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Introduction to End-to-End Supply Chain Digitalisation and Orchestration



Reference

Link: <https://www.tracelink.com/resources/tracelink-university/introduction-opus-foundations-presented-futurelink>

Burke Ryder: I'm Burke Ryder. Thanks for the introduction. I work on the MINT application or product manager at TraceLink. Swanand is also a product manager at TraceLink. I'm going to walk through the slides, and we'll take any questions you have at the end.

We're here this morning to talk about digitalization and orchestration. Orchestration is defined here at the top of the screen. Orchestration is the means by which we achieve integrated, intelligent, end-to-end supply chain management.

Digitalization is all about improving your business processes via digital technology. Digitalization allows you to improve your efficiency, your speed, your visibility. Orchestration builds on digitalization to improve how you plan, coordinate, and execute supply chain activities across your end-to-end supply chain.

Orchestration enables you to coordinate the supply chain, efficiently move product from manufacturers to patients, and it enables us to synchronize procurement, manufacturing, distribution logistics across suppliers, distributors, large supply chain partners.

Finally, it enables us to optimize for cost effective and secure delivery of medications, enhancing visibility and responsiveness. Supply chain orchestration helps to improve KPIs and minimize supply chain challenges.

Just about all supply chain leaders have common objectives. They want to reduce costs, reduce inventory overall, reduce out of stocks.

Reducing inventory means you can reduce your overall working capital and direct that cash to other areas of the business. You want to eliminate failures to supply, reduce operational costs, all the while launching new products or entering new markets, either new geographic areas or new product categories, all the while trying to improve service levels, build new channels.

There are obviously very significant challenges any business needs to overcome in order to achieve these goals, but specifically, in supply chain, you've challenges with demand and supply forecasting and keeping them synchronized.

You've got channel and enterprise inventory to track to know what product you have in house, what you have in your facilities, your 3PLs, and what you have in the channels. Do you know if you have enough product to actually meet that demand? You've got customer and supplier OTIF. Do you know if your suppliers can deliver to you on time in full so that you can then meet the orders to your own customers on time in full?

That, by itself, is a massive challenge to consistently coordinate that on an end-to-end basis. You've got compliance and regulatory requirements. Those requirements differ by, again, country or product category. You've got to understand your customer and supplier lead times, you know, when you need to actually order. And finally, you've got marketplace and patient delivery.

To help overcome these challenges, we're going to require orchestration. Orchestration impacts multiple operational capabilities across multiple supply chain partners. It involves the integration of different processes, systems within your organization, planning, production, inventory, order management, distribution, transportation, logistics.

The bottom of the screen here shows a graphic that is meant to illustrate the end-to-end physical supply chain. On one side, you've got your suppliers, supplying your API, your packaging materials, etc.

You've got your CMOs, or maybe you have your own facilities for doing manufacturing, 3PLs, handling your logistics, transportation carriers and, finally, your customers. These would be your wholesalers, hospitals, pharmacies. These are the people you're selling to.

Parallel to this physical end-to-end supply chain is your inventory flow, your transaction flow and those enable you to do planning and measure your key performance indicators.

Inventory flow, this is the product flow. Supplier gives materials to a packager. They're putting in the packages, creating the finished product, moving through your flows to your warehouse from your transportation characters, finally gets to a channel. It's been through a lot of hands before it ever gets to a patient.

Above that is the transaction flow. This is what TraceLink focuses on. This is the information flows about the movement of those products on an end-to-end basis, and it is through the ability to digitalize and synchronize those information flows that allow you to conduct your planning.

You cannot do planning if you have some information from this week or some from last week or some not at all, if you have some information on your supply side but not on your data side or vice versa.

If you have holes in your data, holes in your information, then you're relying on guessing. If you have enough wrong guesses, then your KPIs are going to be wrong. If you know your KPIs are going to be wrong, you know you can't trust that, then you have concerns about shortages, out of stocks. To mitigate that, you have to store extra inventory, extra buffer inventory, and that's going to tie up your working capital.

