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Orchestrating Outcomes for Logistics: Dan Bell of Marken on Driving Digitalization and Patient-Centric Innovation in Pharma Supply Chains – Part 2

Unlocking the future of pharmaceutical supply chains isn't just about adopting new technology—it's about mastering the art of exception management and proactive problem-solving. In part two of our Orchestrating Outcomes interview with Dan Bell, Senior Vice President of Innovation and Strategic Operations at Marken, he explains why

building resilience into every link of the supply chain is the key to driving both precision and progress.

Bell also dives deeper into challenges and opportunities driving digital transformation in pharma supply chains, the complex service offerings provided by Marken, and the critical IT investments supporting these operations. He also discusses Marken's approach to exception monitoring and maintaining high levels of accuracy and precision in logistics processes.

Topics covered in Part 2 of our interview with Dan Bell:

- How integrating IT systems across diverse services enhances supply chain flexibility and efficiency.

- The impact of privacy regulations and data security on handling sensitive patient information in logistics.

- Key investments Marken is making in data analytics to improve forecasting and network capacity.

- How leveraging AI can streamline root cause analysis and improve exception handling in supply chains.

In case you missed it, be sure to **watch Part 1 of our conversation with Dan Bell** to get his expert insights on the strategic challenges and advancements in cold chain logistics, pharma supply chain digitalization, and regulatory compliance.

Video Highlights:

04:00 -What challenges does Marken face as it delivers complex service offerings, and what IT investments is the company making to overcome those challenges?

08:46 - What are the major obstacles standing in the way of the pharmaceutical industry's supply chain digitalization efforts?

14:30 - What are your customers' greatest pain points around supply chain visibility, and what KPIs are they asking Marken to report on?

17:35 - How does Marken approach exception handling and implement corrective and preventive actions?

TRANSCRIPT

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Welcome to TraceLink's Orchestrating Outcomes series. Today, I'm very pleased to have Dan Bell, Senior Vice President of Innovation and Strategic Operations at Marken. I've

had the pleasure of knowing Dan for the better part of 20-plus years. This is episode two in our Orchestrating Outcomes Series. Dan, thank you so much for joining us again. We really appreciate your time.

In the last episode, we explored a number of different topics. One of them that we were sort of talking about towards the end was the volume of data, the volume of packages that Marken is responsible for each and every day. And it's really astounding to think about the amount of information, the amount of complex moves that your organization handles. When I think about a logistics company of yesteryear, I think about heavy assets, moving products from point A to point B. But based on what we talked about in the first episode and obviously where we are today: When I think about a logistics organization today like Marken, I think almost more of an IT network—of a system of data that's moving information, either accompanying the flow of product or following the flow of product, or in some cases, maybe even preceding the flow of product. Could you talk a little bit about the transaction flows of information related to the movement of goods?

Absolutely. And look, I think you almost said it just now, but very often we think of ourselves as an IT company, not a logistics company, because so much of what we do is both dependent on and driven by that kind of IT element of our business. I think when we start looking at the data flows, there's one overarching element that we really have to pay attention to. And that's really about how systems talk to each other. It's about

interconnectedness.

A lot of people have a dashboard, you know, our own staff have dashboards that give that critical information about where it is, what's happening to it? Is it on time? Is it moving the way that we want it to move? But also to be able to relay that information to interested parties—the other stakeholders outside of our organization. So, how that information is collected we talked about earlier, but it's more important about how that connects, how do other people connect into that network?

And I think that really is probably one of the bigger challenges that the IT team, and I don't want to speak for our IT team, but they are friendly and they're not very far away from my office. We spend a lot of time talking about how can we make sure that the APIs, those interfaces are gonna work well so that we can be assured that we collect that data that we just talked about and then use it in a meaningful way. Maybe it's just monitoring, as you say, but it might also be informing us and allowing us to make decisions on the fly. And I think that's one of the key things there.

I appreciate you sharing that information. You know, it is interesting because I do think of specialty service providers like yours as an IT organization. The flow of information around the movement of goods is so critically important. And when I think about how the industry has grown over the last 20-plus years, I think about the expansion of services offered by an organization like yours. I mean, looking at the broader scope of API bulk drug shipments, clinical kit production and distribution, inventory management,

warehousing, cold chain, of course, fulfillment, radio pharmaceuticals, direct to patient, direct from patient that of course, took off during COVID, and from my understanding continues to grow. Could you dig into some of these service offerings and talk a little bit about what are the challenges, because these are broad service offerings each with unique nuanced requirements. Could you share with us some of the challenges that these different service offerings create? And then how does an organization like Marken make certain investments in IT, technology to help overcome those challenges?

