly see if there's a load of lawsuits coming, like billion dollar lawsuits, then you kind of expect some organizations to go, ooh, maybe we should like upskill in how we do this, how we do testing in this space. So yeah, maybe.

**Lukas Egger:**

Makes sense. In terms of switching gears just a little bit here.

**Matthew Skelton:**

Yeah.

**Lukas Egger:**

Now on a more positive note what are you personally excited about you have worked in that space for a long time very successfully what is it that you are excited about whether it's SaaS, AI or organizational design that you are thinking about maybe devoting more time or getting involved that you maybe also hope for comes to pass or I don't know like that drawing your attention.

**Matthew Skelton:**

Good question. So a lot of the things that I've been focusing on in the last, well, 20 years really are kind of coming together, which is ultimately around organizational effectiveness. I spend more and more of my time these days helping COOs and CEOs to rethink kind of whole organizational capability with some support from technology. So my background is in technology plus a few other things as I've mentioned, but increasingly we're saying, hey, look, you need to understand this amount of how the technology works to the COO or the CEO, like we're saying, the way you're making decisions now is not as optimal as it could be because you're assuming that the technology works in a particular way, or you're assuming that you don't need to know anything about that technology. And actually the organizations



that are really succeeding are those where the exec do take the time to understand enough about the technology to make decisions that align better to how the technology can views and work. That's increasingly what we're doing. I'm super excited to have just started on a new book no details about title or when it's coming out yet but we do have a publisher

**Matthew Skelton:**

And together with my colleague Renee Hawkins we're going to be looking at some patterns that really help organisations to increase alignment engagement, trust and innovation across the organisation because these are things that the COO and the CEO care about you can have the best technology department in the world if it's completely misaligned with business you're going to be losing millions or billions every year because you're just focusing on the wrong things. If there's no innovation happening, not just product innovation, but innovation about how we work, so ways of working innovation, so continuous improvement effectively. We now need to do this particular data processing in a different way because some AI is doing a bunch of it for us. We're going to innovate effectively on how we do work in this space. Because time and time again, what we see is organizations zooming into and hyper-focusing on the technology adoption or the structure of the organization.

**Matthew Skelton:**

And what's often missing is this healthy dynamic of sharing and learning and bringing different parts of the organization together in a way which then has these outsized organizational outcomes. So I'm in the process now of bringing together all of the stuff about Team Topologies, which arguably is like architecture for flow, architecture for value flow, super important, like a real foundation. But then we're looking at a different dimension, almost 90 degrees to the architecture, if you like, which is about the active diffusion of knowledge. And we're seeking out good pockets of practice and we're bringing that all together. We're curating it together with these outcomes around alignment and trust and innovation and engagement and things. That's the next chapter for me. The Team Topologies stuff's not going away. We're doing work on that. Manuel and I, my co-author, in the background with an expectation to have a second full book around Team Topologies out in, I don't know, five years or something like that. But in the interim, we're doing a



whole lot of extra work in different dimensions that help to kind of flesh out, expand out the toolkit for thinking about organizational effectiveness.

**Lukas Egger:**

I love how you mentioned trust and communication because how I tend to talk about it as content gets cheap, any digital artifact, trust will get expensive, right? And so that makes a lot of sense to me. Now, you mentioned something I'm super curious about, so I have to ask about it. When writing a new book you just mentioned pockets of excellency where do you take your inspiration from are you looking at certain companies you work with or are you closely observing what AI is capable of doing is like where do you get your inspiration and your material for then translating that into a framework that can enable and help companies.

**Matthew Skelton:**

We definitely look at what our customer organization is doing as we're helping them do things and recommend, you know, enhancing their approach or maybe trying something different. So that's part of what we're doing. We actively try and apply ideas ourselves internally to our own organization. Some people call it dogfooding, but personally, I've never eaten dog food. So I prefer that there's an alternative phrase, which is champagne. Drink your own champagne. I'd much prefer to drink champagne than eat dog food. So anyway, we're campaigning this approach, right? And like I've been using a whole bunch of NotebookLM from Google.

**Matthew Skelton:**

To experiment with ways of creating internal and external materials way more quickly, but really zooming into how we get a very good quality output. And it's been interesting to reflect on that process and things, and we'll probably be publishing a guide at some point soon around that and getting some feedback from it. So again, I guess that's an additional approach to answer your question, which is we're very open with how we share our learning and things like this, and we don't hide it behind a big IP paywall or anything like that, and we seek input from other practitioners and so on. There was actually a really interesting event that happened



recently. I didn't attend or wasn't part of it, but a conference by an organization I discovered recently called Female Quotient. And they did some really interesting stuff about using AI to humanize work. And that's something which resonates pretty strongly with me. The social media posts and the articles and so on that I saw online from that

**Matthew Skelton:**

organization looked really, really interesting. So we're out there we're looking for stuff we're looking for people doing interesting things for example we were at a conference in London recently called AI for the Rest of Us amazing conference from well led by Hannah Foxwell based in London it's an amazing event really great speakers from all kind of different walks of life and so we're out there we're getting involved in events and learning expecting to learn but expecting to demonstrate some things too in a very practitioner kind of way it's early days but we're getting our hands dirty with it.

**Lukas Egger:**

Fantastic. And we'll make sure to include the links to everything you mentioned in our show notes so people for themselves can connect to those organizations. Matthew, there is one question we always like to ask at the very end. If you could magically change a business process for any organization or all of us, right? Which one would you like to just wish away or change and why?

**Matthew Skelton:**

The answer might surprise you. It's actually procurement, which is like the least exciting part of the business process inside most people's heads. But it turns out that the procurement people have a hugely important role to play because the way in which external services are procured has a huge influence on the internal capability, on the way in which workflows, on handoffs, on a bunch of things like this. And there's real value in rethinking procurement in terms of fast flow value and where boundaries sit and supplier contracts and a bunch of these things. So we've been doing quite a lot of work in this space. I've been doing little bits here and there



for maybe seven or eight years. We're starting to ramp up that a little bit. But suddenly, the procurement team, if you can switch them into a kind of a fast flow or team technology centric way of thinking and procuring suddenly you've got some procurement contracts in place which actually enable fast value flow and enable way better conversations and things like this starting right at the front of the whole process almost like that's shifting left as far as we can way further left than you kind of DevOps and all that stuff like all the way through to procurement so the way which we've procured these external tools and services and contract is now kind of aligned to value flow wow suddenly that's unlocked a whole lot of stuff so it sounds really dull at one level but actually it turns out there's a huge lever you can pull there oh

**Lukas Egger:**

It sounds dull but I know for certain that hundreds of heads will be nodding...

**Matthew Skelton:**

Yep.

**Lukas Egger:**

... Listening to this episode talking about procurement thank you so much.

**Matthew Skelton:**

Thank you.

**Lukas Egger:**

Well, with that, thanks for listening to another episode of Process Transformers. This podcast is brought to you by the dedicated efforts and the hard work of an



entire team. So, a heartfelt thank you to Beril Duman, Jhanzeb Khan, Reagan Nyandoro, Erica Davis, Cecilia Sarquis, Fawzi Murad, and Julien Thevenod. If you have any comments or questions, email us at [processtransformers@sap.com](mailto:processtransformers@sap.com). Thank you and until next time for hopefully another transformative conversation.

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