If you have the information flows, then you can do planning and then you can know what's in your channel inventory. You can understand what your demand forecast is, or even if the demand forecast is realistic. Same thing for your production forecast and your supply forecast. Without the information flows, you cannot do any planning.

Supply chains are expensive. They're very costly because the information does not flow.

However, if you have the information and you are able to do planning, then you can start to measure some of your key performance indicators. You can actually know with accuracy what your order lead time is, what your supply lead time is.

You can measure with certainty your order-to-cash cycle time. You can maximize your percentage of orders that are on time in full and you can optimize your working capital. We get there with orchestration. 90 percent or more of your supply chain data you need resides outside of your enterprise.

Why is it outside your enterprise? It's because business model that's been prevalent for a while is to partner with other companies that specialize in aspects of your business that you want to essentially outsource, allows you to focus on what you do best. If you're a pharmaceutical company, that means you're partnering with companies that do logistics, warehousing, line manufacturing, testing, transportation, things like that.

You can achieve a lot of efficiencies by just focusing on what you do and let them focus on what they do. You've solved a lot of problems that way, but you've inadvertently introduced new problems and that now you don't have visibility into the data of your products.

What is your inventory? What's the status of your orders? Being able to orchestrate requires integration across all your supply chain partners, integrate your processes, achieve the continuous and harmonize data flow and visibility. I'm going to say it a couple of times today, achieve continuous and harmonized data flow.

A lot of the information exchange between you and your partners is over things like email and PDFs, messaging apps. It's technically digital technologies, but it's not digitalization.

You're not able to plan with that. You're not able to manage your inventory if you're trying to organize spreadsheets. In order to orchestrate, we're going to need real time data continuous from all your trading partners.

Digitalization fuels your enterprise systems with real time end-to-end supply chain information. Let's look at some of the data that would be fueling your enterprise systems in the context of the supply chain partner relationships and the business process orchestrations.

This graphic breaks up some of those business process orchestrations that we're calling them. I'm not going to go into too much detail on these. We're going to hear a lot in the upcoming sessions about the individual transactions and data flows that come with each of these categories. I'll just touch on them briefly here.

For your direct material suppliers you're working with, you're exchanging forecasts, purchase orders, shipments, and invoices. For your contract manufacturers, you need inventory updates, ship notices, bill of materials. For your logistics providers, these are your 3PLs, your 4PLs. You want to get inventory updates. You want to know what orders they're fulfilling on your behalf.

Downstream, your wholesalers yeah, your wholesalers and distributors, you're receiving orders from them. You're sending them shipments and invoices, acknowledgments. You have to deal with returns, sales reports. It's a similar data set for your hospitals and pharmacies. Transportation providers, clinical supply chain, they also have their specific data sets.

What if you could fuel your enterprise systems with this data in real time across your end-to-end supply chain? This seems daunting, so we're going to talk about how we get there.

Real time supply chain intelligence starts with supply chain network integration and digitalization. How do you get the data? You need to integrate. How do you integrate? With the network.

Network is the core of orchestration. It is the core of TraceLink. You and your supply chain partners will be onboarded, verified within the OPUS network. We have a network services team that does the verification on onboarding. Once you are onboarded, you can then enjoy that secure data transmission with your partners.

Once you're able to transfer data with your partners, you can take advantage of the B2N Business to Network and the Integrate Once model. You're going to hear Integrate Once a lot this week. What does that mean? Integrate Once refers to the ability to not have to adhere to your partners' data formats or even TraceLink's data formats.

If you have an SAP system and you want to transmit IDoc documents, TraceLink will transform those into our canonical data format. The canonical data format is TraceLink's system of record. If your partner wants to receive the data in EDIFACT format, we just have another transform to put in their format. If they want to receive it over AS2, you're submitting over SFTP, it doesn't matter.

That's what Integrate Once is referring to. If your partner wants to switch formats, switch to an SAP HANA system, if they want to start using a different file transmission service, it does not disrupt you. You Integrate Once to TraceLink, your partner Integrate Once to TraceLink.