You know, you mentioned the gamut of what we might be involved in and, to be fair, they have unique challenges, right? There's a challenge with moving valuable, hard to replace, usually big, but not always big these days, API—the ingredient that you're moving to manufacturing. Challenges around that are really around ensuring precision with the timing. You have a manufacturing slot; it must be there on a certain day at a certain time. And so you're really assuring that position around the timing to meet the manufacturing schedule. On the other side, it's usually planned out. There's a master scheduler who's got this planned out months ahead. And so it's really about making sure that you execute with precision.

When you start thinking at the other end, where the patient is, where they're receiving medication—perhaps they're receiving it at home, direct to patient kind of implies they're gonna receive it at home, or if they're having blood or samples drawn at home and taken away, you have other challenges. You have to start thinking about privacy, right? You

know where they live, you know their name, you know the drugs they've taken. So, privacy and GDPR and all of those types of issues: Your data systems have to be able to handle the privacy that's associated with information needed to orchestrate a shipment.

I think also, there's some unique elements around the clinical side, which is known stability data. So, the way that you move a clinical drug through a network will have a little more focus on that than perhaps a commercialized and approved drug where there's more stability data known and there's more repeatability. There's also more availability. And then you can really get into the advanced therapies, the cell and gene products, CAR T type products, where you get one chance, usually, to get it right. Most of those target, at the moment, they're targeted all kinds of things, but cancer and blood-borne cancers, things like leukemia. And so you take material from a patient—you probably only get one shot to pull that apheresis material—and then apply the magic in the lab in a very short period of time and then reinfuse that patient with the therapy based on their own material.

And so the logistics and the orchestration, the challenge around being super precise and realizing as you are moving it through those different stages, there is no room given for error because there's no opportunity to just go and make some more. Usually it's a third- or fourth-line treatment for those patients. I know some are now first-line treatments. But you're our only hope, Obi-Wan, as somebody once famously said. You've got to get it right in those.

So, each one of those things have their own challenges. At the end of the day, it's about, what data do you need to be well informed in the planning, the solutioning for that particular scenario? And then what data, which might look a little bit different, do you need to collect as it moves through to ensure that you comply with not just the regulations for transportation, but as I said, things like privacy and adherence to the protocol? The topic of privacy, the topic of data authentication, data security, data access, and your reference to GDPR, or I guess, HIPAA requirements as well.

That is really interesting to hear you elaborate on those points. Thank you for that. I'm gonna put you on the spot now. When you take a step back and look at the broader pharma supply chain. And we touched on this a little bit in the first episode. The pharmaceutical supply chain in general or pharma in general is slow to adopt new technologies. And there's good reason for that. I've always said that the broader life sciences space sort of moves lockstep at a snail's pace. Nobody wants to be too far ahead, but certainly nobody wants to be too far behind, and certainly there are outliers. But what are some of the challenges that you see that hinder the pharmaceutical industry's efforts to digitalize? Where do you see companies struggling with their digitalization initiatives?

Many places. As an industry, most people are struggling with a post-COVID hangover or a headache, if you like, which is rapid growth. How do you scale? How do you throw money and effort at finding solutions? And now we come back down to earth

sometimes with a big bump to say, ok, what do we want to invest in? So, I think investment in new technology, new ideas is a little more cautious than it has been for the last three or four years. So, getting funding to have a system-wide or an enterprise-wide solution is one. It's certainly one that's there. So, it's definitely cost pressure.

I think the other thing is that nobody-wants-to-be-first mentality. When you come up with something new, everybody wants to know that somebody else tried it and it's like, do you give it a five-star rating or a four-star rating? And will it work for us? I heard someone say that the other day.

What I have found is that companies that innovate on their product—so companies that throw effort and resources at developing new and novel therapies and drugs—are also the same companies that are willing to pilot new technologies and new software and new ways of using the data. And it's always inspiring that when you find someone who's willing to pilot that. Well, we're in a Phase 2 or 2B, or we're going to Phase 3, we'd love to try out this new technology in conjunction with just our regular way of doing it. Sometimes you're doubling up and the results of those pilots very often end up informing how they move forward. So, there are ways to introduce new technologies and ways of using data on those devices or packaging if we think about packaging. But yeah, nobody wants to be first, nobody wants to be the pioneer. That's a big challenge.

That's wonderful. Thank you for sharing that. One might argue that the investments that have been made in the broader pharmaceutical supply chain over the last couple

decades have enabled more and more outsourcing of services. And I'm thinking, even from my own experience, investments in warehousing, investments in cold storage, investments in monitoring technology, enabling visibility of product stored at various locations. Investments in new passive and active packaging technology, real-time, in-transit data logging, specialty distribution. All of these broader capabilities have enabled companies to outsource more and more of their services to specialists who make appropriate investments to better handle these types of things. And certainly Marken has benefited from that. Could you talk about some of the investments that you're making within the Marken organization that help support growth and support some of these newer growing segments of the industry?