A lot of other systems require you to have different formats, adhere to different formats, different modalities for all your different partners. OPUS works on the network model. Once you and your partners are on the network and enjoying the Integrate Once, then you can start doing orchestration.

The orchestrations are enabled by what we call process networks. Those provide secure orchestration workspaces. Those make up your end-to-end business process with your supply chains. These workspaces are what you define to be tailored for that individual business process, that execution model. They're the digital twin of your supply chain ecosystem.

The other benefit of Integrate Once is, if you're working in multiple process networks, multiple orchestration work flows, then you do not need to reintegrate if you've the same transaction type that's occurring for multiple places.

If you're sending POs to your direct suppliers, your contract manufacturers, receiving POs from your customers, receiving informational POs from your 3PLs, that's still the same basic transaction type. You've integrated once. You don't have to do it again and again for all those different process networks, all those different workspaces.

Last but not least, intelligence. The digitalization of orchestration provides that clean, continuous data flow. That's the fuel for your end-to-end supply chain. That's going to enable your visibility and your analytics.

It's clean because of the Integrate Once model, because of the canonical source of truth. It's real time because the data flows are real time. TraceLink's OPUS platform enables rapid integration to any system, process, or workflow by any customer or partner.

Over the last two years, TraceLink has made significant investments in our core platform. We've expanded it exponentially to ensure the great foundation we've had over the last 10 years is set up for what we need for the next 10 years.

Include some of our core established capabilities like the network and the Integrate Once model. We've added collective intelligence registration data facts from the application's information sharing. These provide the basis for the real time visibility intelligence.

We've also now enabled low-code multi enterprise applications to be written and no-code solution configurations. This will adapt your solutions to your business needs.

Your end-to-end orchestration journey can begin with any supply chain process.

With so many processes, so many partners, is this even feasible? We're emphasizing that to achieve orchestration, so you can do planning, measure your KPIs, you want the data across all your partners, all your processes.

Does that mean you have to do it all at once? Well, no. The recommended approach is to start where you can, start with those business partners that are able to integrate now, start with those processes that you're most familiar with.

You do it one step at a time. It's hard to see here, but the background faded out image is representing...It's kind of a wheel shape, represents your supply chain with different wheel spokes for the different orchestrations, as we call them.

Ideally, you're digitalizing and orchestrating over all those different business processes, you can just start in one section, do it one at a time. You might start with orchestrating outcomes in external manufacturing, you want to improve delivery, improve your planning and on time delivery.

You're going to digitalize and orchestrate things like your inventory visibility, your batch production, shipping and invoicing processes. If you do that, you can achieve your working capital optimization.

You might start with orchestrating for logistics. If you want to achieve the highest order fulfillment, you can. You can digitalize and orchestrate over some of the logistics transactions, warehouse stock orders, shipments, inventory notifications, then you can achieve your service level maximization.

You might start with orchestrating your customers, the commerce end. If you want to improve product availability, customer service levels, again, you could digitalized and orchestrate things like exchange of the product catalog, purchase order process, ship notice invoices, returns or credit debit memos. Orchestrate the full order cash cycle, then you're going to be able to achieve your financial reconciliation.

Again, start with any supply chain process, and over time, you can pull up to, again, the full end-to-end supply chain.

OK. So how do you get started? This is the supply chain orchestration value road map. Following this along the way is going to help you achieve that full end-to-end orchestration.

You start by assessing your current supply chain operations, defining digitalization objectives, those that are aligned with your business goals. Prioritizing initiatives based on value you're going to get and integration, investment involved. Conducting a cost-benefit analysis, predict your ROI, final value you're trying to get, your value propositions.

Define your roadmap, your plan, needs and outcomes by these digitalization initiatives. Then, communicating this plan and the proposed value to your stakeholders, execute, monitor progress and track your performance matrix.

This is the value roadmap throughout the rest of the day, across the next three tasks, we're going to feel peel back these layers. So, understand the different capabilities and the different steps you need on your journey to digitalization and orchestration.