Yeah, I'd love to. First of all, if we think about capacity, whether it's facility capacity or network capacity, we're always wrong, right? We're either over capacity or under capacity and trying to catch up or reconcile that. So, we'll never have it perfect, but we get better at predicting. One of the great things around data and data analytics is we get better at predicting what we're going to need. And having gone through things with our parent company like peak, whenever that comes in around November time, we've learned how to flex that network.

And so, when we think about how we invest, there's two main areas: One is about how you can have space that is flexible or assets that are flexible. And I think the other one is really about joining up all of those activities that are across multiple entities. And just to

kind of really home in on that idea: It's part of when you acquire companies, they might have their own system, their own way of doing things, how they still pick it up in a vehicle and put it on a plane or a train and away it goes and there's customs or not. But at the end of the day, it's how do those entities talk and work together? So, investments in getting all those little pieces joined up so that you can react faster, so you can leverage your network better. You don't need duplication, right? That goes back to the cost ideas. And so we invest heavily in trying to pull those teams together. Again, we talk about those interfaces and APIs on their software but joining it all up together to make a stronger network that you can flex when you need to.

Your response makes me think about broader topics around supply chain visibility, supply chain resiliency, the flexibility that you referenced and the ability to scale up or scale down. Noting that organizations are always going to get it, you know, it's almost impossible to get it right every time. But to be able to have that flexibility to be able to respond in a way that helps support the broader industry—that's very interesting.

So, I'm gonna put you on the spot again. I'd love for you to share with us a little bit about your customers greatest pain points, particularly around supply chain visibility. And how does Marken work to support some of those efforts? So, even some examples, if you could, around what are some of the KPIs that customers are asking you to report on? And how does that impact your organization?

Well, that's great. I think I'll park the conversation around cost, because again, most of these companies are feeling pressure around cost. And so, if you look at supply chain overall, looking at ways to do something that is very important and must not fail, but in a competitive way, it has become a big KPI. What does it cost per kilo, per transaction, per lane? And you can slice and dice it anyway. There's a lot of analytics around: How can you do things in a better way? And we found all kinds of ways to do that and make it work.

The real question is around precision. When can I expect it to be picked up? When exactly will it be released if it's an international shipment from the government authorities, customs, FDA, whoever. That precision, and knowing, is really important.

But what I've seen more than anything else, for us, it's about, you're doing exception monitoring, exception action, exception reporting. And so most clients are kind of saying: Guys, you do this transaction over and over and again, for us, we want to know about the stuff that isn't going the right way. And that can be part of the quality metrics that you report and trend and say, hey, guess what, it always goes wrong at this airport or in this country or whatever. Help us do it better there.

But more often than not for the actual live shipment, it's about how do you distill that data down to say, I'm gonna put my resources on this thing here right now because it needs our attention. And as those volumes, I mentioned some of the volumes in an earlier conversation. It's how do you winnow out the stuff that's going just fine and

focus on the stuff that's not working. And data can help us pinpoint that. And so human beings that you apply to taking action on things before they become a big issue, right? There's already something, it's not the way you want it to go, but you can do that. And again, you're looking for the near miss as opposed to the catastrophe that you then have to deal with afterwards.

Well, and knowing you like I have over the years; I know how exacting you are in terms of your expectations for performance. So, I imagine that the exception handling, the precision elements in terms of reporting back to customers probably works very much in your favor. Knowing that the broader industry holds your organization accountable to technical quality agreements and CAPAs and things like that. Could you maybe share a little bit more about sort of that exception handling and how do you put those corrective preventative measures in place to help address those issues?

Yeah. You know, it's really important, again, I sort of touched on it, but the data that you get around failures is as important as the wonderful data about your successes. And so we run anywhere. Our target is 99.5% on time in spec. That's our company-wide KPI goal and in some cases, we exceed that. In a lot of cases, we might be just below that. But it's always 99 something. And I think that's great, but I'm interested in the stuff that didn't make it. And so taking those root causes, sitting with the quality team and some of our lean engineers to go: Ok, let's look at all of those different failure modes to see how does that trend out?

If we have a CAPA in place that applies just there in that one place, they open an extra hour, put another truck on, put more people in the West, whatever it happens to be is the CAPA. It's then how do you communicate that out to the whole network? Remember, we're a global company. We have deep reach. Localized solutions might look a little bit different, but there's a common theme in those failure modes. And I think that's a challenge for all big companies at the end of the day. How do you share that knowledge so that—You know, I forget who it was who said, it's probably one of the Romans. But it's better to learn from somebody else's mistakes than your own. And you can think about that within the same company. And so that kind of learning and CAPA effectiveness, I'm a huge proponent of. That's the challenge. Not how many times did it go wrong? Or how many times did we fix it? Or how many times did we apply that CAPA? But was it effective? Did the solution work? And that comes from good data, and a great relationship between the operation and the quality team, that can have qualitative and quantitative approaches to those sorts of those sorts of challenges. So, I think we can always do better. Well, it's driving for perfection. We're not quite there always. But using that data to make meaningful changes that translate to the global network is really the key, I think.

It's not a problem. It's an opportunity for improvement.

For sure.

And hearing you talk about the importance of data as it pertains to the measurement and management of those KPIs is very interesting.

I think one of the things that we touched briefly on, tools like AI, and I think about, one of the first things you do in an investigation is you want a timeline. Tell me all of the events, all of the people who interacted at those key milestones, so that we can quickly identify where did it go wrong? Was it in the solution design? Did a human being not do what they were supposed to do? And if so, why didn't they do that thing at a certain milestone?

AI can help you be very efficient at that. Take a ton of data from the data lake and give you your timeline. Who did what, where, and when? What happened? And then you can apply your quality expertise to do that. Otherwise, it's hey Fred, tell me again, when did it arrive? Can you ask the guy in the warehouse when he put that box together? That stuff. You lose the ability to quickly nail the root cause if you can't have access to that data in a holistic way. And so, I think there's a great opportunity there to use tools like AI. There are many opportunities to use AI. Of course, all kinds of silly things that we don't need and it won't solve everything for us. But that's where we can use something like that from a quality perspective.
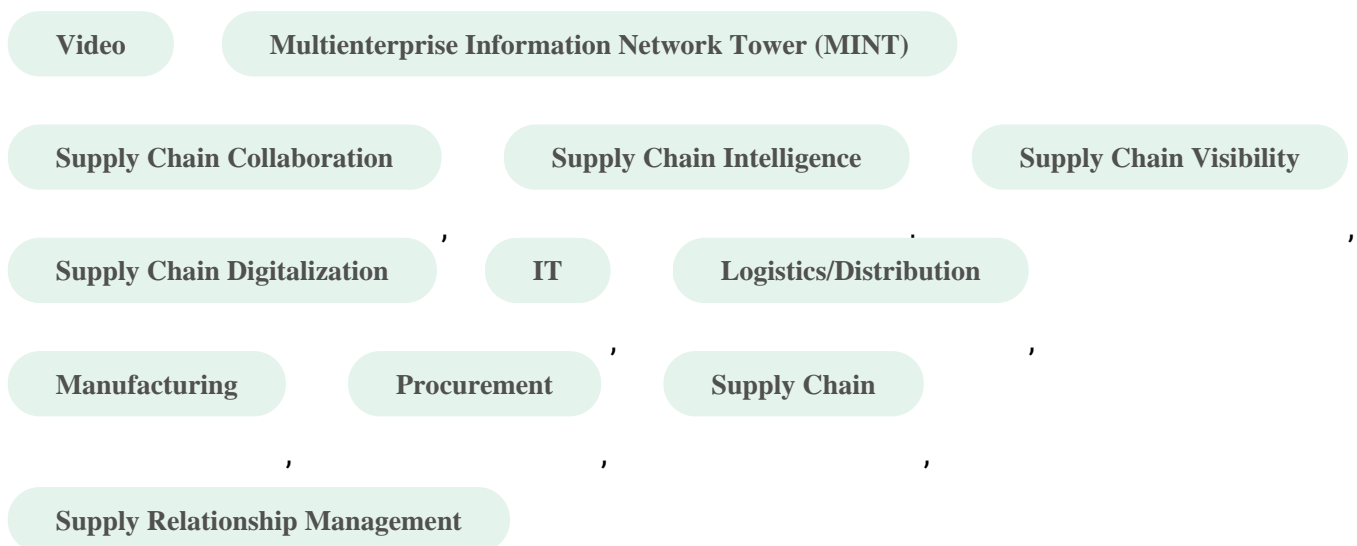
Thank you for sharing that specific example. That's really, really interesting. Well, thank you, Dan. I cannot thank you enough for all of your time and effort and your participation in this expert interview series. Your time is incredibly valuable. We know that. But we

appreciate all of the insights you've shared with us, and I want to wish you a wonderful rest of your day.

Well, thank you so much. I enjoyed your questions. They're very good.

Well, thank you. I look forward to seeing you at an upcoming event, hopefully very soon.

Indeed. Thank you. Stay tuned for more episodes as we continue to explore supply chain digitalization and uncover valuable insights you can use in your own digitalization efforts. See you next time.

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